

Clause No. 7 in Report No. 11 of the Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on June 26, 2014.

7

COMMUNITY AND HEALTH SERVICES 2013 STATE OF INFRASTRUCTURE REPORT

Committee of the Whole recommends adoption of the following recommendation contained in the report dated May 28, 2014, 2014 from the Commissioner of Community and Health Services:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

This report provides an overview of the results of the first State of Infrastructure Report prepared for the Community and Health Services (CHS) Department.

3. BACKGROUND

The need for a comprehensive asset management framework has been identified in the Region's Corporate Strategic Plan

In the Region's Corporate Strategic Plan, *From Vision to Results*, one of the seven priority areas focuses on the Region's ability to "deliver and sustain critical infrastructure." A main objective related to this priority identifies sound asset management practices as necessary to making good capital planning decisions. A Corporate Asset Management Steering Committee was established to provide direction to departments to ensure an aligned approach and consistent reporting.

Figure 1 illustrates a simplified asset management framework which Council adopted as part of its Corporate Asset Management Policy in November 2013. This framework will assist the Region in better managing its infrastructure assets over their entire life-cycle and is intended to form part of the future Corporate State of Infrastructure report.

Figure 1
Simplified Asset Management Framework



As noted above, there are several important elements to the asset management framework, only one of which is the development of a State of Infrastructure Report that falls under ‘Monitoring and Reporting.’ This information will support future capital planning decisions and also be used to inform corporate reserve management strategies.

The Community and Health Services State of Infrastructure Report closely mirrors the format of similar reports presented by the Transportation and Community Planning Department and Environmental Services Department. An assessment of current condition and performance is the first step in identifying what is working, as well as options and opportunities for improvement.

Community and Health Services Department manages nearly \$463M worth of infrastructure assets

The Community and Health Services Department operates and maintains nearly \$463M of infrastructure assets (current replacement value). The services provided by Housing, Long-Term Care , and Emergency Medical Services, are essential to the quality of life enjoyed by the residents of York Region. Well maintained infrastructure assets are critical to the delivery of these services in a safe, reliable and efficient manner.

This report assesses the state of the infrastructure for which the Housing and Long-Term Care (LTC) and Emergency Medical Services (EMS) branches are responsible. Specific assets that were evaluated are as follows:

- Facility program assets such as equipment that may be fixed, partially fixed, or built-in and needed specifically to support the delivery of services within the Maple Health Centre and the Newmarket Health Centre (e.g., the nursing station, patient lifts, and specialized furnishings such as commercial kitchen equipment and dishwasher).
- Facility assets within the 35 locations (townhouses, apartment buildings, and shelters) owned by Housing York and at the one shelter location managed by Housing but at which a non-profit organization operates. These facility assets are building elements, such as architectural (building envelope), mechanical, and electrical; all equipment affixed to the building; and furnishings equipment within the facilities not belonging to tenants.
- Program assets (i.e., ambulances, vehicles, and equipment) deployed from the 20 EMS stations and the one EMS administration office.

This report does not look at the facility assets (building elements) for the two LTC Centres and 20 EMS facilities because they are managed by the Property Services Department. Similarly, because the other CHS branches do not have significant infrastructure, they are not included in this report either.

This first State of Infrastructure Report establishes a baseline for future assessment of infrastructure assets and includes a detailed review of best practices and trends, and comprehensive criteria and methodology to determine infrastructure asset grades. The detailed report is appended as *Attachment 1*.

4. ANALYSIS AND OPTIONS

The State of Infrastructure Report is built on three key dimensions: reliability, capacity and condition

The assessment methodology for the 2013 CHS State of Infrastructure Report was established by the Corporate Asset Management Steering Committee and focuses on three key dimensions: reliability, capacity, condition.

Reliability

The reliability dimension is the overall reliability and quality of service of an asset. Grading provides an assessment of the ability to meet quality, regulatory standards and uninterrupted service.

Capacity

Capacity provides an early indication of negative impacts on services for customers and potential impacts on sustainability for the community. It provides insight into future impacts of growth, including how a service provider should adapt to prepare for what will be required of infrastructure in the future. Capacity is a challenging dimension for assets within a human services context because need will always exceed supply. For future reports, the definition will be refined, in consultation with the Steering Committee.

Condition

Condition is a measure of the physical condition of the infrastructure, its age and maintenance performance. This provides knowledge related to maintaining and enhancing asset condition and the efficiency and effectiveness of rehabilitation initiatives. Condition provides an understanding of the deterioration, the condition and the remaining service life of an asset.

For the first State of Infrastructure Report, a grade has not been applied for the financial dimension

The financial dimension focuses on funding requirements, capital budgeting and reserves. The CHS department is working with the Corporate Finance Department to develop long term asset management practices, including a sustainable replacement reserve strategy. These practices and strategies will assist in grading the financial dimension for future State of Infrastructure reports.

Dimension grades are determined based on the infrastructure's ability to meet current and anticipated expectations

Dimension grades are given for each type of infrastructure considering how it will meet its intended purpose. Grades have an associated numeric scoring range and approximately 20 indicators and measures are analyzed for each dimension. Table 1 indicates the grade, associated numeric scoring range and description.

Table 1
Dimension Grade Breakdown

Numeric Scoring	Letter Grade	Description
1.0 to 1.5	A	Excellent or New
1.6 to 2.5	B	Good
2.6 to 3.5	C	Adequate
3.6 to 4.5	D	Poor
4.6 to 5.0	F	Fail or Very Poor

Since overall grades are derived from the average of the numeric score associated with each individual alphabetic grade (not the simple average of alphabetic grade), actual scores can result in two A's and one B with an overall grade of B. This is demonstrated in Table 2 (later in the report) where the average of the numeric scores for reliability, capacity and condition are used to determine overall grades.

With increasing implementation of business intelligence systems across the department, the quality of asset management data continues to improve

A core component of asset management is the condition and performance of assets. Condition assessments provide crucial information for decision making including reporting changes in service levels, identifying candidate assets for maintenance or renewal, and as an input into life-cycle cost modeling for capital planning and funding scenarios.

The process of condition assessment generates a large amount of data especially when combined with decisions for maintenance and capital planning. To improve on their decision making processes, CHS has invested in technology and process improvements.

In the case of EMS, this includes the Asset Works M5 fleet maintenance management already in place and a Fleet and Life-cycle Review that is being undertaken. The review will examine in detail their current practices and develop recommendations for the current fleet and supporting business processes, business rules and process enhancements.

The current Housing and LTC maintenance management software provides only basic functionality to schedule work orders and maintenance tasks. The purchase and implementation of a new maintenance management system called Asset Planner, a capital planning tool to better understand the physical condition of buildings has recently taken place and the transition is underway.

