Chapter 10
Other Essential Facilities & Systems

Note: Other essential facilities and systems are not a required urban service under the Oregon public facility planning goals and statutes. The City of Portland recognizes that facilities, technology systems, and vehicles are essential infrastructure and has included this chapter in the interest of comprehensive infrastructure planning. However, the City does not intend for this chapter to be reviewed for compliance with public facility planning rules, including Oregon Statewide Planning Goal 11: Public Facilities, Oregon Statute 197 or Oregon Administrative Rule 660.

OVERVIEW

This chapter describes facilities, technology systems, and vehicles that are vital to the efficiency and effectiveness of all City agencies. This chapter recognizes the critical role this infrastructure plays in meeting the needs of Portlanders and supporting the overall mission of the City of Portland, including emergency response and preparedness. The assets covered in this chapter are used to one degree or another by nearly every City agency that utilizes office space, vehicles, or technology. In total, the combined replacement value for technology and facility assets is over $1.25 billion dollars.

The decision to include other essential facilities and systems in citywide infrastructure planning represents a different way of thinking about these public assets, one that recognizes the extensive investments in facilities and systems that enable bureaus to provide the urban services within their purview. This consideration goes above and beyond the set of State-mandated public facilities and services addressed elsewhere in the Citywide Systems Plan.

The infrastructure described as other essential facilities and systems is necessary for the provision of some direct public services, including emergency communications, emergency response, and life safety. Other infrastructure provides internal support to every City Bureau that occupies a City building or uses City technology. The assets covered in this chapter contribute to service provision in both direct and indirect ways. For instance, some computer equipment makes it possible for Portlanders to directly access City websites and internet databases. Other equipment facilitates communications through phones and email systems.

This chapter includes three sections – Civic Facilities & Assets, Technology Systems, and Emergency Response. These sections were created using asset groupings from Portland’s annual Citywide Assets Report. For administrative efficiency, these asset groupings do not always correspond with a particular system or set of infrastructure. For instance, Portland’s emergency response infrastructure is included in the “fire facilities”, “police facilities”, and “other buildings” asset groups. See Table 10.1 for more

1 This definition of essential facilities is different than the “essential facilities” designation utilized in the City’s Natural Hazard Mitigation Plan (p. 38) to identify facilities that are necessary for the continuation of City operations.
information about asset groups covered in different sections of the Other Essential Facilities & Systems chapter.

Table 10.1 Other Essential Facilities & Systems Sections and Asset Groups

<table>
<thead>
<tr>
<th>Chapter Section</th>
<th>Asset Groups* Covered</th>
</tr>
</thead>
</table>
| Civic Facilities & Assets | Office buildings  
|                       | Other buildings  
|                       | PDC facilities  
|                       | Spectator facilities  
|                       | Performing arts facilities |
| Technology Systems    | BTS:  
|                       | Communications  
|                       | Production services  
|                       | Strategic technology  
| Other bureaus:        | Equipment and software  
|                       | Strategic technology  
| Emergency Response    | Fire facilities  
|                       | Police facilities  

* Asset groups are based on Citywide Asset Management Group categories. The Emergency Coordination Center and 9-1-1 Center are included in the “other buildings” asset group.

Description of Other Essential Facilities & Systems

For the purposes of this chapter, other essential facilities and systems includes a wide range of assets, such as offices and special purpose buildings, sports and entertainment venues, emergency response facilities, and transmission towers. It covers technology systems such as computer hardware and software, voicemail systems, video systems, microwave radio systems, and other radio equipment, as well as motorcycles, passenger vehicles, vans, SUVs, pickups, dump trucks, loaders, trailers, and other specialized vehicles. It also addresses emergency response infrastructure like police and fire stations, specialized mobile response units, fire trucks, fireboats, and police cars.²

The chapter focuses on planning for these City-owned assets, but not on planning for the services provided through the use of these assets. For instance, it can inform decisions to align the number and location of fire stations with growth assumptions in the Comprehensive Plan, but does not directly plan for the manner in which Portland Fire & Rescue will provide services over the next 20 years.

The assets covered in this chapter are owned, managed, or used by several different bureaus and non-City agencies. These bureaus include the Bureau of Emergency Communications (BOEC), the Bureau of Internal Business Services (BIBS), the Bureau of Technology Services (BTS), the Portland Bureau of Emergency Management (PBEM), Portland Fire & Rescue (PF&R), the Portland Police Bureau (PPB), and the Portland Development Commission (PDC). This makes it difficult to compare the Other Essential Facilities & Systems chapter to other chapters oriented around the operational scope of one bureau or agency. Though assets covered in this chapter differ in many important ways from other public facilities

² Vehicles are not typically considered “public facility assets” in this plan or in the Asset Report, with the exception of certain, significant, long-lived fire apparatus. Vehicles are included in this chapter to acknowledge the City’s substantial investment in these assets and the essential role they play in the provision of most City services.
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Chapter 10. Other Essential Facilities & Systems

and systems, the sections in this chapter have been structured similarly to other chapters in the Citywide Systems Plan to maintain consistency within the document.

Role of Other Essential Facilities & Systems

The behind-the-scenes support provided by other essential facilities and systems is critical for maintaining a healthy, prosperous city and ensuring the delivery of services that contribute to Portland's high quality of life. Other essential facilities and systems include the buildings where city employees work on a daily basis, the software they use to display and communicate ideas, the vehicles necessary to provide public services, and the data needed to make informed decisions. This contributes to a high quality of life in an indirect yet integral way, incorporating several city functions often left out of long-term planning discussions. Certain assets in this chapter play an essential role in the City’s emergency response and continuation of operations strategies designed to protect the health and safety of Portlanders in the event of an emergency or natural disaster.

This chapter is the result of the city’s decision to go beyond the minimum statewide planning requirements, to make sure that the full set of services and facilities necessary to support a prosperous, thriving and sustainable city are included in long-term planning conversations. This chapter is intended to inform future investments in these facilities to maintain existing systems, resolve identified deficiencies, serve new population growth, and address other long-term infrastructure needs.

Major Needs and Trends for Other Essential Facilities & Systems

The facilities, technology systems, and vehicles included in this chapter experience similar trends and share a few common needs.

Financial Environment

These facilities and systems exist within a complex financial environment where revenue streams are limited and investments are often the result of opportunistic partnerships between agencies. In addition, disparate funding sources, shared responsibilities between multiple City bureaus, a lack of centralized
management, and limited long-term planning create challenges that limit the City’s ability to holistically manage these assets. In general terms, a more integrated approach is needed in order to perform analysis and make investment decisions that result in cost savings, capitalize upon operational efficiencies, and maximize shared benefits across City agencies. City agencies and elected officials could also benefit from improving asset management processes to assess and prioritize facility needs across bureaus using consistent evaluation metrics.

Planning for Resiliency

Many assets in this chapter help the City meet goals and policies related to resiliency and climate change, issues that are being increasingly recognized by a wide range of disciplines and institutions. Projects such as the recently completed Emergency Coordination Center and the ongoing Public Safety Systems Revitalization Project (PSSRP) support the City’s goals to enhance disaster preparedness and emergency response capacity. Technology featured in this chapter, such as Next-Generation 9-1-1 and renewable microgrid energy systems, has the potential to open up new possibilities to achieve resiliency in the field of emergency preparedness and response. These facilities and systems help Portland prepare for emergencies of different types and magnitudes, allowing for successful long- and short-term recoveries following significant climate-related events or natural or man-made disasters.

Technological Landscape

Other technological advancements could have a significant impact on the management, maintenance, and construction of other essential facilities and systems. These developments have the potential to present new opportunities to manage City assets more effectively, improve communication, and increase safety and health for all Portlanders. While it is difficult to predict exactly how or when these opportunities will arise, the current pace of technological change could warrant more frequent assessments throughout the next twenty years.

Purpose of this Chapter

This chapter describes other essential facilities and systems, highlighting the significant role these assets play in supporting fundamental parts of the City’s mission. It outlines desired improvements and levels of service related to these assets, discusses the financial challenges and realities that affect them, identifies a few pressing needs, and makes some recommendations to address those needs.

Though this chapter attempts to provide a comprehensive look at these facilities and systems, a holistic long-term plan is not within the scope of this effort. Instead, the chapter identifies some first steps that can be taken to streamline management processes and more successfully incorporate other essential facilities and systems into public decision-making processes. While there is no State requirement to perform planning for this set of assets and systems, the City has recognized their importance and is engaging in conversations about how to better integrate them into long-range planning discussions.
Bureau Names and Acronyms

The following list includes names and acronyms for bureaus that own, manage, or are the primary users of the other essential facilities and systems included in this chapter:

- OMF – Office of Management and Finance
- BIBS – Bureau of Internal Business Services, a Bureau within OMF
- BIBS Facilities – the Facilities division within BIBS
- CityFleet – the CityFleet division within BIBS
- Office of the CAO – OMF Office of the Chief Administrative Officer (CAO)
- BTS – Bureau of Technology Services, a Bureau within OMF
- PPB – Portland Police Bureau
- PF&R – Portland Fire & Rescue
- PBEM – Portland Bureau of Emergency Management
- BOEC – Bureau of Emergency Communications
- PDC – Portland Development Commission

In addition, all City bureaus occupy and/or use other essential facilities and systems. Specific bureaus mentioned in the various sections include:

- PP&R – Portland Parks and Recreation
- PWB – Portland Water Bureau
- BES – Bureau of Environmental Services
- PBOT – Portland Bureau of Transportation
CIVIC FACILITIES & ASSETS

Introduction

This section includes a broad array of City-owned buildings, facilities, vehicles, and equipment, the majority of which are managed by Facilities and CityFleet divisions in the Bureau of Internal Business Services (BIBS). These assets include offices and special purpose buildings, sports and entertainment venues, emergency response facilities, and wide variety of City-owned vehicles. This collection can be difficult to discuss as a coherent whole, because many different bureaus utilize the assets covered in this section to provide a number of different public services. Civic facilities and assets are nonetheless vital to all City operations, with considerable effects on service provision for each of the other infrastructure systems in the Citywide Systems Plan. Without well planned and managed civic facilities and assets, many City employees would not have a place to work, emergency communications systems could be compromised, and the ability of Portland residents to depend upon basic public services could be eroded.

Similar to other sections within the chapter, civic facilities and assets are being incorporated into long-range planning for infrastructure systems for the first time. As such, work will need to be done to bring civic facilities and assets to a similar level of knowledge and understanding as other infrastructure systems like those for water and environmental services.

This section outlines the City’s vision for civic facilities and assets and provides an assessment of the current status of planning efforts and other related management techniques. It includes a description of these assets, the services they affect, and relevant trends and issues. The section also assesses a few major needs and recommendations, and summarizes the financial landscape that will impact these assets over the next twenty years.
Agency Organizational Structure

Unlike other chapters within the Citywide Systems Plan, civic facilities and assets are owned and managed by multiple City agencies. Much of this responsibility falls within the purview of the Office of Management and Finance (OMF), a large agency that brings together several bureaus – including the Bureau of Internal Business Services (BIBS) and the Office of the Chief Administrative Officer (CAO). Two divisions of BIBS (Facilities and CityFleet) manage a majority of the facilities and assets covered in this section. The Office of the CAO has responsibility for City-owned spectator facilities, such as Providence Park, and serves as liaison for City-owned performing arts facilities, such as Keller Auditorium. Refer to Figure 10.1 for more information about the structure of OMF as an agency.

**Figure 10.1 Office of Management and Finance Organizational Chart**

Other assets covered in this section are subject to more complex ownership and management arrangements. For instance, although BIBS Facilities owns and handles maintenance responsibilities for most of the Portland Building, the Portland Water Bureau and the Bureau of Environmental Services own most of the floors that they occupy within the building. For more detail regarding these types of shared arrangements, see Service Agreements later in this section.
Vision

There is no consolidated vision for civic facilities and assets at this point in time, though BIBS Facilities and CityFleet have developed their own bureau-specific vision statements. Based on these statements and other City language surrounding these particular assets, the following vision statement has been developed for civic facilities and assets for the purposes of this document:

*City-owned buildings, facilities, vehicles, and apparatus allow City agencies to deliver essential services to the public.*

The Office of Management and Finance’s and BIBS Facilities’ vision statements include aspirations to “demonstrate a commitment to the city’s past, present, and future” through enduring form, resilient design, and the use of sustainable operational practices. Other vision language states that these structures “enhance a sense of comfort and beauty in Portland’s built environment” and increase the usefulness of City programs by providing quality workplaces for City employees. CityFleet’s vision, as stated in their Strategic Plan, is to serve as an “international model for equity and sustainability” and to offer services that illustrate the “power of forward-thinking leaders working together” through the management of City-owned vehicles and apparatus.

Mission and Levels of Service

Civic facilities and assets also lack a consolidated mission statement relevant to this document. Similar to the vision statements, there are a few bureau-specific mission statements that apply to the assets in this section. The following mission statement was developed for the purposes of this document, and is intended to incorporate bureau-specific language through the lens of civic facilities and assets:

*Civic facilities and assets provide the infrastructure necessary for efficient and accountable delivery of public facilities and services. This infrastructure includes the buildings, facilities, vehicles, and apparatus that City employees utilize on a daily basis, as well as critical facilities that can be depended upon in the event of an emergency.*
The City of Portland is committed to developing and maintaining high performance buildings that limit their environmental impact, contribute to Portland’s civic character and make Portland a better place to live and work. This interconnected system of buildings, facilities, vehicles, and apparatus is provided in a cost-effective manner to City and other municipal agencies. BIBS Facilities provides a wide range of preventative, regular, and demand maintenance services designed to ensure that City buildings stay functional throughout their maximum useful life cycle. CityFleet provides a similarly comprehensive range of services for the City’s rolling stock of vehicles, offering acquisition and outfitting, fuel management, both preventative and regular maintenance, repair, and other fleet management services.

Services Provided

Most of the services related to civic facilities and assets are not provided directly to the general public. Nevertheless, these services support the everyday operations of nearly every City agency, and have a direct impact on the City’s capacity to provide public services. These services include:

- The provision, management, and maintenance of office and special use space for City bureaus and employees;
- Life safety and emergency communications, coordination, prevention, and response services; and
- The procurement, storage, and maintenance of City-owned vehicles and apparatus.

Some of the services related to civic facilities and assets are provided more directly to the public. These include:

- Publicly-accessible facilities to facilitate payments, review development plans, and respond to other inquiries;
- Publicly-accessible spaces to facilitate participation in the government process;
- Publicly-accessible archival services for important historical records and documents; and
- The provision of spectator and performing arts facilities for sports, entertainment, the arts, and community events.

Service Area

For the most part, services related to civic facilities and assets are provided within the Urban Service Boundary (USB) of the City of Portland (see Figure 4.1 on p. 32). However, there are a few exceptions:

- CityFleet has entered into a variety of intergovernmental agreements, several of which involve service provision to organizations or agencies outside of the Portland USB.
- Spectator and performing arts facilities and Union Station are accessible to anyone and provide benefits to residents throughout the region.
Service Agreements

The majority of BIBS Facilities services are financed through interagency agreements (IAs) with City bureaus. There are also a number of intergovernmental agreements (IGAs) that allow City agencies to provide their services to other entities. For instance, CityFleet uses IGAs to offer maintenance and repair services to Portland Public Schools, Multnomah County, and other public agencies.

Private contractors and other public entities (e.g. Metro) handle management and operations oversight for certain civic facilities and assets. These agreements can take the form of contracted service agreements, condominium lease agreements or partnerships, or more general arrangements to deliver services on an as-needed basis.

Other partnerships can arise as the City identifies the need for particular improvements or investments. This occurred when the City issued an RFI (Request for Information) for space to store historical records and documents. The identification of shared needs between the City and Portland State University (PSU) led to the eventual creation of the City of Portland Archives and Record Center on the PSU campus.

Inventory Summary

The Civic Facilities & Assets section includes a range of civic buildings, public facilities, vehicles, and equipment.

This collection includes the office buildings that house City bureaus and employees, such as the Portland Building, the 1900 Building, and City Hall. It includes other buildings for special uses like the Archives and Records Center, where important historical documents are kept, the 9-1-1 Center, where critical emergency communications systems are operated and maintained, the Kerby Garage, where City-owned vehicles are housed and serviced, and Union Station, Portland’s passenger rail depot. It also includes spectator facilities for sports and entertainment like the Veterans Memorial Coliseum and Providence Park, as well as performing arts facilities such as the Arlene Schnitzer Concert Hall and other Portland’s Centers for the Arts venues. Two City-owned parking facilities at the Rose Quarter are also included in the civic facilities and assets grouping. Please refer to Table 10.2 for more information about principal City-owned office buildings, Table 10.3 for asset groupings and replacement values, and Table 10.4 for the current condition of these assets.
Table 10.2 Principal City-owned Office Buildings

<table>
<thead>
<tr>
<th>Building name</th>
<th>Address</th>
<th>Square Footage</th>
<th>Replacement value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Building</td>
<td>1120 SW 5th Avenue</td>
<td>406,075</td>
<td>$106,392,000</td>
</tr>
<tr>
<td>1900 Building</td>
<td>1900 SW 4th Avenue</td>
<td>161,185</td>
<td>$41,747,000</td>
</tr>
<tr>
<td>City Hall</td>
<td>1221 SW 4th Avenue</td>
<td>87,500</td>
<td>$24,150,000</td>
</tr>
</tbody>
</table>

Table 10.3 Civic Facilities & Assets Groups and Replacement Values, 2013

<table>
<thead>
<tr>
<th>Capital Asset class</th>
<th>Value (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office buildings</td>
<td>$172.3</td>
</tr>
<tr>
<td>Other buildings</td>
<td>$69.3</td>
</tr>
<tr>
<td>PDC facilities</td>
<td>$48.7</td>
</tr>
<tr>
<td>Spectator facilities</td>
<td>$529.6</td>
</tr>
<tr>
<td>Performing arts facilities</td>
<td>$111.2</td>
</tr>
<tr>
<td>Total Civic Facilities &amp; Assets</td>
<td>$882.4</td>
</tr>
</tbody>
</table>

Table 10.4 Current Condition: Civic Facilities & Assets System, 2013

<table>
<thead>
<tr>
<th>Capital asset type</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Very Poor</th>
<th>TBD</th>
<th>Confidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office buildings</td>
<td>0</td>
<td>38.2</td>
<td>61.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
<tr>
<td>Other buildings</td>
<td>0</td>
<td>67.7</td>
<td>32.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
<tr>
<td>PDC facilities</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>4 – High</td>
</tr>
<tr>
<td>Spectator facilities</td>
<td>0</td>
<td>36.7</td>
<td>0</td>
<td>63.3</td>
<td>0</td>
<td>0</td>
<td>3 - Moderate</td>
</tr>
<tr>
<td>Performing arts facilities</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD*</td>
<td>TBD*</td>
</tr>
</tbody>
</table>

* OMF is beginning to work with Metro/MERC on the status of performing arts facilities.

There are over 2,950 vehicles and pieces of equipment that also fall within to the category of civic facilities and assets through CityFleet, including motorcycles, passenger vehicles, vans, SUVS, pickups in various weights, police cars, dump trucks, loaders, trailers, vactors, and many other pieces of specialized equipment. Because vehicles are not considered "public facility assets" for the purposes of this plan, they are not included in the any of the asset groups described in the tables above.

Key Issues, Trends, Opportunities

De-centralized Property Management

At the current time, the City does not have a centralized property management function. This means that the maintenance and repair needs of City-owned buildings are sometimes assessed using different criteria and decision-making processes. Different bureaus have different levels of success in financing repairs or capital improvements, and the current process can force bureaus to compete with one another for the funding necessary to keep buildings well maintained and operating properly. This lack of integration also makes it more challenging to perform the citywide facilities assessments necessary for emergency response and disaster planning. A more integrated approach is needed in order to perform
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analysis and make investment decisions that result in cost savings, capitalize upon operational efficiencies, and maximize shared benefits across City agencies.

Investing in a Building’s Life Cycle

Investments in public buildings need to account for maintenance and repair needs that accrue as time goes on. Investing in the full life cycle of a building maximizes the utility and cost-effectiveness of the public expenditure, while at the same time ensuring that City-owned buildings are safe and reliable.

Upfront investments in resilient, high-quality materials and systems can minimize repair costs and significantly extend a building’s lifespan. Regularly allocating sufficient amounts of money for major maintenance and replacement reserves can fund repairs as needed, which also minimizes costs over time. These practices help to avoid unexpected expenses to replace major structural components – like roofs and support beams - and other building systems that impact the safety of Portland residents and City employees. Additionally, utilizing funds for ongoing preventative maintenance can help keep a wide range of building components in good condition for longer periods of time.

Diverse Funding Sources

While the majority of BIBS Facilities services are financed through IAs with City bureaus, other funding allocated for civic facilities and assets comes from different sources within Portland’s public finance system. These different sources complicate the management and maintenance of civic facilities and assets because each source comes with different provisions about how funds can be spent. Revenue received for the use of one facility or asset category cannot be used for another facility or asset category. Similarly, debt financing for projects in one facility or asset category cannot be used for projects in another facility or asset category.

Changing Codes, Regulations, and Policies

City-owned facilities are constructed and maintained to meet a wide range of codes, policies, standards, and regulations. While codes and regulations stemming from the federal or state level take the form of mandates with specified consequences, other standards and policies serve as more general guidelines that demonstrate the City’s commitment to issues like public art, sustainability, and equity. When any of these standards are changed or updated, it can require unanticipated expenditures to bring facilities up-to-date.

The changing regulatory and policy environment can make it difficult to plan for investments in civic facilities and assets, particularly at a time when innovations in building materials and technology continue to develop at a rapid pace. While new codes, regulations, and policies generally produce effective results and operational improvements, the financing necessary for these changes is often placed in direct competition with the funds available for other basic programmatic needs.

Innovations in Sustainability

Municipal services in Portland have become increasingly sophisticated, regularly changing to accommodate new technologies and evolving policy priorities.
For example, several innovative Green Fleet initiatives have been implemented in recent years to help the City meet current sustainability goals. These initiatives analyze City vehicles and pieces of equipment to determine the optimal balance between functionality, fuel type, fuel consumption, and cost. CityFleet utilizes various strategies to realize this balance, offering a broad array of clean fuel technologies and low-emission vehicles to their customers.

Similar technological innovations for buildings, facilities, vehicles, and equipment will no doubt continue to develop in the coming years. The City will likely have several opportunities to capitalize upon these innovations to strengthen energy independence, decrease operating costs, and increase Portland’s resilience to changes in the environment.

Regulatory Compliance

Though public facilities planning for civic facilities and assets is not mandated by the State of Oregon, other regulations, standards, and guidelines apply to the City’s development, management, and maintenance of these assets. The following list highlights the most relevant of these regulations, standards, and guidelines, but is not intended to be a complete list:

- City of Portland’s planning and zoning policies, plans, and regulations, including the Comprehensive Plan, Zoning Code, and Zoning Map, provide both guidelines and regulations related to wide array of topic such as land use, building mass and placement, parking and loading, and where applicable, required land use reviews. Portland’s plans, policies, and regulations incorporate and are consistent with regional, state, and federal planning requirements such as Metro’s Regional Framework Plan, Oregon's Statewide Planning Goals, and where applicable, the National Historic Preservation Act.
- A wide range of building and development codes and regulations are applied through the City of Portland’s building permit and inspection processes, including requirements related to structural components, fire and life safety, accessibility, plumbing, electricity, heating and ventilation, and other issues related to development.
- The Environmental Protection Agency (EPA) implements several national regulations related to environmental health and greenhouse gas emissions that impact CityFleet.
- The Americans with Disabilities Act (ADA) addresses accessibility of public facilities and programs.
- The Elevators division of the Department of Administrative Services (DAS) is responsible for
statewide elevator code development, interpretation, and enforcement.