Methodology used for State of Infrastructure grading is in line with industry best practices

A comprehensive review of industry best practices was completed for this first state of infrastructure reporting for CHS. The Region's grading was based on the methodologies from the American Society of Civil Engineers, the Cities of Hamilton and Ottawa, and the Region of Durham.

Due to the fact that this is the first State of Infrastructure Report for CHS, trend analysis is limited

Since this is the department's first state of infrastructure report, the trend analysis is limited to qualitative statements about the possible direction of change in future grades. As data confidence improves, a more comprehensive trend analysis, which better considers activities and initiatives can be conducted. Trends are reflected as follows:

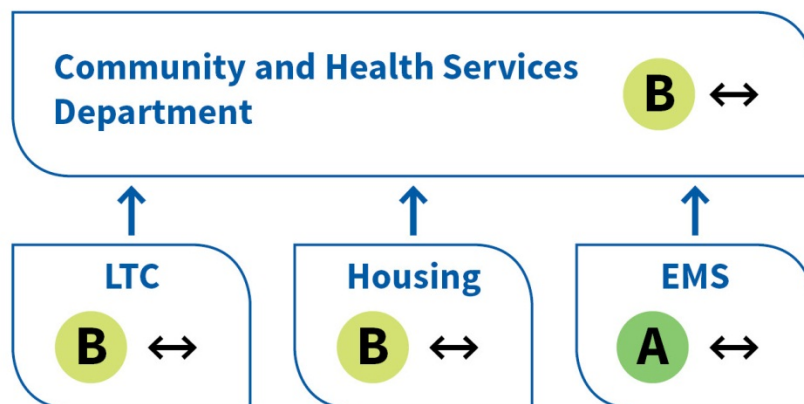
1. A positive (↑) trend indicates that the reported grade is expected to increase between now and the next State of Infrastructure Report
2. A neutral (↔) trend indicates that the reported grade is expected to remain the same between now and the next State of Infrastructure Report or it is used where limited data is available to confidently assess whether there would be either a positive or negative trend.
3. A negative (↓) trend indicates that the reported grade is expected to decrease between now and the next State of Infrastructure Report.

Data used for this report has various levels of confidence

Some of the data and methods used to analyze the state of CHS assets are still in their infancy. As the use of business intelligence within the department increases, the quality and confidence in the data will improve.

Overall Community and Health Services assets scored a B and are in a good and reliable condition (Figure 2).

Figure 2
2013 Overall Grades and Trends to (2015)



Housing has by far the greatest number, variety in type and age, and value of assets in the department and therefore the greatest variability in results. Although the indicators are unique to the asset and service, the purpose of the State of Infrastructure Report is to allow comparison of assets across the Corporate portfolio using the same criterion. In summary (see Table 2), the dimensions used to evaluate the CHS infrastructure assets suggest that overall, Housing, LTC and EMS are in good and reliable condition.

Table 2
2013 State of Infrastructure Report (SOIR) Overall Grade

	SOIR Grade (not including Financial)	Trend to 2015	Reliability	Capacity	Condition
Long-Term Care	B	↔	B	A	B
Housing	B	↔	B	B	B
EMS	A	↔	A	A	A

Long-Term Care Assets

The overall results demonstrate the Region's commitment to providing safe and reliable long-term care facilities to its residents. The individual results show an asset base that is well managed, in good condition, reliable, and fully meeting capacity measures of availability.

It should be noted that improvements are expected in Reliability in the near term when LTC completes work on the fire safety sprinkler systems for the administration rooms of the Maple Health Centre.

Housing Assets

Current asset management practices have produced good results. These positive outcomes should continue based on planned maintenance and repair. Some improvement should be seen in the Reliability grade based on a Board-approved plan to install power generators at many of the building facilities, thus improving the capacity to preserve services during power outages.

The *Accessibility for Ontarians with Disabilities Act* (AODA), which came into effect in January 2010, requires all buildings serving the public to be in compliance with its standards before January 1, 2025. This includes filing an annual accessibility report that identifies barriers to equality for people with physical disabilities, and outlines plans for addressing those barriers.

Housing has implemented a number of measures to address AODA requirements such as:

- Adding braille-embossed buttons and audio messaging within elevators
- Adding grab bars in every new bathroom and roll-in showers to barrier-free units
- Extending the life of battery back-ups to give residents more time to evacuate in case of emergency

Even with these measures in place, older locations were built with different standards such as physical dimensions of hallways and smaller room sizes.

EMS Assets

With the excellent grades achieved by EMS, the plan is to aim for small, consistent improvements in efficiency while maintaining stable performance and results year in and year out. In 2000, infrastructure, including vehicles and equipment, were divested from the Province to the Region. In the years since, there has been substantial investment in EMS infrastructure. In addition, there has also been substantial growth and development in the Region and EMS stations have been built to service these communities. The forecast is for further growth and EMS infrastructure will be acquired in areas where there will be increases in demand for service.

A core principle in EMS is that ambulances and response vehicles be kept in a state of readiness. To achieve this state of readiness, EMS strives to maintain ambulance and emergency response vehicle reserve of approximately 30 percent so that others can be removed from duty for maintenance or unscheduled repairs.

Link to key Council-approved plans

The State of Infrastructure Report aligns with the *2011-2015 Strategic Plan* goals:

- Continue to deliver and sustain critical infrastructure – through proactive protection of our infrastructure and assets.
- Manage the Region's finances prudently – working to optimize decision making to ensure funds are spent where and when they need to be in order to most efficiently use infrastructure and assets.
- Strengthen organizational capacity – through implementation of best practices, continuous improvement, and efficient use of existing resources.

5. FINANCIAL IMPLICATIONS

Community and Health Services assets are valued at a replacement cost of nearly \$463M

Community and Health Services has the responsibility for a multitude of assets with a replacement cost of almost \$463M. These infrastructure assets are the responsibility of the EMS and Housing and Long-Term Care branches.

All program areas are proactively identifying the capital investment needs over the next ten years through formal processes and developing appropriate budgets. Capital investments must be balanced between major repair and rehabilitation of existing assets during their life-cycle, replacement at the end of their useful life and addressing infrastructure growth related demands of the community. The ten-year capital investment projections range from \$4M for LTC up to \$38M for Housing York.

Successful asset management requires comprehensive financial planning and sustainable funding. The Region has a robust budget and business planning process that requires each department to prepare a 10-year capital plan.

In the case of Housing York, the company has its own asset replacement reserve of approximately \$4.8M, as of year-end 2013. Also, over the next two years, a review will be completed of existing reserves that support the housing company. This includes creating a new reserve strategy.