- The **2007 Portland Fire Code**, which is based on the **2007 Oregon Fire Code** and the **International Fire Code (IFC)**, is implemented by the City of Portland Fire Marshall and provides development and design guidelines to reduce loss of life and property due to fire.

- The **Oregon Department of Environmental Quality (DEQ)** is the State agency tasked with protecting the health and quality of Oregon’s natural environment. Oregon DEQ implements a variety of regulations, including the discharge of pollutants and other hazardous materials, which impact vehicles, apparatus, and facilities used for fueling or de-icing.

- The **Oregon Occupational Health and Safety Division (OR-OSHA)** requires that buildings and facilities comply with statewide environmental controls related to safety, sanitation, and public health.

- The **Oregon Department of Public Safety Standards and Training** is responsible for security-related regulations when required for a project.

- **Leadership in Energy & Environmental Design (LEED)** certification standards are related to existing buildings and new construction.

- The **Department of Justice (DOJ) Community Policing Standards** and **Commission on Accreditation for Law Enforcement Agencies (CALEA)** provide standards for police facilities.

**Investment Strategy**

Unlike other City-owned infrastructure assets, civic facilities and assets are not related to the provision of a State-mandated public service – like water or sewer. Investment strategies in the Citywide Systems Plan are generally intended to eliminate service gaps and ensure service provision inside of city boundaries. However, an investment strategy for civic facilities and assets is not a required public facilities plan component.

At the current time, the City lacks a systematic method to quantify these needs for civic facilities and assets. As a result, the needs and improvements identified in this section were not informed by a detailed assessment of how to bring the system’s current capacity to a level that can support future development patterns. Instead, this strategy is primarily oriented around improving the current investment process, highlighting some planned and recently completed projects.

**Process**

Investments in capital improvements for civic facilities and assets seldom result from a linear decision-making process. While there are annual inspections and reviews that provide a foundation for these investment decisions, they are usually made in a less predictable, more opportunistic manner based on funding availability or shared interests among bureaus and other agencies.

The need for a capital investment can be determined based on a comparison between the current operational needs of the primary user and the capacity of the facility or asset. For example, the Kerby Garage facility, originally built as a stable for the City’s equestrian division, does not have sufficient capacity to accommodate CityFleet’s current facility needs.
Once an individual agency need is recognized, common needs can be identified between City agencies. For example, if one bureau is looking to expand, and another bureau is holding surplus property nearby, partnerships can be formed to move forward with the expansion in a way that maximizes benefits for each party.

In other instances, City agencies find opportunities to meet their needs by joining with other agencies on previously planned projects. These resourceful partnerships have become an important tool for City agencies seeking funding when available resources are limited. Not only can partnerships allow more parties to benefit from a public expenditure, but they can also help avoid situations where one bureau is competing with another for funding. This approach also allows bureaus to work together to identify applicable goals and policies, consider current City Council priorities, and ultimately present an actionable proposal for Council approval.

### Planned Projects and Improvements

BIBS Facilities and OMF are continually pursuing new projects and improvements to increase their capacity to address facility needs and facilitate the delivery of public services. Notable amongst these planned projects is a scheduled renovation of the 9-1-1 Center – sometimes referred to as the Portland Communications Center.

#### 9-1-1 Center

BIBS Facilities is currently working with BOEC to upgrade the existing 9-1-1 Center. While renovation planning is still underway, the project is intended to address current facility needs that include leaks in the roof structure and an ineffective HVAC system.

This renovation will likely face significant logistical challenges due to the fact that the City’s emergency response operations and equipment will need to remain functional on a 24-7 basis throughout the duration of construction. It could be costly, time-intensive, and inefficient to temporarily relocate these operations and equipment while the facility is being upgraded. However, it will be critical to retain emergency communications services at all times to ensure public safety and citywide emergency preparedness. The Emergency Response section includes more information about planned projects and recommended improvements related to other emergency response infrastructure.

### Recent Projects

BIBS Facilities seeks to maintain and improve civic facilities and assets through their property management and facility planning services. These efforts vary in complexity from the construction of entirely new, state-of-the-art facilities to everyday maintenance and repair for existing facilities. A notable recent project is the construction of the Emergency Coordination Center (ECC), which was completed in January 2014.

#### Emergency Coordination Center (ECC)

The ECC project arose in order to address needs within the City’s provision of emergency response services. The facility was designed to equip tenants with more space to provide emergency coordination...
services, a larger parking lot to accommodate standby emergency vehicles, and a 150-foot telecommunications tower. The $19.8 million facility was financed through a multi-agency partnership, and is now occupied by the Portland Bureau of Emergency Management and the Portland Water Bureau’s Emergency Management and Security offices.

The facility, located on SE Bush Street and SE 99th Avenue, is connected to the existing building for the 9-1-1 Center to facilitate co-location with BOEC. The ECC acts as a nexus for citywide coordination in the event of an emergency, with several design features and building systems included to ensure continuity of operations with or without access to primary sources of energy or communications technology. The Emergency Response section includes additional information about the Portland Bureau of Emergency Management, the Bureau of Emergency Communications, and the City’s emergency response infrastructure.

**Major Needs & Recommended Improvements**

The following sections highlight a few significant projects and procedural changes that will impact the investment strategy for civic facilities and assets. The Buildings and Assets section describes buildings that have received a great deal of public attention due to pressing maintenance and repair needs, and explains the current status of efforts to improve these facilities. The Process and Management section describes other important needs that are not necessarily tied to an individual building or project, and identifies ways to improve decision-making processes for investments in this set of assets.

**Buildings & Assets**

Many of Portland’s most prominent buildings and facilities are showing the impact of deferred maintenance. The following buildings and assets are in need of significant attention to maintain their viability for the coming twenty-year planning horizon.
The Portland Building

The Portland Building is a fifteen-story office building that houses several municipal agencies and departments, including the Bureau of Environmental Services, the Portland Bureau of Transportation, Portland Parks and Recreation, the Portland Water Bureau, and OMF.

The building, opened in 1982, is renowned for its status as the world’s first major postmodern work of architecture, and was placed on the National Register of Historic Places in 2011. Many structural components and operating systems are in need of repair. A recent assessment by BIBS Facilities included an initial estimate of $95 million for one potential renovation option for the Portland Building. Though demolition and redevelopment scenarios are being considered, the future of the building remains uncertain.

Veterans Memorial Coliseum

The Veterans Memorial Coliseum (VMC) has a capacity of almost 10,000 seats and currently hosts over 100 events per year. The facility opened in 1960 and many building components are now in need of repair due to years of underfunded major maintenance and inadequate replacement reserves. Needs include the repair or replacement of structural components of the building’s rectangular shell and roof, inefficient heating systems, and a lack of ventilation to accommodate cooking at concession stands.

The VMC has a celebrated history; it was dedicated to veterans of all wars when it opened, and was placed on the National Register of Historic Places in September 2009. Several alternate uses and renovation ideas have been proposed for the facility in recent years. An extensive community engagement process and years of planning for a catalytic investment project were placed on hiatus in 2012 when plans did not move forward. The City is currently planning for the future of the facility.
Performing Arts Facilities

The Portland’5 Centers for the Arts offers five venues in three City-owned facilities\(^3\), providing arts and entertainment to the entire region. The collection of facilities comprises the 5th largest performing arts center in the country. These facilities bring over 1,000 music, theater, dance, and lecture performances to Portland every year, generating an annual average of $60 million dollars\(^4\) in regional spending.

These buildings are owned by the City, with Metro handling operational oversight and management responsibilities. At the current time, many unknowns remain regarding the facilities’ needs and funding sources for major systems replacements and building upgrades.

Westside Emergency Response Center

The former SFC. Jerome F. Sears U.S. Army Reserve Center was acquired by the City through the Federal Base Realignment and Closure process. The location and size of the property make it suitable as an emergency response staging facility on the west side of the Willamette River, particularly because most of the City’s emergency response equipment and offices are currently located on the east side. A facility at this site could serve the operational needs of Portland Fire and Rescue and the Portland Police Bureau, and play an integral role in any coordinated citywide emergency response strategy.

The building, originally built in the 1950s, would need to be brought up to current building standards in order to properly function as a backup staging center, de-icing facility and fueling station. The future use of the facility is uncertain. Efforts to complete necessary zoning changes are moving forward, as is the identification of funding for the full range of improvements required for City occupation. In total this work is estimated to cost approximately $11 to $12 million.

Process and Management

There are other pressing needs that extend beyond an individual building or facility. The following topics reflect needs regarding the process of planning, managing, maintaining, and repairing civic facilities and assets.

Major Maintenance and Replacements

BIBS Facilities collects a major maintenance and replacements reserve fund through its rental rates on all managed properties. The acknowledged industry standard is to build 3% of a building’s replacement value into the rental rates to fund these reserves on an annual basis. Currently, the City has built in approximately 1.2% of replacement value into rental rates for facilities owned by OMF.

Collecting less than the industry standard for reserve funding has led to a significant cumulative funding gap for major maintenance and replacements. Similar challenges are shared by other property-owning bureaus, many of which lack funding strategies. A system-wide review could better assess current

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\(^3\) The Portland’5 Centers for the Arts includes the Arlene Schnitzer Concert Hall, the Keller Auditorium, and the Antoinette Hatfield Hall which is home to the Brunish, Newmark, and Winningstad Theaters.

\(^4\) Portland Center for the Performing Arts (now called Portland’5 Centers for the Arts), 2011-2012 Annual Report.
funding strategies and prioritize investments to provide more reliable sources of funding for major maintenance reserves.

**Holistic Facilities Planning**

There is no existing, coordinated plan to prioritize and evaluate investments in civic facilities and assets. Major facility projects and capital improvements are typically implemented on an ad-hoc basis, with annual investment decisions often tied to a bureau's budget proposal. The result is a segregated approach that does not maximize the efficiencies of making investments that provide mutual benefits to multiple City agencies. This approach also does not capitalize on the capacity for coordination that already exists between bureaus to develop opportunistic partnerships for underfunded projects.

A more comprehensive, integrated facilities planning approach for all City-owned or City-managed facilities could be beneficial. While individual agencies currently do their own internal strategic planning, these approaches could be analyzed across bureaus in order to assess facilities needs more thoroughly on a City-wide scale. With participation from agency representatives, facilities needs could be more effectively and efficiently addressed across the board.

**Improving Asset Management**

The City’s existing asset management process provides a methodology for assessing the condition of assets in relatively broad terms – “very good”, “good”, “fair”, “poor”, and “very poor”. While it is helpful to understand the condition of assets using these categories, a greater level of detail is needed to more substantially inform decision making.

In collaboration with the City Asset Managers Group, BIBS Facilities has been working to update and improve the Facilities Condition Assessment used for civic assets and facilities. This more detailed approach to facility assessment will be available to all City infrastructure bureaus. This effort may strengthen the asset management foundation, better facilitate inter-bureau coordination for projects and improvements, and enhance the information available about facility needs throughout the city.

**Financial Strategy**

Financial strategies in the Citywide Systems Plan are normally intended to address the needs and recommendations identified in the investment strategy. For instance, if the investment strategy points out the need for a new road, the financial strategy is supposed to define ways to finance it. There is no State requirement to provide a financial strategy for civic facilities and assets. In addition, because needs and recommendations for civic facilities and assets aren’t currently able to be analyzed at this level of detail, it is difficult to present a corresponding financial strategy. Without the capacity to evaluate required levels of service and develop a project list that will help accommodate those levels of service, financial planning for civic facilities and assets is primarily responsive and opportunistic.

The Sources of Revenue section describes significant sources of funding for each type of asset. The Financial Challenges section identifies funding gaps and other financial issues that affect these assets.
Future efforts to develop a financial strategy could use this information as a starting point, as these challenges will need to be addressed in order for any strategy to be successfully implemented.

Sources of Revenue

The operations of BIBS Facilities depend largely upon revenue collected through rental rates. Historically, the City has tried to limit rental rate increases to prevent potential cuts to services.

Major maintenance money for most City-owned office buildings, maintenance facilities, the 9-1-1 Center, and the Archives and Records Center comes out of rental rate revenue. Rental rates account for the full spectrum of services offered by BIBS Facilities, including overhead costs and other non-billable time. Major maintenance money is also gathered through net income from Union Station, a Portland Development Commission facility managed by the City, a portion of which is used to fund improvements at that facility. Most of these agreements are negotiated through either IAs between City agencies or IGAs between a City agency and another public agency.

CityFleet operates similarly to a private business, billing their customers for services rendered using burdened labor rates, parts, and fuel charges – all charges that include overhead costs.

Major projects and capital improvements for civic facilities and assets are sometimes financed through long-term financing. Bonds, loans or lines of credit can be used to provide funds for a project that cannot otherwise be paid for through the existing resources of the City’s General Fund or rates paid to bureaus for services. General obligation bond measures can be placed on voter ballots, and if approved create a new property tax that supports a reliable, low-interest form of financing for public projects. Taxpayers then fund the resulting annual debt service. Capital improvements and major projects can also be funded through other forms of debt financing supported by resources other than voter-approved property taxes.

Financial Challenges

The City uses an asset management approach to document the condition of its property and make informed investment decisions. The financial condition of these assets is primarily indicated by their annual funding gaps; where noted, a one-time funding gap is used (see Table 10.5).

Table 10.5 Civic Facilities & Assets annual funding gaps, 2013

<table>
<thead>
<tr>
<th>Capital asset type</th>
<th>R/R/R</th>
<th>Mandate</th>
<th>Capacity</th>
<th>Total</th>
<th>Confidence level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office buildings</td>
<td>$2.2</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$2.2</td>
<td>4 – High</td>
</tr>
<tr>
<td>Other buildings</td>
<td>$1.3</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$1.3</td>
<td>4 – High</td>
</tr>
<tr>
<td>PDC facilities</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>4 – High</td>
</tr>
<tr>
<td>Spectator facilities *</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>4 – High</td>
</tr>
<tr>
<td>Performing arts facilities **</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Total for Civic Facilities &amp; Assets</td>
<td>$3.5</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$3.5</td>
<td></td>
</tr>
</tbody>
</table>

R/R/R (Repair, Rehabilitation, Replacement): Additional funding necessary to repair, rehabilitate and replace existing assets to bring them up to established service levels, or replace assets considered functionally obsolete (not meeting those service levels).
Mandate: Additional funding necessary to improve existing assets to meet regulatory requirements, exclusive of improvements that fall under R/R/R or capacity.

Capacity: Additional funding necessary to address existing inequities and deficiencies in levels of service for current customers and citizens.

* Spectator facilities fund gaps are of a one-time nature: $35M for reserves funding.

** OMF is beginning to work with Metro/MERC on the status of performing arts facilities.

For assets in the “office buildings” and “other buildings” groups, this funding gap is calculated by determining the annual difference between what is collected in rental rates\(^5\) or set aside from net income for major maintenance and the industry standard of 3 percent of replacement value. The Office of Management and Finance is currently only able to reinvest about 1.2 percent of the replacement value of these civic facilities and assets on an annual basis. The level of reinvestment in major maintenance has declined in recent years, due to rapidly escalating costs to replace buildings (above regular inflation), the increase in the number of new facilities, and rate reductions to meet the declining resources of users of civic facilities and assets.

The funding gap created by this 1.2 percent of replacement value reinvestment will not allow OMF to cover major maintenance and replacement needs for civic facilities and assets for the next five years, with many projects being pushed back beyond this timeframe. Regardless, this is not a severe enough funding gap to force a decrease in the overall condition of individual assets from their current broad designations as either “good”, “fair” or “poor” within a 10-year planning horizon. Since the likelihood of rental rate increases is low, funding for major maintenance should be increased. One way to reduce the funding gap is to direct savings from efficiency improvements to major maintenance reserves.

For spectator facilities and Union Station, the funding gap is noted as the one-time difference between actual fund reserves for capital maintenance and estimated costs to address the deferred maintenance at Veterans Memorial Coliseum and Union Station. For Union Station, the best resource for addressing maintenance needs are grant funds. Recently grant funds have been used mainly for the roof structure, which is the facility’s most pressing need.

\(^5\) Rental rate increases for City facilities are limited to CPI, though there may be cost element factors that are in excess of CPI.
TECHNOLOGY SYSTEMS

Introduction

Technology systems come in a multitude of forms, with a range encompassing computer hardware and software, voicemail systems, video systems, microwave radio systems and other radio equipment, and transmission towers.

These systems have a direct impact upon nearly every City agency’s ability to provide services ranging from routine correspondence to emergency response. They enable City agencies to operate more efficiently, with many bureaus relying on sophisticated modeling software, monitoring systems, and databases for construction permitting, land use planning, spatial analysis, and a variety of administrative processes. Reliable, innovative technology systems play a critical role in Portland’s status as a resilient, prosperous, modern city, with many predicting that the importance of these systems will only continue to increase throughout the Comprehensive Plan’s twenty-year planning horizon.

It can be challenging to analyze these systems using language and concepts associated with more traditional infrastructure systems. The operational capacity of technology and its potential to impact services is constantly in flux, which makes it difficult to measure performance and conduct meaningful long-range planning. When the original Comprehensive Plan was drafted in the late 1980s it would have been impossible to predict the form and magnitude of change that the internet and other corporate software applications would affect. Because the pace of technological innovation is continuing to accelerate, the future is likely to bring several opportunities for the City to consider new and potentially groundbreaking technologies.

Many City bureaus are capitalizing on opportunities to invest in and utilize innovative technology systems, including cloud computing, interactive mapping applications, and mobile payment systems to streamline operations. Though these technologies may become outdated in the coming years, there will be emerging opportunities for the City to benefit from the evolving technological landscape within the twenty-year planning horizon.

Technology systems within the City of Portland are primarily handled by the Bureau of Technology Services (BTS). The Bureau of Technology Services is tasked with providing management, policy setting, strategic planning, and leadership in the use of computer, radio, and telecommunications technologies for the City. Other City bureaus own or manage specialized technology based assets, particularly computer software. While not the focus of this section, these non-BTS technologies are critical to the City’s ability to deliver services. For example, SAP, the City’s centralized financial and administrative business software, is integral many City functions.

This section begins with mission and vision statements from BTS, then discusses how technology systems impact an array of City services and programs. The section identifies some trends, issues, opportunities, major needs and associated recommendations for technology systems. It concludes with a brief discussion of the investment process and financial strategy currently utilized by BTS and the Office of Management and Finance (OMF) for City-owned technology assets.
Vision

There is no consolidated vision for technology systems at this point in time, though BTS has developed their own bureau-specific vision statements. Based on these statements, the following vision statement has been developed for technology systems for the purposes of this document:

The City of Portland’s technology systems provide forward-thinking solutions for local government. They enable members of the public to engage with City agencies and programs, and help to facilitate a two-way dialogue between residents and government officials. The Bureau of Technology Services aims to be a recognized leader in municipal technology systems, and a valued strategic partner to public- and private-sector efforts that support innovative and resilient technology investments across the city.

In addition, the Corporate Geographic Information Systems program at BTS has a stated vision to “enable superior decision making by providing the highest quality geospatial information to all, anytime, anyplace, and on any platform, in order to provide the highest level of City services”.

Mission

Technology systems also lack a consolidated mission statement relevant to this document. Similar to the vision statements, there are a few bureau-specific mission statements that apply to the assets in this section. The following mission statement was developed for the purposes of this document, and is intended to incorporate bureau-specific language through the lens of technology systems:

The Bureau of Technology Services provides innovative, reliable, and secure technology services and strategic leadership in alignment with the needs of the City of Portland, the public, and regional partners. Individual services provided by BTS support the City’s goal to deliver efficient, effective, and accountable municipal services, as well as OMF’s goal to maximize the cost effective use of technology. These services maintain a world class production technology environment, support mission critical voice and
data communications needs, and employ appropriate safeguards required in order to protect the City’s information assets.

The Corporate Geographic Information Systems program at BTS also has a mission to “improve the delivery of City services to the public by providing strategic geospatial technology and services that promote informed decision making, foster collaborative partnerships, and enable access to data wherever it is needed”.

Services Provided

The City’s major technology systems are all integrated to a significant extent (see Figure 10.2). This means that operations for most BTS technology systems are dependent upon access to other BTS systems, and all systems within this matrix are important for everyday service provision. This matrix of systems has a very broad influence on public service provision, and this influence will continue to expand during the next twenty years.

Figure 10.2 Technology Systems Service Dependency Grid
Technology systems allow City bureaus to perform the wide array of services that rely upon the use of technology. Services provided and impacted by technology systems include:

- Communications services, including telephony;
- Life safety and emergency communications, coordination, prevention, and response services;
- Water provision, transportation services, and nearly every other public service described elsewhere in the Citywide Systems Plan;
- Public access to City websites and internet databases;
- Internal business services;
- Digital archives and data storage services; and
- The ability to take payment for services using credit or debit cards.

Levels of Service

The Bureau of Technology Services uses a long list of performance metrics to assess service provision. The Bureau of Technology Services is not subject to State comprehensive planning requirements to meet any specific service levels. A few key metrics related to public services include:

- The percentage of time Radio Systems operated without failure;
- The average number of unique visitors per day to PortlandOnline;
- The average number of maps per day viewed through PortlandMaps;
- Customer service satisfaction ratings;
- Payment gateway availability; and
- Mission critical communications and production systems availability.

In addition, BTS has several performance metrics for services provided internally to other City bureaus or employees. These include metrics related to support call response times, information security, time spent deploying new software or hardware, and the percentage of time that internet service is available to City staff members.

Service Area

Physical boundaries are less relevant to technology systems than other citywide systems, because much of this technology is either mobile or accessible from remote locations. Most of the technology systems supported by BTS are primarily for the use of the City of Portland and are primarily used within the municipal boundaries as defined by the City’s urban growth boundary. However, some of them, including some public safety systems such as Computer-Aided Dispatch and the radio system, are also used by agencies outside of City boundaries.

Other technology systems are used by City agencies outside of city boundaries to support City needs. For instance, the Portland Water Bureau utilizes BTS hardware and software at the Bull Run Reservoir site to support watershed operations. Future years may also bring about other reasons to maintain facilities
outside of city boundaries to serve needs in Portland – including redundant data centers located remotely to ensure access to important private data servers in the event of an emergency.

**Service Agreements**

The Bureau of Technology Services has interagency agreements (IAs) with nearly every City bureau. Funds received through IAs are deposited into the Technology Services Fund, an internal service fund that can only be funded through this source. Interagency charges are designed to approximate the cost of the services consumed by the service receivers. These IAs comprise the bulk of the funding for the services BTS provides, and as such most BTS services are provided internally to other City bureaus.

The Bureau of Technology Services also provides services to other agencies and jurisdictions through intergovernmental agreements (IGAs). Intergovernmental services range from 800 MHz simulcast and trucking radio services, to use of the City’s Integrated Regional Networking Enterprise system, to site usage at communications tower locations. The Bureau of Technology Services has negotiated IGAs with organizations including Metro, Tri-Met, Oregon Health and Sciences University, David Douglas School District, and the City of Lake Oswego – among others.