6. LOCAL MUNICIPAL IMPACT

As the Region is responsible for providing housing, long-term care and emergency medical services to the residents of York Region, the local municipalities will benefit from the Region's proactive management of infrastructure assets.

7. CONCLUSION

York Region has been actively adopting sustainable asset management practices for the Region's housing, long-term care and emergency medical services. York Region has the opportunity to continue developing asset management programs at a time when the infrastructure is still relatively young. This is required to continue to provide high quality infrastructure assets to ensure the community's growth, economic development, safety and quality of life.

Overall the reliability, capacity and condition of housing, long-term care and emergency medical services assets are in a good state, with assets and systems functioning as designed. The 10-year budget planning supports the required commitment for infrastructure asset management and Council's commitment to fund reserves ensures that, in the long term, services can continue to be delivered in a safe, reliable and efficient manner.

For more information on this report, specific to Housing and Long-Term Care, please contact Sylvia Patterson, General Manager, Housing and Long-Term Care at Ext. 72091.

For more information on this report, specific to Emergency Medical Services, please contact Norm Barrette, Chief and General Manager, Emergency Medical Services at ext. 74709.

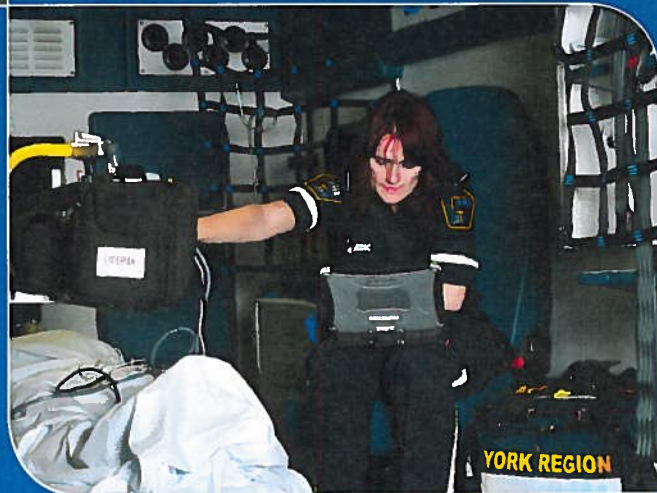
The Senior Management Group has reviewed this report.

Attachment (1)



Community and Health Services State of Infrastructure Report

2013



York Region
Community and Health Services

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Executive Summary

The Community and Health Services Department (CHS) manages almost \$463 million worth of infrastructure assets. Such a significant portfolio imposes an obligation to make smart and successful management and investment decisions. To allocate resources wisely, the department needs insight into its short- and long-term needs, otherwise important infrastructure assets could fall into disrepair. York Region, recognizing this imperative, developed the *Corporate Asset Management Policy* in 2013 to enable it to develop a coordinated, cost effective and organizationally sustainable approach to asset management across the Region. In keeping with its direction, CHS developed its first State of Infrastructure Report (SOIR).

The *Community and Health Services State of Infrastructure Report* provides the department and the Region the means to determine how well its infrastructure is achieving objectives, including how well it will meet both current and future demand. An important aspect of the department's effort to assess the condition and performance of infrastructure was the development of objective, repeatable evaluation criteria. The goal was to produce a defensible state of infrastructure rating for CHS assets so that decision makers would feel confident in the results. The report's candid assessment establishes a quantifiable baseline from which to measure progress. As conditions change, future assessments will reveal other opportunities and help decision makers establish new priorities.

Scope

This report assesses the state of the infrastructure for which the Housing and Long-Term Care (LTC) and Emergency Medical Services (EMS) branches are responsible. Specific assets that were evaluated are as follows:

- Facility program assets such as equipment that may be fixed, partially fixed, or built-in and needed specifically to support the delivery of services within the Maple Health Centre and the Newmarket Health Centre (e.g., the nursing station, patient lifts, and specialized furnishings such as commercial kitchen equipment and dishwasher).
- Facility assets within the 35 locations (townhouses, apartment buildings, and shelters) owned by Housing York and at the one shelter location managed by Housing but at which a non-profit organization operates. These facility assets are building elements, such as architectural (building envelope), mechanical, and electrical; all equipment affixed to the building; and furnishings equipment within the facilities not belonging to tenants.
- Program assets (i.e., ambulances, vehicles, and equipment) deployed from the 20 EMS stations and the one EMS administration office.
- This report does not look at the facility assets (building elements) for the two LTC Centres and 20 EMS facilities because they are managed by the Property Services Department. Similarly, because the other CHS branches do not have significant infrastructure, they are not included in this report either.

Results

The infrastructure evaluation results are very positive. The grades for the state of infrastructure, which is made up of the three performance criteria (reliability, capacity and condition) are shown in the following table.

Table 1: CHS 2013 SOIR Results

	2013 SOIR	Trend to 2015	Overall
Long-term Care (LTC)	B	↔	B
Housing (HYI)	B	↔	
Emergency Medical Services (EMS)	A	↔	

Conclusions

The grades earned for CHS state of infrastructure demonstrate that the department is focusing on management of its infrastructure. For example, both Housing and LTC conduct periodic condition audits to identify and manage maintenance repair and rehabilitation efforts, a best practice in asset management. While the information technology (IT) used to support these service areas is somewhat limited, plans are underway to update the maintenance software systems.

EMS does not currently have a formal grading system to measure the condition of its equipment or vehicles. However, they do maintain a rigorous and strict preventive maintenance schedule to ensure assets are in a serviceable condition before they are placed into service. The maintenance schedule, combined with the practice of keeping reserves on hand, ensures no vehicle or equipment is placed into service that does not meet serviceable condition requirements. The practice of closely monitoring replacement schedules for equipment at the end of its life cycle is another reason for the high grades achieved by EMS.

Financial grades have not been documented in this report. However, the Region should have robust data on financial reserves that will facilitate reporting on this criterion in the next state of infrastructure reporting cycle. This expectation is based on work identified in Report No. 8, Clause 2 of the Finance Committee Report *Regional Fiscal Strategy*, and received by Council on December 19, 2013. Improvements to specific allocations to the 70 corporate financial reserve categories are expected to be made. It is also expected that as the department initiates asset management strategies and plans, further work will likely be necessary to refine the distribution of reserve funds in proportion to asset replacement value, expected life, condition and other factors.

In spite of the limited financial reserve data, each service area is doing an excellent job using formal processes to identify short-term needs over the next 10 years and developing appropriate budgets accordingly.