**Inventory Summary**

Components of technology systems include many different types of assets, ranging from obsolete to newer and more cutting edge equipment. This technology comes in a multitude of forms, with a range encompassing computer hardware and software, voicemail systems, video systems, microwave radio systems and other radio equipment, and transmission towers. See Table 10.6 for more information about technology system groups and replacement values.
Table 10.6 Technology Systems Groups and Replacement Values, 2013

<table>
<thead>
<tr>
<th>Capital Asset class</th>
<th>Value (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTS: Communications</td>
<td>$70.8</td>
</tr>
<tr>
<td>Production services</td>
<td>$2.8</td>
</tr>
<tr>
<td>Strategic technology</td>
<td>$6.2</td>
</tr>
<tr>
<td>Other bureaus: Equipment and software</td>
<td>$8.2</td>
</tr>
<tr>
<td>Strategic technology</td>
<td>$93.8</td>
</tr>
<tr>
<td><strong>Total Technology Systems</strong></td>
<td><strong>$181.8</strong></td>
</tr>
</tbody>
</table>

Table 10.7 provides information about the current condition of technology systems. The condition ratings for these asset groups are based on current age and expected useful life cycle. Condition here is expressed as a percentage of assets, with systems that are considered to be obsolete included in the “poor” condition rating.

Table 10.7 Current Condition of Technology Systems

<table>
<thead>
<tr>
<th>Technology systems by capital asset type</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Very Poor</th>
<th>TDB</th>
<th>Confidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTS: Communications</td>
<td>0</td>
<td>97</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
<tr>
<td>Production services</td>
<td>0</td>
<td>77</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
<tr>
<td>Strategic technology</td>
<td>0</td>
<td>84</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
<tr>
<td>Other bureaus: Equipment and software</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
<tr>
<td>Strategic technology</td>
<td>0</td>
<td>88</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
</tbody>
</table>

The following paragraphs describe and provide examples to clarify each major grouping of technology systems assets.

Communications assets owned by BTS include data networks, the Integrated Regional Networking Enterprise telecommunications system, certain transmission towers, and the City’s 800 MHz radio system. These assets facilitate effective and reliable communication between City employees and agencies. For example, the City’s 800 MHz Radio System is used by a number of public safety agencies to coordinate emergency response and other critical communications.

Production services technology owned by BTS includes both virtual and physical servers, the City’s email system and storage area networks, application servers, and backup system hardware and software. These assets store data and facilitate internal communications within the City of Portland. For example, the City’s collection of servers houses software that provides database services to a large number of computers and other computer programs. These servers help display requested data for users within the City network, and perform data analysis and storage tasks necessary for managing large amounts of digital information.

Strategic technology owned by BTS includes both hardware and software for corporate applications such as E-Gov, E-Commerce, and Geographic Information Systems. This asset group also includes information security technology in the form of both hardware and software. Information security
technology is used to ensure continued functionality of the City’s technology systems and to keep sensitive information or private data safe from viruses and other internet security threats. A good example of this would be the virus scan software installed on City-owned computers, which ensures that data or programs downloaded from the internet are safe and free of viruses.

**Equipment and software** owned by other bureaus, such as video systems, certain radio equipment, bureau PCs, and bureau laptops, facilitates access to technology services within individual City agencies, connecting City employees with the array of technology systems listed above. For example, email systems and strategic corporate applications can only be used by City agencies if they have PCs and laptops equipped to handle those functions.

**Strategic technology** owned by other bureaus includes corporate applications such as Computer-Aided Dispatch; the Portland Police Data System; the Customer Information System; and the Tracking, Review, Application and Construction System (TRACS). These applications help City agencies provide services by making information more accessible and streamlining administrative processes. For instance, TRACS helps the Bureau of Development Services assess permit requests and review construction plans for proposed projects. This also benefits builders and developers by tracking information on projects, reducing the amount of time spent on permitting processes, and reducing the number of trips to the Permit Center.

**Key Issues, Trends, Opportunities**

**Constantly Evolving Technologies with Limited Lifespans**

Technology of all types has a limited life span. At present, the increasing availability of high speed internet connections, open source code, “app stores”, cloud computing resources, and the increasing availability of good quality mobile devices with internet access are major influencers of technology. These drivers and influencers of technology will continue to evolve rapidly and can be expected to change significantly in short periods of time.
When technology exceeds its lifespan a variety of problems can occur, including failures, inability to maintain, inability to upgrade, and other problems. The City currently has a material investment in older technology that must continue to be maintained while other technology is evolving rapidly. It will continue to be a challenge to maintain important legacy systems while at the same time researching, adopting and implementing new technologies needed by the City in order to keep pace with the needs of Portlanders over the next twenty years.

Cloud Computing

Recent years have seen a rise in the popularity of services such as servers, storage, and applications being delivered through the Internet. Commonly referred to as cloud computing, this development presents an opportunity to use resources more efficiently and reduce costs for City bureaus. The City has already started utilizing cloud technologies to a limited extent, with a future deployment of the cloud-based Office 365 software planned for all City bureaus.

If implemented properly, cloud computing has the potential to improve and streamline City operations. However, there are potential pitfalls that come along with storing private or sensitive government information on the internet. As with many technologies, the City has to balance the potential for operational efficiency with a need for the highest level of information security for private data.

Mobile Computing and a Mobile Workforce

Mobile computing has allowed citizens and employees to use technology tools virtually anytime and anywhere without the need to be in a certain location – such as an office. This technology is already making it possible for City employees who work in the field to use mobile tools to allow them to work more efficiently. It also presents opportunities to explore different office space arrangements that would allow City employees to work remotely on a more regular basis, as appropriate.
Consumerization of Technology

Employees and citizens own a variety of technology tools, such as smartphones and tablets, and many people expect to be able to use them when interacting with the City to obtain information or pay for services. This consumerization of technology presents an opportunity to allow the use of personal technology where it supports the City's mission, while making certain that City systems are protected from viruses and malware.

“The Internet of Things”

Another emerging technology trend is “the internet of things” where devices and machines communicate via the internet without the intervention of humans. These devices can sense aspects of the real world, like temperature, location, pressure, fluid levels, and other key indicators, assess that data, and act according to program needs. One example is the driverless car technology being developed by Google and other companies. This technology could be used by a pump programmed to assess water levels and turn on when reach a certain height was reached to activate drainage at that location.

These capabilities are an emerging driver in the technology field, and it is likely that vendors will start to provide the City with solutions informed by this concept in the near future. Though this technology might seem outdated by the end of the twenty-year planning horizon for the Citywide Systems Plan, it could have a large influence on future technology decisions within the City.

Regulatory Compliance

Though technology systems do not have to comply with quite as many regulations and restrictions as other infrastructure systems, there are still a few relevant standards and guidelines that impact BTS services:

- The use of payment cards (debit and credit cards) is overseen by the Payment Card Industry (PCI) group. This results in periodic audits to evaluate the safeguards applied to the handling of this data in order to prevent identity theft and other misuse. The City processes over 130 million payment card transactions annually.
- The City adheres to the guidelines of the Health Insurance Portability and Accountability Act (HIPAA) which outlines privacy rules for information about an individual’s health.
- Certain data, such as law enforcement data, medical data and personally identifiable information (e.g. Social Security numbers) requires a high level of confidentiality. Steps are taken to ensure the proper access to these data.

Investment Strategy

Technology systems require strategic investments in order to stay current with a constantly progressing technological landscape. The City’s asset management practices, as well as other internal working groups, have developed a few guidelines and recommendations to inform these investments. These longer-term strategies are often supplemented by flexibility in the short-term, with other more incremental
decisions being made along the way to capitalize on strategic opportunities or recent technological advancements.

**Process**

Five-year maintenance and replacement plans for technology systems are prepared through OMF’s Asset Management program. These plans are produced by BTS staff responsible for asset management, and are refined by a management review group. Priority is given to items that support public safety, improve reliability and availability of critical data systems, and improve efficiency and reduce costs through the consolidation of infrastructure. The Bureau of Technology Services also recently embarked upon a Citywide Technology Assessment, which has resulted in additional recommendations to strengthen the City’s technology investment and decision-making processes.

The Bureau of Technology Services currently employs a formal intake process when new work is identified. This practice is supplemented by the use of portfolio management software, which provides a comprehensive picture of the entire BTS work queue as well as the demands the project is anticipated to have on City resources. Major influencers for short-term decisions include the urgency of the need, the availability of funding, the presence of executive support, and the capacity for revenue generation. Certain large technology projects are overseen by the Technology Oversight Committee (TOC), where citizen members review the projects, ask questions, and provide suggestions. TOC reports are also shared periodically by the Chief Administrative Officer with City Council.

**Recent and Ongoing Projects**

The Bureau of Technology Services is continually implementing any number of projects that aim to provide solutions through technology systems for both City staff and the general public. Recently completed projects include the deployment of Windows 7. Current projects include the deployment of Office 365 and the implementation of the Public Safety Systems Revitalization Project.

**Windows 7 & Office 365**

The Bureau of Technology Services is currently finishing the deployment of the Windows 7 operating system for all City bureaus. In addition, Office 365, the online version of Microsoft’s office suite, is in the process of being deployed citywide.
Public Safety Systems Revitalization Project (PSSRP)

The Office of Management and Finance has established a multi-bureau committee to address the replacement of major public safety technology systems including the 800 MHz radio system, Computer-Aided Dispatch for the Bureau of Emergency Communications, and Portland Police Data System. This work, called the Public Safety Systems Revitalization Project (PSSRP), is addressing funding, governance, coordination, timing, and other issues related to the replacement of these major technology systems.

Planned Projects and Improvements

There are several other projects that are expected to be completed in the next five to ten years. Some of these anticipated projects include replacements of portions of the City’s Integrated Regional Networking Enterprise system, production services assets such as storage area networks and servers, and various strategic corporate applications. For instance, the Portland Police Data System is planned to be replaced by a new system called RegJIN by Spring 2015. Additionally, if the 311 Call Center (see p. 347) moves forward it is likely to include a significant technology component.

Major Needs & Recommended Improvements

The following section highlights some projects and procedural changes that would be in alignment with the investment strategy for technology systems. These include expanded system performance metrics; the adoption of an integrated, inclusive decision-making process; and improved disaster recovery planning for technology.

Expanded System Performance Metrics

The Bureau of Technology Services measures both the performance of selected systems and customer experience. There is a need to measure additional characteristics of system performance, such as energy
use, in order to find opportunities for additional efficiencies. Measuring system performance can also help to inform strategic planning and decisions about the purchase of new or replacement technology.

In addition, metrics can provide guidance about system and network load and sizing, thus helping to determine whether the components are the right fit for the work load. This information is useful when expanding or replacing the system. Data centers are notoriously heavy consumers of electricity, which is needed to run technology equipment and to manage temperature and humidity. Expanded system monitoring and performance metrics could provide more precise information about energy consumption and energy savings as changes are made to improve efficiency.

**Integrated, Inclusive Decision-Making Process**

The City could benefit from a more robust methodology to evaluate the costs and benefits of proposed technology investments before they are approved. This could lead to better assessments of each requested technology systems project by considering factors such as life-cycle cost, which identifies not only purchase and implementation costs but also the cost of maintenance and upgrades. This would allow the City as a whole to make more informed investment decisions and reject projects that do not demonstrate adequate value.

The recent Citywide Technology Assessment conducted by BTS has brought forth some recommendations about best practices and governance. Among these is the recommendation to create Communities of Interest, a collaborative venue for bureaus with similar technology needs to consider solutions that span multiple bureaus. This would increase efficiency and cost savings, and could provide a more complete view of technology needs across the City.

**Disaster Recovery Planning for Technology**

The City needs a robust disaster recovery plan that includes technology systems in order to prepare for City services to continue during and after a disaster. The implementation of such a plan is critical to Portland’s emergency response capacity, and could contribute to the resiliency of many essential City services and programs. The Bureau of Technology Services is working on a plan for technology systems disaster recovery.

**Financial Strategy**

As mentioned elsewhere in this chapter, financial strategies in the Citywide Systems Plan usually address the needs and recommendations identified in the investment strategy. There is no state requirement to develop a financial strategy for technology systems, and needs and recommendations for technology systems are not able to be analyzed at this level of detail. Without the capacity to develop a project list or detailed investment strategy, financial planning for technology systems will necessarily remain responsive and opportunistic.

The following is a description of the significant sources of funding for capital asset groups included in the Technology Systems section, and a discussion of funding gaps and other financial issues that affect
these assets. Future efforts to develop a financial strategy should use this information as a starting point, as these challenges will need to be addressed in order for any strategy to be successfully implemented.

Sources of Revenue

At this time, the sole sources of revenue for BTS are IGAs and IAs related to service provision. Revenue received from these agreements flows through the Technology Services Fund, an internal services fund requiring that revenue received be used to fund BTS operations. Bureau of Technology Services IA charges are designed to cover the cost of the services consumed by the service receivers.

Other critical projects are usually funded using one-time fund balances or other one-time allocations included in annual bureau-specific budget proposals. Additionally, replacements are sometimes funded through reserve funds.

Due to the fact that technology systems projects benefit different bureaus in different ways, their associated funding sources can vary depending upon the project and its intended scope. For instance, the PSSRP was financed partially through General Obligation bonds approved by voters. This funding source was used to complement a mix of debt and cash financing for the project that was approved by Council as part of prior budget processes.

Financial Challenges

Establishing replacement values, current conditions, and funding gaps for technology systems requires a different approach than for other City assets. This is primarily due to the short lives and quick obsolescence of technology assets. Another important factor is the critical need to stay current with technologies that may not be supported by vendors in the future, which can render the technology unusable. For example, Microsoft recently stopped providing customer support for the Windows XP operating system, which prompted most users to upgrade to the newer Windows 7.

Bureau of Technology Services rates currently only include partial funding for major maintenance and replacement systems. This significant long-term financial challenge is compounded by the fact that replacement values for technology assets are difficult to assess with any certainty, even on a short-term basis. Currently BTS estimates the replacement value of technology assets based on recently completed projects and a rough assessment of the experiences of other governments. The Bureau of Technology Services includes the indirect costs for engineering and other professional services in these replacement values.

Another pertinent issue is the value of the revenue lost when technology systems malfunction or become inaccessible. Glitches or other technology failures can result in electronic payments being dropped, valuable data disappearing, and a variety of other negative consequences. Though lost revenue is not incorporated into calculations of the value of technology assets, it has a direct impact on the value of these systems to both City staff and the members of the public that utilize technology systems.

Annual funding gaps and other relevant financial information has been compiled in Table 10.8. Annual funding gap calculations include annual funding necessary to meet industry standards for major
maintenance, and annual needs to ensure replacement and upgrades of technology on accepted schedules.

**Table 10.8 Technology Systems Annual Funding Gaps, 2013**

<table>
<thead>
<tr>
<th>Capital asset type</th>
<th>R/R/R</th>
<th>Mandate</th>
<th>Capacity</th>
<th>Total</th>
<th>Confidence level</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTS: Communications</td>
<td>$5.4</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$5.4</td>
<td>4 – High</td>
</tr>
<tr>
<td>Production services</td>
<td>$0.4</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$0.4</td>
<td>4 – High</td>
</tr>
<tr>
<td>Strategic technology</td>
<td>$0.7</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$0.7</td>
<td>4 – High</td>
</tr>
<tr>
<td>Other bureaus: Electronic equipment and software</td>
<td>$0.7</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$0.7</td>
<td>4 – High</td>
</tr>
<tr>
<td>Strategic technology</td>
<td>$4.9</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$4.9</td>
<td>4 – High</td>
</tr>
<tr>
<td><strong>Total for Technology Systems</strong></td>
<td>$12.1</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$12.1</td>
<td></td>
</tr>
</tbody>
</table>

R/R/R (Repair, Rehabilitation, Replacement): Additional funding necessary to repair, rehabilitate and replace existing assets to bring them up to established service levels, or replace assets considered functionally obsolete (not meeting those service levels).

Mandate: Additional funding necessary to improve existing assets to meet regulatory requirements, exclusive of improvements that fall under R/R/R or capacity.

Capacity: Additional funding necessary to address existing inequities and deficiencies in levels of service for current customers and citizens.
EMERGENCY RESPONSE

Introduction

Emergency response infrastructure includes City-owned buildings, facilities, apparatus, vehicles, and equipment primarily owned or managed by the Office of Management and Finance (OMF) or Portland Fire and Rescue (PF&R). Emergency response infrastructure plays a central role in the City’s full emergency response system, which delivers life safety and emergency response services for occurrences ranging from vandalism to inclement weather to a major natural disaster.

Under day-to-day circumstances, emergency response infrastructure is utilized by bureaus in the City’s four-legged stool of emergency response – the Portland Police Bureau (PPB), Portland Fire and Rescue (PF&R), the Bureau of Emergency Communications (BOEC), and the Portland Bureau of Emergency Management (PBEM) – to respond to calls when Portlanders are in need. This emergency response system places BOEC as the first point of contact for emergency calls, with dispatchers then directing incidents to PPB or PF&R depending on the situation. When incidents or events require the involvement of additional City bureaus, PBEM steps in to coordinate emergency response on a broader scale.

The City’s emergency response system is vital to Portland’s emergency preparedness and continuation of operations strategies, with many components of this section listed as “essential facilities” in the City’s Natural Hazard Mitigation Plan (see p. 38). In the event of a large-scale climate event or disaster, the City’s emergency response system expands to include the Disaster Policy Council and other City bureaus like the Portland Bureau of Transportation, the Portland Water Bureau, or the Bureau of Environmental Services for additional services as needed. Regardless of the scale or intensity of the emergency, Portland’s emergency response system plays a foundational role in increasing citywide resiliency and facilitating an appropriate recovery.

Infrastructure covered in this section includes fire stations, specialized mobile response units, fire trucks, fireboats, police stations, and other buildings occupied by BOEC, PBEM, PF&R, and PPB. Due to existing
accounting and asset management practices, this collection does not comprise the entirety of the City’s emergency response system. Many assets equally critical to emergency response are covered in other sections of this chapter, including the computer-aided dispatch system, the Emergency Coordination Center, the 9-1-1 Center, police vehicles, and emergency communications technology.\(^6\)

Emergency response infrastructure is often utilized by multiple bureaus simultaneously, with many intergovernmental and mutual-aid agreements that extend related services into every jurisdiction that borders the City of Portland. These assets are also subject to different ownership and management structures, and are dispersed throughout different capital asset groups used in City asset management practices. This complexity makes it difficult to perform comprehensive assessments, prioritize investments, and conduct financial planning for emergency response infrastructure. Because the Citywide Systems Plan represents the first effort to plan at this level of detail for emergency response assets, there is more work that needs to be done before long-term strategies can be implemented for the system as a whole.

This section describes how, where, and to what degree emergency response assets impact the provision of life safety services. It also includes a summary inventory for emergency response infrastructure, a discussion of their current condition and capacity, and a compilation of relevant issues, trends, and opportunities likely to arise over a twenty-year timeframe. This section then assesses some needs and recommendations for these assets, and concludes with a consideration of investment priorities and financial strategies to address those needs and recommendations in coming years.

**Agency Organizational Structure**

The Office of Management and Finance and PF&R manage the buildings, facilities and apparatus included in the Emergency Response section. The Office of Management and Finance is responsible for all police facilities, which are managed through BIBS Facilities much like other City-owned or occupied office buildings. The Portland Police Bureau is the primary user of police facilities, with police vehicles provided through an interagency agreement with CityFleet. Portland Fire and Rescue is the primary user and manager for all fire facilities, as well as a collection of specialized firefighting vehicles, apparatus, and equipment. Portland Fire and Rescue handles ownership and management of these assets in part because their services are heavily integrated with the use of these assets. For instance, extinguishing a fire is nearly impossible without the use of specialized fire-fighting equipment such as hoses, ladders, and the fire apparatus itself. Though PPB depends upon precincts and vehicles to fulfill their bureau’s mission, police facilities are less specialized and more flexible in nature.

Other bureaus are directly involved in the provision of emergency response services, particularly BOEC and PBEM. Depending on the circumstance, many other agencies can play support roles in Portland’s emergency response system, including the Portland Bureau of Transportation, the Portland Water

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\(^6\) The value of the Emergency Coordination Center and the 9-1-1 Center is included in the “other buildings” asset group in the Civic Facilities & Assets section. The value of police vehicles has not been included in any asset groups within the Citywide Systems Plan. The value of communications technology has been included in the “communications” asset group in the Technology Systems section.
Bureau, and the Bureau of Environmental Services. The Bureau of Technology Services is also involved in emergency communications services and systems.

**Vision**

Similar to civic facilities and assets, there is no consolidated vision for Portland’s emergency response assets. All four emergency response bureaus (BOEC, PBEM, PF&R, and PPB) have their own bureau-specific vision statements, but this language is only partly applicable to the assets covered in this chapter. Based on existing language, the following vision statement has been created for the purposes of this document:

Emergency response buildings, facilities apparatus, vehicles and equipment allow City agencies to provide coordinated, efficient and effective emergency response and life safety services to Portland residents and visitors.

**Mission**

Emergency response infrastructure also lacks a consolidated mission statement. Based on the mission statements from BOEC, PBEM, PF&R, and PPB, the following mission statement has been developed for Portland’s emergency response infrastructure:

*Emergency response buildings, facilities and apparatus provide the infrastructure necessary to effectively support services that protect life, property, and the environment, reduce crime and the fear of crime, maintain human rights, contribute to disaster risk reduction, and support the connection between the community and emergency responders.*

**Services Provided**

Emergency response facilities and apparatus are utilized by PPB and PF&R, in coordination with PBEM, BOEC, and other City bureaus as necessary. Emergency response infrastructure enables these bureaus to provide life safety and emergency response services, which include:

- Fire and rescue services;
- Police services;
- Fire prevention services, such as plan review, code enforcement, and Harbor Master services;
- Emergency communications services;
- Emergency coordination and incident management; and
- Emergency prevention education and outreach.

Additionally, emergency response facilities often include conference rooms and gathering spaces used by neighborhood groups and various City bureaus. For instance, the North and East Precinct facilities each have community rooms available to the public, and all three major Precincts (Central, East, and North) also serve Portland citizens by providing a physical point of contact for police-related issues and concerns.
Service Area

Emergency response services are provided within the boundaries shown in Figure 10.3 and Figure 10.4. These services are provided to Portland residents within the City’s urban growth boundary.

Additionally, emergency response services are available in areas outside of these boundaries based on a number of intergovernmental agreements entered into by the bureaus responsible for emergency response and life safety service provision. This results in an effective service area that is larger than the urban services area, extending into the areas under the jurisdiction of the Port of Portland as well as those governed by Multnomah County, the City of Gresham, and other municipalities in the region.

Figure 10.3 Portland Fire Stations, 2014
Service Agreements

Service agreements for emergency response infrastructure take similar forms to the agreements for civic facilities and assets discussed earlier in the chapter. These agreements range from interagency agreements (IAs) amongst City bureaus, intergovernmental agreements (IGAs) between city bureaus and outside agencies, and condominium lease agreements, or other partnerships oriented around City-owned assets.

Portland Fire and Rescue has mutual-aid agreements with all jurisdictions surrounding City of Portland boundaries, including waterways and forest areas. For instance, PF&R is a member of the Marine Fire Safety Association (MFSA) serving the Lower Columbia and Lower Willamette River areas along with other emergency response agencies from Vancouver to Clackamas County (for more information on mutual-aid agreements see p.41).