Replacement Costs

The following figure shows the replacement cost each of the service area's assets according to the remaining useful life segregated in bands of 20 per cent. For example, the cost to replace HYI assets that have 20 per cent remaining useful life is about \$271 million. By demonstrating the link between replacement cost and certain parameters such as remaining life and condition grade, decision makers will be better able to compare assets across service areas and adequately plan a long-term funding strategy.

Value of CHS Assets by % Remaining Useful Life (RUL)

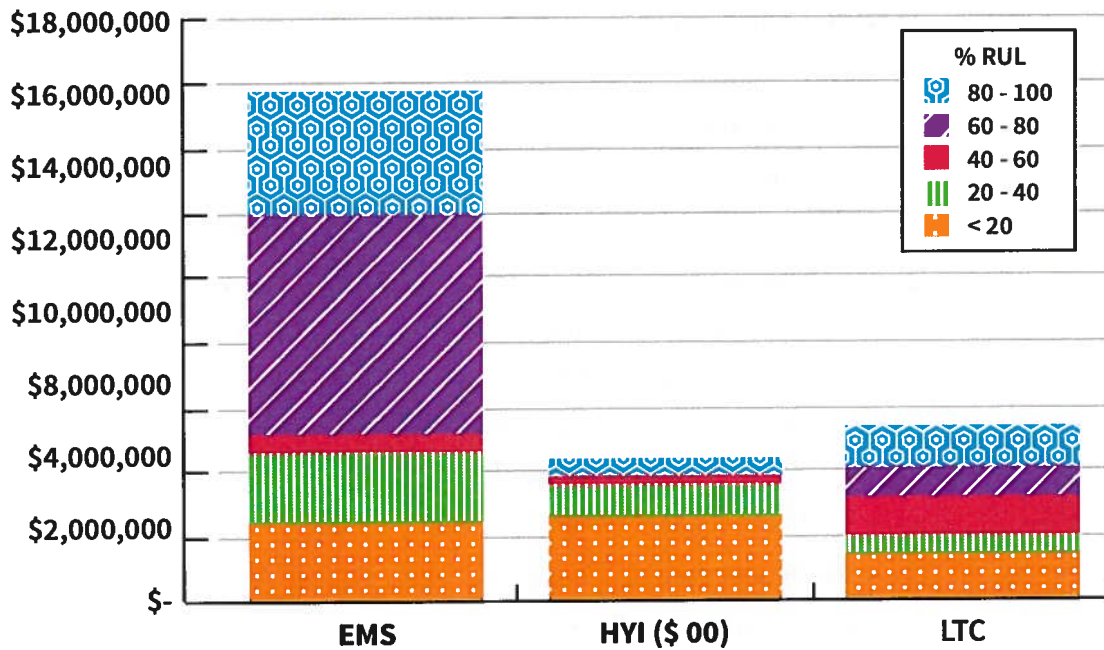


Figure 1: CHS Asset Value by Remaining Useful Life

Recommendations

Based on the importance of an objective and repeatable process for determining the actual state and remaining life of public infrastructure, CHS should create data-driven measurements to supplement or even replace the opinion-based assessments used for this report. By improving the way data is generated, stored, and collected, the Department will ensure repeatability of results and it will be possible to compare future reports so that they can be used to guide continued performance or performance improvement.

Within CHS, staff has planned several initiatives to improve asset management technology and business processes. These initiatives include an EMS fleet and lifecycle review and the purchase of new maintenance management software for Housing and LTC. When implementing the initiatives as outlined in Section 8 of this report, CHS should consider the performance indicators used to produce this report so that future performance and reporting will be aligned with business practices and systems.

The workflow activities needed to support the state of infrastructure reporting process should be evaluated and incorporated into the business processes for the two branches so that future reports will be easier to produce. Performance results should be tracked on a more frequent basis than the two-year SOIR reporting period to better determine trends and identify any required action for improvements.

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1 Introduction

York Region has committed itself to delivering and sustaining critical infrastructure in its multi-year plan, *From Vision to Results: 2011 to 2015 Strategic Plan*. In keeping with its commitment, the Region has been implementing asset management principles and practices that support the capability of infrastructure to deliver services to the Region's growing communities. An essential aspect of these practices has been the state of infrastructure reporting—the periodic assessment of the condition and performance of infrastructure based on objective, repeatable evaluation criteria. The resulting state of infrastructure report gives management and decision makers the ability to determine how well infrastructure is achieving objectives, including how it will meet both current and future demand.

Yet, like many local and regional communities elsewhere, the Region's state of infrastructure reporting has been focused on core public infrastructure such as roads, water, and wastewater. The Environmental Services Department, for example, led the way in 2009 with the Region's first state of infrastructure report on its water and wastewater assets and was soon followed by the Transportation and Community Planning Department in 2011 with a report on roads and bridges. Now other departments, in keeping with the direction of the Region's *Corporate Asset Management Policy*, are also developing and presenting their own state of infrastructure reports. While the Region has practical experience and a rigorous, repeatable process for assessing the condition of primary assets, the application of state of infrastructure reporting to assets that support community programs is new territory.

As a result, when the Community and Health Services (CHS) Department considered how best to meet its obligation to develop its first-ever state of infrastructure report, it first had to obtain an understanding of how to measure the performance of its assets. And because the goal is a factual account of the state of the infrastructure as possible, it had to develop performance indicators that are objective, relevant, and predictive.

To address these challenges, CHS applied the evaluation framework already in use at York Region, but customized it to address the unique condition and performance requirements of each CHS asset—the facilities, equipment and fleet—that support its services. The report therefore details how the performance indicators roll out to produce a defensible state of infrastructure rating for CHS assets so that decision makers can feel confident in the results. The report also explains the types of considerations that went into the selection of performance indicators and measures.

The result is a quantifiable baseline from which CHS can measure progress, focus improvement efforts, and foster understanding among functional and senior managers and elected officials about the state of infrastructure. When combined with the recommendations for performance indicators for use in subsequent state of infrastructure reports, this report provides an evaluation framework that can be replicated and improved upon in future years.

1.1 Objectives

In accordance with York Region's *Corporate Asset Management Policy*, CHS sought to develop a candid assessment of the current condition and performance of its facilities and facility assets for presentation to Council in 2014. The goal is to identify options and opportunities for improvement.

More specifically, the CHS state of infrastructure report aims to meet the following objectives:

- Identify and explain infrastructure issues and trends;
- Inform elected officials and municipal staff about the performance of CHS assets;

- Improve the allocation and use of financial resources;
- Reinforce transparency and public accountability;
- Provide a link to regional and departmental improvement priority-setting and planning efforts; and
- Develop a rigorous, repeatable process for assessing the condition of the department's infrastructure that is consistent with other departments.

1.2 Scope

This report assesses the state of the infrastructure for which the Housing and Long-Term Care (LTC) and Emergency Medical Services (EMS) branches are responsible. Specific assets that were evaluated are as follows:

- Facility program assets within the Maple Health Centre and the Newmarket Health Centre (e.g., the nursing station, patient lifts, and specialized furnishings such as commercial kitchen equipment and dishwasher).
- Facility assets within the thirty-five locations owned by Housing York and at the one shelter location managed by Housing (at which a non-profit organization operates).
- Program assets (i.e. ambulances, vehicles, and equipment) deployed from the 20 EMS stations and the one EMS administration office.

This report does not look at:

- Facility management services and building elements that fall under the Property Services Branch, Corporate Services Department, at the Maple Health Centre, the Newmarket Health Centre, the EMS stations, and the EMS administration office.
- Any interior improvements to leased office locations used by CHS.
- The leased locations used by Public Health, Family and Children's Services, and Employment and Financial Support to deliver their services.
- Any of the limited program assets used by CHS for programs and services such as furnishing or information technology.

As the reporting process matures, CHS may consider expanding future state of infrastructure reports to include these service areas and assets.

1.3 Source of Data

This report relies on data and information that was considered the best available at the time of the infrastructure assessment, which took place from January to March 2014.

The data was drawn from numerous and varied sources, including work order systems, asset inventories and registries, corporate accounting data, condition assessments, capital plans, budget forecasts, internal operations reports, and system reports.

When data was difficult to obtain or unavailable, the report relied on the experience and expertise of departmental and corporate staff to provide their professional opinions on the condition, capacity, and other parameters of the infrastructure. This supplementary information was garnered through structured interviews and workshops with staff responsible for the delivery of services within their respective branches.

2 Background

CHS manages almost \$463 million worth of infrastructure assets. These assets enable the Region to deliver key services and support the quality of life enjoyed by its citizens. Whether it's supporting the elderly and other long-term care residents, protecting public health, or providing affordable housing to low- and moderate-income families, infrastructure assets underpin the department's efforts to deliver services that ensure the community's growth and contribute to the health and well-being of York Region residents.

2.1 Operation and Funding

CHS operates under provincial and federal legislation and regulations, which set out the policy directions and objectives that guide its programs and services and define its roles and responsibilities. While the department funds and manages Regional discretionary programs that address community-specific needs, a significant portion of the department's funding comes from federal and provincial subsidies.

2.2 Branch Responsibilities

CHS is the largest department in the Region. It has six branches for which it is responsible and approximately 1,700 staff. The two branches (hereinafter referred to as LTC, EMS, Housing or service areas) that are the subject of assessment in this report are described as follows:

- **Housing and Long-Term Care:** Administers approximately 6,000 social housing units through 43 independent non-profit and cooperative housing providers. This includes 2,341 social housing units that are managed by the Region's housing company, Housing York Inc. It also operates two long-term care facilities (Newmarket Health Centre and Maple Health Centre), supportive housing services, and a variety of day and outreach programs for seniors and adults with disabilities.
- **Emergency Medical Services:** Provides emergency and non-emergency medical response to patients, including patient assessment, lifesaving treatment and monitoring, and safe and timely transport to the appropriate facility for continuing medical care. The branch staffs over 40 vehicles and maintains 20 paramedic response stations across the Region.

The remaining four branches, which were not assessed in this report, employ approximately 300 staff to support almost 80,000 residents directly and indirectly through their programs and services. The branches, which are interconnected to provide crisis intervention and transition support to help residents become economically independent and socially engaged, are described as follows:

- **Social Services:** Delivers programs and services that provide employment and financial assistance to eligible residents. The branch also works with providers who deliver services under the Homemakers and Nurses Services Act and manages funding and program relationships with emergency shelter operators and with domiciliary hostel operators.
- **Public Health:** Strives to keep the people of York Region healthy through health promotion, health protection and disease prevention activities. Program areas include Infectious Diseases Control, Healthy Living, Child and Family Health, and Health Protection.
- **Business Operations and Quality Assurance:** Ensures fiscal integrity and provides quality assurance functions for the department. It also supports program delivery through staff training, investigation, contract reviews and program audits, and operates the Access York Contact Centre.

- **Strategies and Partnerships:** Manages community investment, emergency preparedness, human services planning and strategic policy analysis for the department.

2.3 Department Infrastructure

CHS employees work in 75 facilities located across the Region. These facilities are a mix of office and program spaces that include service and operational centres, EMS stations, and Housing York housing sites. The facilities are either owned by the Region or its wholly-owned subsidiary corporation, Housing York, or leased from private owners. In addition, CHS management and administration staff are located at the Administration Centre, 17250 Yonge Street, Newmarket, Ontario.

2.4 Business Plan Issues and Trends

As part of the Region's annual budget process, CHS prepares a multi-year business plan. Highlights of the 2014 business plan's intentions are described here to bring attention to the factors that affect the current state of infrastructure and have the potential to impact infrastructure in the future.

Budget drivers: The drivers expected to affect the department's base budget between 2014 and 2016 include:

- population growth and demand on EMS;
- increasing pressures of regulatory requirements and growth in demand for services faced by Public Health, EMS, Social Services, and LTC;
- changes in technology *and its application to program management*;
- aging of existing housing stock, and
- continuing housing portfolio growth.

Program drivers: A number of drivers will influence the department's program delivery, including: regulatory, demographic and income changes; the growing gap between household income and the high cost of living in York Region; and the need for coordinated support to help people with increasingly complex human service needs. Changes to program delivery requirements have the potential to affect the requirements for CHS infrastructure, since the contribution from an asset or group of assets to support program delivery may also need to change.

2.5 Department Initiatives

In the 2014 Business Plan and Budget, CHS identified the following activities launched or carried out in 2013 that have or will have an effect on the state of infrastructure:

- Continued to implement the 10-year master plan for EMS.
- Developed and launched a 10-year housing and homelessness plan.
- Increased housing options for residents with the construction of 103 affordable housing units in two non-profit housing communities (*non-Region owned facilities*) and one expanded Housing York building.
- Approved construction of an additional 97 units for a new Housing York building.
- Completed energy and accessibility upgrades, including playground retrofits, to over 1,150 households as a result of enhancements to the Social Housing Innovation fund (*including non-Region owned and Housing*

York facilities)

- Maintained safe and affordable housing for more than 500 families by investing \$2.5 million for essential building repairs (*including non-Region owned and Housing York facilities*).
- Provided corporate coordination, in collaboration with lead departments, to meet the requirements of both the *Accessibility for Ontarians with Disabilities Act (AODA), 2005*, and the *Ontarians with Disabilities Act (ODA), 2001*.