The Portland Police Bureau is involved in over 200 agreements with over 50 different agencies, including the State of Oregon, the State of Washington, and several federal agencies. Many of these are IGAs related to mutual aid in the event of a major emergency, including agreements with Sheriffs’ offices in
Proposed Draft Citywide Systems Plan

Chapter 10. Other Essential Facilities & Systems

Multnomah and Clackamas County. Other agreements include IAs related to police vehicles leased through CityFleet and technology services provided by the Bureau of Technology Services.

The Bureau of Emergency Communications provides 9-1-1 and responder dispatch services through IGAs with partner jurisdictions ranging from the City of Troutdale to Fire District 30 on Sauvie Island. The Bureau of Emergency Communications provides computer-aided dispatch connectivity services to the Port of Portland through an IGA, in addition to sharing live dispatch data with regional communications partners in Clackamas, Washington, Columbia, and Clark counties, as well as Lake Oswego.

The Portland Bureau of Emergency Management also has interstate mutual aid agreements for services through the nationally-adopted Emergency Management Assistance Compact (EMAC) and the Pacific Northwest Emergency Management Arrangement (PNEMA), which includes the states of Oregon, Washington, Idaho, and Alaska, along with the Canadian provinces of British Columbia and the Yukon Territory.

All primary emergency response bureaus (BOEC, PBEM, PPB, and PF&R) are involved in agreements or other partnerships related to the buildings, facilities, technology, vehicles, and apparatus covered in this chapter. For instance, the portion of the newly constructed Emergency Coordination Center occupied by PBEM is leased through BIBS Facilities, who was able to construct the facility through a joint-partnership with the Portland Water Bureau. Other examples include the Justice Center, which is occupied by PPB through a condominium lease agreement with Multnomah County.

Levels of Service

Emergency response facilities and vehicles are not required to meet any specific or quantifiable levels of service by the State or any other regulatory body. These facilities and vehicles are expected to perform in a cost-effective and efficient manner to support City bureaus in the direct provision of public services, which are listed in the Services Provided section.

Emergency response bureaus utilize a variety of performance measures to assess their provision of emergency response and life safety services to the public. The Portland Police Bureau has a performance measure to respond to 9-1-1 emergency calls in less than five minutes, an industry standard that PPB has been surpassing in recent years. The Portland Police Bureau also measures their success by the percentage of citizens who rate their services as ‘good’ or better, the percentage of residents who feel safe walking alone in their neighborhood at night, and the percentage of crimes cleared. Police services are also assessed through a measure of “part 1” or major crimes per 1,000 residents, and other similar metrics.

Portland Fire and Rescue uses similar measures to quantify the speed and overall impact of their services. The bureau’s performance measure related to response times seeks to respond to medical and fire emergency calls in five minutes or less 90% of the time, from the time of the call to time of arrival on-site. There are many other performance measures being utilized by PF&R to increase proactive health and wellness practices for their employees and enhance existing code enforcement inspection practices.
Inventory Summary

The emergency response asset inventory includes buildings, facilities, apparatus, vehicles, and equipment. These assets fall into the groupings of “police facilities” and “fire facilities”, though it should be noted that “fire facilities” as a grouping includes several mobile fire apparatus units, specialized vehicles, and fire equipment that are not included in the data for either asset group. See Table 10.9 for information about the replacement values of emergency response asset groups, and Table 10.10 for an assessment of their current condition.

Table 10.9 Emergency Response Groups and Replacement Values, 2013

<table>
<thead>
<tr>
<th>Capital Asset class</th>
<th>Value (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police facilities</td>
<td>$108.8</td>
</tr>
<tr>
<td>Fire facilities</td>
<td>$96.8</td>
</tr>
<tr>
<td><strong>Total Emergency Response</strong></td>
<td><strong>$205.6</strong></td>
</tr>
</tbody>
</table>

Table 10.10 Current Condition: Emergency Response System, 2013

<table>
<thead>
<tr>
<th>Capital asset type</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Very Poor</th>
<th>TBD</th>
<th>Confidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police facilities</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
<tr>
<td>Fire facilities</td>
<td>0</td>
<td>98</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4 - High</td>
</tr>
</tbody>
</table>

The “police facilities” grouping includes PPB precinct facilities for each of the City’s three patrol divisions, East, North, and Central. The Central Precinct is located in the Justice Center downtown, a facility that is shared with Multnomah County and also utilized as PPB Headquarters. The City also operates the Southeast Precinct as a sub-station of the East Precinct, at a facility that also houses the Property Crimes unit and the Portland Office of Neighborhood Involvement. Other facilities included in the inventory and utilized by PPB include the Rivergate Vehicle Storage facility, the Property Evidence Division warehouse, the Traffic Division in St. Johns, and a training facility on NE Airport Way that is scheduled to open in August 2014.
The “fire facilities” grouping includes all 30 stations for PF&R, as well as dozens of large mobile fire apparatus not provided through CityFleet. Other facilities included in the inventory and utilized by PF&R include a facility on NE 122nd Avenue that houses a Training Center and Emergency Medical Services (EMS) facility, the Public Education Office and Belmont Learning Center, the Fire Code Enforcement and Permit Office in the Gideon Building, the Main Administrative Office on SW Ash Street, and the Logistics Building on SE Powell and 12th Avenue.

Other facilities relevant to emergency response are included in the Civic Facilities & Assets section, such as the newly completed Emergency Coordination Center, the 9-1-1 Center, and police vehicles – which are utilized by PPB through operating agreements with CityFleet. Additionally, communications technology such as Computer-Aided Dispatch (CAD) and 800 MHz radio systems are covered in the Technology Systems section.

**Key Issues, Trends, Opportunities**

**Budgeting For Maintenance**

Similar to civic facilities and assets, annual City budgeting processes do not set aside an adequate amount of money for major maintenance of emergency response facilities. Each year, bureaus must evaluate maintenance needs for their facilities in order to prioritize projects that must be dealt with immediately, and defer projects that address less pressing needs. This generally leads to a backlog of projects that tend to become more immediate priorities as budget constraints become tighter. Over time, these delays in repairs and maintenance can cause all projects to become priorities that need addressing.

Currently, PF&R is identifying long-term, ongoing maintenance needs for their existing facilities. For example, a comprehensive roof evaluation for all fire facilities has been completed recently. This will aid in planning for long-term repair or replacement of roofs to last for the next ten to twenty years, and will help to avoid the unnecessary costs of replacing roofs due to deferred maintenance. BIBS Facilities and the OMF perform similar assessments as part of citywide asset management practices, including the Facilities Condition Assessment updates mentioned earlier in the chapter.

Future budgeting processes could benefit from more comprehensive evaluations of emergency response facilities, so that bureaus can better plan for costly repairs and replacements of components such as emergency generators, HVAC systems, and other key building components.

**Intensification of Development along Major Corridors**

As Portland’s population continues to grow, new development is being concentrated in a number of Centers and Corridors. This intensification of infill development in neighborhoods and business districts may have both positive and negative impacts on emergency response services. A larger population is expected to increase the total number of incidents requiring emergency response. Increased traffic congestion associated with more intense development along emergency response routes may result in an incremental increase in emergency response times. At the same time, complete neighborhoods promote non-auto modes of transportation for many trips, which may reduce congestion. Reducing the number of
trips made by automobile may also lead to a reduction in automobile collisions, thus avoiding the emergency response generated by those incidents.

To address some of the effects of growth, the City has designated a number of emergency response routes that avoid streets with traffic-calming devices or other pedestrian-oriented street improvements. Additionally, future siting of fire or police facilities could mitigate this effect by locating closer to intensified development or otherwise expanding the coverage of mobile response units.

Climate Change

Climate change may cause an increase in weather-related emergency events, like extreme heat, wildfires, flooding and landslides. All of these events have the potential to cause medical emergencies, including illness and injury, or require emergency response to protect the public, environment or infrastructure assets. For example, these events may increase demand for law enforcement to respond to increased emergency-related calls, establish roadblocks, reroute traffic, respond to accidents, or facilitate evacuations.7

As climate change occurs, the City’s public safety and emergency response bureaus, including PF&R, PPB, PBEM and BOEC, will need sufficient emergency management capacity to prepare for, respond to, and recover from weather-related emergencies. The City’s Climate Change Preparation Strategy includes number of emergency management objectives to improve this capacity, such as:

- Developing, testing, training and updating emergency response plans that address weather-related hazards that are likely to become more frequent or intense as the climate changes.
- Ensuring service providers have the education, training and tools to succeed in disaster planning, preparedness, response and recovery efforts.
- Planning and staffing for potential increases in weather-related displacement – people may be in need of emergency housing, food or other supplies – and the resulting potential increases in violence, mental illness, chemical dependency and addiction.8

Certain populations – including people who are homeless, lack transportation options, live in poverty, or have physical or mental illnesses or disabilities - may be at greater risk during weather-related emergencies, as they may not have the physical, mental or economic ability to prepare for or respond to hazards. Public safety and emergency response bureaus will need to be prepared for potential shifts in the service needs of these populations.

Emergency response activities occur through multi-agency partnerships. Preparing for and responding to climate change will require continued partnerships between City emergency response bureaus; other City bureaus, like the Portland Housing Bureau and Portland Bureau of Transportation; as well as Multnomah

County agencies, including the Departments of Human Services, Emergency Management, Health, Community Services, Community Justice, and the Sheriff’s Office. Increasing Role of Social Media

The role of social media continues to evolve during emergencies. The Great Tōhoku Earthquake, Hurricane Sandy and the Boston Marathon bombing tragedies are recent examples where disaster-affected communities and their first responders immediately relied on social media to share and access up-to-date news and information. When an emergency results in degraded telecommunications capabilities and limited bandwidth on cellular networks, texts, tweets, and posts to Facebook are replacing traditional forms of communication. Social media provides a real-time interactive platform for information sharing and first-person accounts of the impacts of the emergency.

However, there are also challenges to the use of social media. Crowd-sourced information is not always accurate, and misinformation spreads as virally as verified information. Additionally, the volume of posts on Twitter, Facebook, Instagram, and other social media platforms can easily overwhelm response agencies trying to monitor and respond to this information. Emerging technology such as Next-Generation 9-1-1 has been designed to better incorporate social media with emergency response systems, allowing people to tweet their 9-1-1 or emergency calls through a system designed to handle this activity. This technology presents opportunities to connect residents with City programs and services, but has yet to be adopted locally due to the large number of regional agencies affected.

Microgrids

Redundant technology and equipment is a major part of any emergency response or continuity of operations strategy. When major communications or energy infrastructure is unreliable or not functional, the City can utilize a wide range of redundant systems and equipment, including satellite communications, backup generators, fuel reserves, and a variety of other equipment. Though these systems are dependable and are situated to play a major role in the event of an emergency, these redundant power sources can only supply a finite amount of energy.
In order to secure the City’s energy resiliency for longer-term disasters or emergency events, non-exhaustible backup energy systems could be considered. A microgrid can achieve this by providing a localized system for electricity generation and energy storage that can be operated independently from other energy infrastructure systems. Microgrids could be used to strengthen emergency response and continuity of operations strategies by providing an additional backup power source based on renewable energies, such as wind or solar, that would be more resilient to disruptions to the City’s existing energy infrastructure.

Regulatory Compliance

The agencies responsible for the provision, maintenance, and management of emergency response infrastructure are expected to meet a number of regulatory requirements. These codes and regulations have a direct impact on every detailed design component, management technique, maintenance system, and new construction practice utilized for City-owned buildings, facilities, and apparatus. Relevant legislation, regulations, and regulatory agencies are listed in the Regulatory Compliance section for Civic Facilities & Assets.

Investment Strategy

Process

As with the other sections in the Other Essential Facilities & Assets chapter, investments in emergency response infrastructure are not typically the result of linear decision-making or long-range planning efforts. Emergency response and life safety are undoubtedly essential public services, but land-use and infrastructure planning for these services is not mandated by the State like it is for water, sewer, or transportation services. The result is that the Citywide Systems Plan does not include a detailed 20-year project list for public safety and other emergency response facilities and services because comprehensive system plans, including lists of needed investments, costs, and funding sources, are not available at this time. Therefore, the recommendations within this section are primarily oriented towards improving upon current investment practices and preparing for foreseeable major expenditures in the future.

Investments in police facilities are managed by OMF, which performs asset management for police buildings using the same processes and principles employed for other City-owned buildings managed through BIBS Facilities. Fire facilities and apparatus are managed separately, with PF&R taking on management responsibilities instead of BIBS Facilities. Though emergency response infrastructure is managed by multiple bureaus, the processes used to make investment decisions for police and fire assets are similar. Both PF&R and BIBS Facilities take efforts to assess the condition of emergency response assets, including annual inspections, reviews, and other periodic inventory assessments. This information can be utilized to inform annual budget discussions, or it can be used by individual bureaus to justify more opportunistic and less predictable investments based on funding availability or shared interests with other bureaus.

Similar to civic facilities and assets, investments in emergency response infrastructure often benefit from agency partnerships and resourceful financial strategies. For example, the new Police Training Center was able to be constructed after the property was purchased by the City in early 2012. This opportunistic
investment allowed PPB to respond to market availability in a cost-effective manner in order to address previously identified training needs.

The following projects and recommendations provide a snapshot of the City’s emergency response infrastructure needs. It should be noted, however, that more holistic and detailed assessment efforts are necessary in order to effectively consider facility needs across all City bureaus.

Recent and Ongoing Projects

Emergency response bureaus regularly seek new projects and improvements to increase their capacity to provide public services and address facility needs. At the current time, projects in the construction phase include a new fire station on the east side of the Willamette River and an expanded PPB training facility on Airport Way. The Civic Facilities & Assets section includes more information about other planned projects relevant to emergency response, including a planned renovation of the 9-1-1 Center.

Inner SE Fire Station

In 2010, Portland voters approved a general obligation bond measure that included funding for the replacement of a fire station in Inner Southeast. The new PF&R fire station will sit along the Willamette River near the Oregon Museum of Science and Industry. Construction is currently underway, and the facility is scheduled to be completed by November 2014.
Police Training Center

A new training complex for PPB is slated to open in 2014 at a location on NE Airport Way. The complex will include a shooting range, a practice driving track, a tactical scenario village, and several other training-related facilities. This expands the training capacity of PPB, making it easier to respond to evolving policies and regulations related to the provision of police services in Portland. This will allow PPB to relocate from current training facilities in order to centralize these operations at the new training center.

Major Needs & Recommended Improvements

The following list of major needs and recommended improvements could serve as a starting point for emergency response investment decisions in future years. The Major Needs and Recommended Improvements section for Civic Facilities & Assets includes for other recommendations related to emergency response, including a discussion of a potential Westside emergency operations facility at the current site of the SFC Jerome F. Sears U.S. Army Reserve Center. This list is not complete, and there are a number of other notable facility needs relevant to emergency response that are not addressed in this section.

24-7 Repair and Maintenance

Emergency response facilities and vehicles are utilized on a constant, 24-7 basis in order to ensure life safety services are available at all times. This results in disproportionate wear and tear on these highly-used assets, and also impacts the amount of time that emergency response facilities and vehicles can be out of commission for repair or maintenance purposes. BIBS Facilities and PF&R use a number of employees and programs in order to stay aware of repair needs and maintenance priorities, but a more around-the-clock approach could prove to be useful for unanticipated facility or vehicle failures.

Major maintenance needs for emergency response assets can include roof replacements, emergency generator repair, vehicle maintenance and repair, and other projects that impact critical pieces of the City's emergency response capacity. Because these assets are essential to the continuity of operations of the City as a whole, they deserve special consideration when prioritizing investments.
311 Call Center

City Council passed a resolution in 2012 that established intent to create a 311 Non-emergency Call Center. The project would enable BOEC to run an operation parallel to the 9-1-1 Center that would provide a single point of contact for community requests for information or services in non-emergency situations. Similar 311 systems have been successfully initiated in 80 cities across the country, including Minneapolis, San Francisco, and Los Angeles. These cities have found that using one easy-to-remember number to access all non-emergency City services has had positive impacts on their 9-1-1 systems, including reduced call wait times and more efficient and effective responses.

The City has established an exploratory committee for a 311 Call Center, and a project assessment has already been funded. While nothing decisive has yet come from these efforts, there is a high likelihood that a decision will be made within the next couple of years. A 311 system would establish a communications infrastructure in Portland for non-emergency situations, when residents don’t need immediate assistance but still want to contact authorities about a particular issue. This could have a wide range of positive effects on the City’s emergency response capacity, and could also improve communications between residents and City agencies in a more general sense. If the City proceeds with a 311 project, facility needs such as office space and communications infrastructure will need to be defined and addressed before implementing the system.

Mounted Patrol Unit

As recently as early 2014, PPB’s Mounted Patrol Unit (MPU) – or equestrian division – was located in a former horse barn in the Centennial Mills building. The building began to cause some concern when engineers uncovered structural issues with support beams for the roof of the facility, at which point PPB was forced to relocate their horses to a barn in Aurora. The unit has continued to operate since the move,
with horses being driven by trailer to Portland every day from the Aurora facility to maintain normal MPU operations.

This development has reinvigorated questions about the cost and necessity of the MPU, issues which are currently being explored by the City. The Mounted Patrol Unit currently consists of eight horses, one sergeant, four officers, and three non-sworn staff members. Centennial Mills is owned by the Portland Development Commission\(^9\), and re-development proposals for the site have been under consideration for years. A permanent and easily accessible location for the horse-barn could be necessary once an agreement is reached regarding the future of the MPU.

Financial Strategy

Financial planning for emergency response infrastructure takes a more flexible, resourceful, and reactive approach than other components of the Citywide Systems Plan. Given the significant challenges to performing long-range planning for the assets covered in this chapter, it is difficult to develop a meaningful list of future projects or talk about how those projects could be financed. Instead of identifying revenue streams and funding mechanisms to support recommendations in the investment strategy – like it does in other chapters – the financial strategy for emergency response infrastructure is more of a description of current practices and existing financial issues.

The following sections discuss funding sources and financial challenges that impact emergency response buildings, facilities, apparatus, vehicles, and equipment. This information can serve as a starting point for future financial planning discussions once a more comprehensive investment strategy has been developed.

Sources of Revenue

Emergency response infrastructure is funded by many of the same sources as other components of the Other Essential Facilities & Assets chapter.

Because OMF and BIBS Facilities handle financial management for police facilities, sources of revenue for these facilities are identical to those identified in the Civic Facilities & Assets section. Money from the City’s General Fund, general obligation bond measures, and debt financing is sometimes used to fund investments in police facilities.

Portland Fire and Rescue’s management and maintenance of fire facilities has led to the use of other sources of revenue for these assets. A recent program to rehabilitate, relocate, and construct new City fire stations was financed through a general obligation bond measure approved by voters in 1998. This program, which ended in FY 2012-13, was also designed to address deferred maintenance, seismic requirements, and other program changes at PF&R. A new general obligation bond was passed in 2010 that included funding for the construction of a new fire station in inner Southeast, a project discussed earlier in this chapter. Portland Fire and Rescue also has annual operations and maintenance budgets for

\(^{9}\) Centennial Mills is included in the “PDC facilities” asset group, covered in the Civic Facilities & Assets section.
these facilities and vehicles, though the bureau does not have any ongoing budget authority for major maintenance projects at their facilities.

Financial Challenges

Asset management practices are used by OMF to assess the condition of emergency response facilities and vehicles, and inform investment decisions according to identified needs. Within this asset management framework, the financial condition of assets is indicated by their annual or one-time funding gaps. For emergency response infrastructure, funding gaps are calculated by determining the annual difference between what was collected in rental rates or set aside from net income for major maintenance, and the industry standard of 3 percent of replacement value. See Table 10.11 for annual funding gaps in 2013 for police and fire facilities.

Table 10.11 Emergency Response Annual Funding Gaps, 2013

<table>
<thead>
<tr>
<th>Capital asset type</th>
<th>Value* (in millions)</th>
<th>R/R/R</th>
<th>Mandate</th>
<th>Capacity</th>
<th>Total</th>
<th>Confidence level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police facilities</td>
<td>$2.8</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$2.8</td>
<td>4</td>
<td>High</td>
</tr>
<tr>
<td>Fire facilities</td>
<td>$2.9</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$2.9</td>
<td>4</td>
<td>High</td>
</tr>
<tr>
<td><strong>Total for Emergency Response</strong></td>
<td><strong>$5.7</strong></td>
<td><strong>$0.0</strong></td>
<td><strong>$0.0</strong></td>
<td><strong>$5.7</strong></td>
<td>4</td>
<td>High</td>
</tr>
</tbody>
</table>

- R/R/R (Repair, Rehabilitation, Replacement): Additional funding necessary to repair, rehabilitate and replace existing assets to bring them up to established service levels, or replace assets considered functionally obsolete (not meeting those service levels).
- Mandate: Additional funding necessary to improve existing assets to meet regulatory requirements, exclusive of improvements that fall under R/R/R or capacity.
- Capacity: Additional funding necessary to address existing inequities and deficiencies in levels of service for current customers and citizens.

Currently, OMF is only able to reinvest about 1.2 percent of the replacement value of the assets managed by the bureau, which includes police facilities. This amount has declined from the 3 percent industry standard in recent years due to several factors, including a rise in the cost of building replacements above the level of regular inflation, an increase in the total number of new facilities, and a limit on rental rate increases to the level of regular as opposed to actual inflation. This funding gap will prevent OMF from being able to cover needs for police facilities for the next five years or more, though it is not significant enough to force a decrease in the overall condition of individual assets from their current designations as either "good", "fair", or "poor" within the next ten years (See Table 10.10). One way to reduce the funding gap is to direct savings from efficiency improvements to major maintenance reserves. Please see Financial Challenges in the Civic Facilities & Assets section for information about other OMF-managed facilities and assets relevant to emergency response.

For fire facilities and apparatus, PF&R has utilized funds from general obligation (GO) bonds to finance major building seismic upgrades and station remodel projects in recent years. However, aforementioned funding from the GO bond passed in 1998 will shortly be exhausted, and no other ongoing source of major maintenance funding has been identified for future major maintenance expenditures. While this will not cause fire facilities and apparatus to decline in condition from general categories of "good", "fair", or "poor" within a ten-year horizon, this strategy could prove problematic in 20 or 30 years when facilities
needs become larger and more pressing. The City and PF&R could benefit from identifying future funding sources for fire facilities and apparatus to be set aside each budget year, similar to the process outlined above for police facilities. This could also result in less reliance upon voter-approved GO bonds to fund critical major maintenance projects, in addition to preventing deferred maintenance from accruing to the point where it becomes too expensive to fund using existing resources. Preparing for these future expenditures will allow City bureaus to proactively manage their assets, and give bureaus more freedom to modify and improve buildings according to changing needs.

**SUMMARY**

The issues, needs, trends, and opportunities described in this chapter provide a baseline level of information to inform public investments in other essential facilities and systems. Though there is still work that needs to be done before these assets are formally incorporated into infrastructure planning discussions, the chapter functions as a starting point for future efforts.

The next twenty years will require a number of investments in order to keep these assets functioning at the levels necessary to maintain State-mandated forms of public facility service provision. Acknowledging the important connections between required service provision and other essential facilities and systems will result in more effective, more efficient public investments and a more resilient financial future.