3 Overview of Results

The results for the three service areas under review are presented in Table 3–1. With two Bs and an A, the results are very good to excellent. Despite any differences in the way each service area manages its assets, the asset management practices comply with many of the principles of a formal asset management program, especially when it comes to maintaining the condition and repair or replacement of assets. Managers and decision-makers can safely conclude that the department is focusing on management of its infrastructure as well as delivery of its services and programs.

Table 3–1: CHS State of Infrastructure Results

2013 SOIR Grade (not including Financial)		Reliability	Capacity	Condition
Long-Term Care	B	B	A	B
Housing	B	B	B	B
EMS	A	A	A	A

3.1 Explanation of Results

Both Housing and LTC conduct periodic condition audits to identify and manage maintenance repair and rehabilitation efforts, a best practice in asset management. While the information technology (IT) used to support these service areas is somewhat limited, plans are underway to update IT systems.

The slightly lower numeric scores that make up the grades for Housing reflect the fact that it has a larger portfolio of assets comprised of many older facilities. These older facilities were built to different standards and service levels; hence they have more basic features and amenities such as basic block wall construction and smaller unit sizes than newer facilities. These factors affect the department’s ability to meet increasingly stringent regulatory and legislative standards such as the Accessibility for Ontarians with Disabilities Act (AODA). To the credit of Housing staff, facility condition is predominantly maintained in good condition at a grade of B.

EMS does not currently have a formal grading system to measure the condition of its equipment or vehicles. However, they do maintain a rigorous and strict preventive maintenance schedule to ensure assets are in a serviceable condition before they are placed into service. The maintenance schedule, combined with the practice of keeping reserves on hand, ensures no vehicle or equipment is placed into service that does not meet serviceable condition requirements. The practice of closely monitoring replacement schedules for equipment at the end of life is another reason for the high grades achieved by EMS.

Financial grades have not been documented in this report. However, the Region should have robust data on financial reserves that will facilitate reporting on this criterion in the next state of infrastructure reporting cycle. This expectation is based on work identified in Report No. 8, Clause 2 of the Finance Committee Report Regional Fiscal Strategy, and received by Council on December 19, 2013. Improvements to specific allocations to the 70 corporate financial reserve categories are expected to be made. It is also expected that as the

department initiates asset management strategies and plans, further work will likely be necessary to refine the distribution of reserve funds in proportion to asset replacement value, expected life, condition and other factors.

In spite of the limited financial reserve data, what can be said is that each service area is doing an excellent job using formal processes to identify needs over the next 10 years and developing appropriate budgets accordingly.

3.2 Trend Analysis

The following analysis takes into account the potential impact of department initiatives identified in the 2014 Business Plan and Budget with the ability to influence the direction of state of infrastructure. Additional details on trend analysis can be found in individual service area sections.

Housing Capacity

Looking beyond this report, it's possible to predict that the new housing stock will cause an upward trend for condition initially, and a potential downward trend on capacity. That's because, while beneficial from a service perspective, new stock will increase the need for staff to manage condition in the longer term as buildings age. There's also the potential for staff to have to prepare and rent more units because of increased tenant turnover, which will likely increase in proportion to the increased housing stock. It's true that this downward trend of capacity will not influence the current Housing rating since this aspect of capacity is not included in the criteria used for state of infrastructure, nor are staffing ratios.

The department should be aware of this downward trend since it has the potential to pull its current grades downward in the next state of infrastructure report two years from now. This will be all the more likely if other constraints on resources surface.

EMS Capacity

A review of the ratio of EMS calls to population over the last several years appears to be stable. This suggests that, if the population increases as forecasted, demand for service will also increase. EMS has drafted a 10-year master plan that calls for additional staffing, EMS stations, and ambulances. Currently, EMS earned high grades for capacity (as measured by EMS response time). Implementation of the 10-year master plan should result in a continuation of the current capacity ratings in spite of the expected population growth and other drivers for this service.

Financial

Additional services and infrastructure will increase funding requirements to maintain the state of infrastructure in both the near and long term. Additionally if reserves that are being held to replace existing assets are used to purchase new assets instead, the department's long-term financial sustainability could be affected.

3.3 How to Read the State of Infrastructure Reporting Tables

In reading this report and the tables in other sections of this report, note the following information:

- **State of Infrastructure Grade (SOIR):** The overall state of infrastructure grade for each service area is an average of the grades earned for each of the three criteria—reliability, capacity, and condition. It does not include the financial criterion.
- **Capacity:** For this report, capacity is a measure of the availability (occupancy) and use of existing stock (housing or beds). It does not include measures of the demand for the service or the supply or quantity of stock (housing or beds) on-hand to meet current and future demand.
- **EMS Capacity:** EMS capacity is a measure of response rate using industry standard response parameters.
- **Financial:** Financial grades have not been documented in this report. Limited discussion on data that supports financial grades has been provided to identify potential trends and issues.



3.4 Summary of Criteria and Indicator Grades for Long-Term Care

Table 3–2 provides a complete picture of the state of infrastructure for LTC. It lists all the indicators and measures used to arrive at a final grade for each of the four criteria (reliability, capacity, condition, and financial) and provides the grades assigned to each indicator and criterion. Additional details can be found in Section 5, “Long-Term Care.”

Table 3–2: Summary of LTC Results

Criteria	Grade and Trend to 2015	Measures	Indicators	Grade
Reliability	B ↔	Service Redundancy	1. Facility standby power supply	B
		Compliance to Standards	1. AODA	B
		Functionality	1. Ministry of Health	A
			2. Facility amenities	B
		Safety and Security	1. Fire safety – sprinklers	B
			2. Access control – secure units	A
			3. Access control – site and building	B
			4. Security incidents	A
Capacity	A ↔	Capacity	1. Long-term bed days occupied –target 97%	A
			2. Short-stay bed days occupied –target 50%	A
			3. Convalescent-bed days occupied –target 50%	A
			4. Number of required LTC facilities (1)	A
Condition	B ↔	Condition	1. Condition grade	B
		Preventive Maintenance	1. Ratio of reactive to total work orders	B
		Long-Term Financial Planning	1. Ratio of reserves to replacement value	C

3.5 Summary of Criteria and Indicator Grades for Housing

Table 3-3 provides a complete picture of the state of infrastructure for Housing. It lists all the indicators and measures used to arrive at a final grade for each of the four criteria (reliability, capacity, condition, and financial) and provides the grades assigned to each indicator and criterion. Additional details can be found in Section 6, "Housing."

Table 3-3: Summary of Housing Results

Criteria	Grade and Trend to 2015	Measures	Indicators	Grade
Reliability	B ↔	Service Redundancy	1. Facility standby power supply	C
		Compliance	1. AODA	B
		Functionality	1. Customer satisfaction	A
			2. Facility aesthetics	B
			3. Facility amenities	B
		Safety and Security	1. Fire safety – sprinklers	B
			2. Access control	A
Capacity	B ↔	Capacity	1. Occupancy rate	B
Condition	B ↔	Condition	1. Condition grade	B
			2. Facility condition index	B
		Preventive Maintenance	1. Ratio of reactive work to total work orders	B

3.6 Summary of Criteria and Indicator Grades for Emergency Medical Services

Table 3–4 provides a complete picture of the state of infrastructure for EMS. It lists all the indicators and measures used to arrive at a final grade for each of the four criteria (reliability, capacity, condition, and financial) and provides the grades assigned to each indicator and criterion. Additional details can be found in Section 7, “Emergency Medical Services.”

Table 3–4: Summary of EMS Results

Criteria	Grade and Trend to 2015	Measures	Indicators	Grade
Reliability	A ↔	Service Redundancy	1. Fleet reserve	A
		Compliance	1. Fleet reserve	A
Capacity	A ↔	Capacity	1. EMS response rate	A
Condition	A ↔	Condition	1. Condition grade	A
		Preventive Maintenance	1. Ratio of reactive work to total work orders	A

4 Approach

An evaluation of the state of infrastructure provides a measure of infrastructure performance in relation to a required level of service at an accepted level of risk. A robust evaluation framework facilitates evaluation of current performance against defined standards and targets.

The evaluation framework used to assess the state of CHS infrastructure was first developed by the Environmental Services Department in 2009. The framework provides an effective model that enables regional councilors and taxpayers to compare the Region’s current and future asset base across service areas.

4.1 The Framework Structure

The evaluation framework consists of performance criteria, performance measures, and performance indicators as defined below:

- **Criteria:** The performance criteria indicate the degree to which infrastructure provides the services that the community expects. They measure the multi-dimensional components of performance as a function of effectiveness, reliability, and cost. They apply both to the “hard” infrastructure areas, such as transportation and drainage, and “soft” infrastructure areas, such as community services, in which assets are related more to program delivery needs. Three criteria are identified in this evaluation framework (see Section 4.1.1).
- **Measures:** Measures are statements or principles used to establish, quantitatively or qualitatively, whether specified objectives have been met. They indicate the outcomes resulting from infrastructure service availability and delivery (e.g., safety). Each of the four criteria are made up of the assessments from a number of measures that reflect that criteria. Each measure is made up of data from single or multiple data sources.
- **Indicators:** The raw data that identifies the condition or state of what is being measured. Indicators can be based on one value or composite values (i.e., produced through the aggregation of two or more parameters). They can refer to context, conditions, means, activities, or performance. They can be based on quantitative or qualitative data where quantitative is not available.

The raw data of the indicators are used to evaluate the higher level measures, which, in turn, are rolled up to determine whether the specified performance criteria have been met, as Figure 4–1, “Evaluation Methodology,” illustrates.



Figure 3–1: Evaluation Methodology

4.1.1 Performance Criteria

The four performance criteria used in this report are described in the following table.

Table 4-1: Performance Criteria

Criteria	Description
Reliability	<ul style="list-style-type: none">• Provides a snapshot of the overall reliability and quality of service of an asset.• Assesses the ability to meet quality, regulatory and internal standards and uninterrupted service levels.
Capacity	<ul style="list-style-type: none">• Measures the ability to ensure availability of services provided by the Department consistent with current and future demands.• Provides an early indication of negative impacts on services for customers and potential impacts on sustainability for the community.• Provides insight into future impacts of growth, including how a service provider should adapt to prepare for what will be required of infrastructure in the future.
Condition	<ul style="list-style-type: none">• Measures the physical condition of the infrastructure, its age, and maintenance performance.• Provides knowledge related to the maintenance and enhancement of asset condition, and the efficiency and effectiveness of rehabilitation initiatives.• Provides an understanding of the remaining service life and functionality of the asset.

4.1.2 Performance Measures and Indicators

For the most part, the performance measures and indicators that roll into the performance criteria differ based on the unique condition and performance requirements of a particular department's service areas. While the measures that best reflect the state of the condition and financial criteria generally apply to all asset types and services, the measures for reliability and capacity vary depending on the asset type and the service delivered with them.

For example, CHS measures that indicate the state of reliability include aesthetic considerations such as amenities and comfort when assessing facilities for Housing. But these considerations are of secondary importance when assessing ambulances within EMS.

The number of measures and the source of the indicator data (and whether it is a single or composite source) also varies depending on the criteria they serve and the branch and service they represent.

Because the measures and indicators used for each service area were the same in many cases, the sections in which the results for each service area are presented necessarily repeat the same or similar information though

the grades may be different. Examples of measures used for this report are condition, compliance, functionality, redundancy, and committed investment. Examples of indicators are the ability to provide service during a power failure, compliance with regulatory standards, and ratio of financial reserve to replacement value.

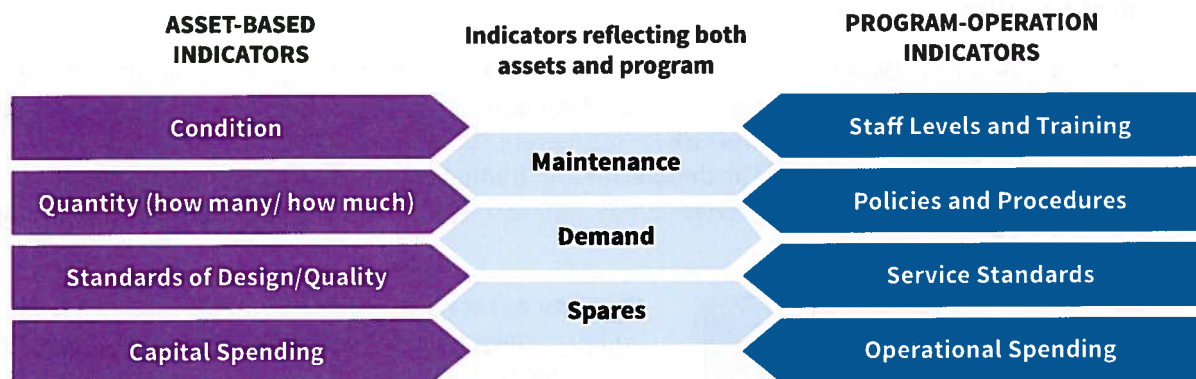
4.1.3 Considerations in Selecting Performance Indicators

The services provided by CHS are generally program driven, meaning that they do not rely as heavily on infrastructure for delivery as do other core services such as transportation, water, and wastewater. Still, hard infrastructure such as facilities and equipment are required to deliver CHS programs and services. The goal in selecting performance indicators was to choose those that best reflect asset performance and avoid those that solely or primarily reflect program or operational performance. Thus, some of the indicators that were selected are those typically associated with asset performance (e.g., condition, capital needs) while others reflect both asset and program or operational performance (e.g., maintenance). Figure 4–2 depicts the type of asset and program components that affect service delivery and provides a way to measure performance.

Consider, for example, EMS response rate targets. This performance indicator ended up being selected for this report because of its strong connection to asset performance. EMS was able to meet its response rate targets through a combination of program and operational components—staff training and procedures—and asset-based components—the availability and subsequent deployment of the EMS ambulance fleet.

On the other hand, the demand for social housing units and the corresponding supply is a complex situation involving multiple levels of government and the delivery of a combination of asset- and program-based solutions. As such, capacity for Housing was more narrowly defined to focus on the availability and occupancy of the housing stock owned by the Region or its subsidiary corporation, Housing York Inc.

Figure 4–2: Asset- and Operational-based Factors Affecting Service Delivery



4.2 Rating System

As the following table demonstrates, the grades for rating criteria are based on a numeric scoring system from 1 to 5, with 1 representing the highest or best score and 5 the lowest. These numeric scores are then translated into a letter grade that ranges from A to D, and F.

Table 4-2: Rating System

Rating System		
Numeric Scoring	Letter Grade	Description
1.0 to 1.5	A	Excellent or New
1.6 to 2.5	B	Good
2.6 to 3.5	C	Adequate
3.6 to 4.5	D	Poor
4.6 to 5.0	F	Fail or Very Poor

4.3 Asset Reporting Definitions

In keeping with its role as a health, housing, and social services provider, the following asset reporting definitions were developed to enable CHS to report on the whole of its asset base from a service or customer perspective. The definitions build on a broadly based classification of York Region’s assets, including:

- buildings (facility assets),
- equipment and other specialty devices within the facilities (facility program assets), and
- equipment and vehicles (program assets).

By defining the assets to be included in the evaluation framework (see Section 4.1), the department will be able to see and understand what is being measured for this report. In addition, the department or the Region can use the definitions and evaluation framework for future reports, such as in the corporate-wide state of infrastructure report planned for 2015. The definitions and framework are flexible enough to allow the inclusion of other departmental branches, service areas, and assets not currently being reported, including lesser value assets.



Facility Assets are primary elements that define the shape, utility, and comfort of the built space. They are classified by components such as building structure, architectural (building envelope), mechanical (HVAC), and electrical. They include ancillary components such as building hardware, heating systems, and elevators. Facility assets do not include program or service delivery equipment.

Facility Program Assets are equipment that may be partially fixed or built-in to a building or structure and that are provided specifically to support the delivery of a service. Replacement and refurbishment is not directly dependent on the facility in which they are located. Typical examples may include process equipment for water services, commercial walk-in freezers, nurse call stations for long-term care facilities, and hoists for EMS fleet maintenance.



Program Assets are general purpose, tangible capital assets required to support the staff or service. These assets are not associated with a facility, may be mobile in nature, and may be managed as a group or pooled asset or form a central focus of the service delivery such as EMS ambulance and rapid response vehicles. Typical examples include furnishings, computers and technology, and personal fleet vehicles.

Leasehold Improvements Assets are assets that the Region does not own but for which it has assumed responsibility.

4.4 Trend Analysis

Trend forecasts are typically based on assumptions about the rate of change in relation to past performance. Since this is the department's first state of infrastructure report, the trend analysis is limited to qualitative statements about the possible direction of future grades. A more comprehensive trend analysis, one which considers past performance (i.e., previous grades), the current state or grade, and activities and initiatives that support asset and service performance, can be conducted after the second reporting process.

In spite of these constraints, a trend in one of the three possible directions described below has been surmised and included in this report.

- A positive (↗) trend indicates that the reported grade is expected to increase between now and the next state of infrastructure report.
- A neutral (↔) trend indicates that the reported grade is expected to remain the same between now and the next state of infrastructure report. It is also used where limited data is available to confidently assess whether there would be either a positive or negative trend.
- A negative (↘) trend indicates that the reported grade is expected to decrease between now and the next state of infrastructure report.

4.5 Data Confidence

State of infrastructure reporting is meant to be a data-driven process. As such, it relies on data that is readily available, accurate, and complete. Best practices for data management address the requirements for data as follows:

- **Clean data** does not contain spelling errors, typographical errors, or duplicate records.
- **Accessible data** is stored in a location that can be easily retrieved and in a format that can be easily interpreted.
- **Complete data** includes values for every variable such that all fields in a record are populated.
- **Accurate data** is current and reflects present-day conditions. Standards for the collection, reporting, and maintenance of data are consistently applied.

Given the importance of data to the results of infrastructure assessment, this report describes the level of confidence its readers, senior managers and elected decision makers, can have in the findings for each service area.

5

Long-Term Care

“By having a safe and reliable place to live, I am able to maintain the highest quality of life possible while I grow older.”



5 Long-Term Care (LTC)

The overall state of infrastructure grade for LTC assets is a B. Table 5–1 summarizes the overall rating. The overall results demonstrate the Region’s commitment to providing safe and reliable long-term care facilities to its residents.

Table 5–1: Long-Term Care State of Infrastructure Grades

2013 SOIR Grade (not including Financial)		Reliability	Capacity	Condition
Long-Term Care	B	B	A	B
Trend to 2015	↔	↑	↔	↔

The individual results show an asset base that is in good condition, reliable, and fully meeting capacity measures of availability. The financial data suggests that the Region is well-funded. However, as explained in Section 5.6, the precise amounts held in reserve are unknown.

5.1 Trend for Long-Term Care

The trends for all indicators should remain stable since the Region will probably not build any new Region-owned long-term care facilities in the future, and the two long-term care facilities have undergone significant upgrades in the recent past. Also, the care and commitment to management of the infrastructure was evident through the process of reporting on the state of infrastructure.

Although the need for increased generator capacity at Newmarket Health Centre is recognized, it is unlikely that it can be planned, designed and installed within the trend analysis period. However, there should be improvements in reliability in the near term when the department completes work on the fire safety sprinkler systems for the administration rooms of the Maple Health Centre.

The current asset management practices have produced good results that should continue if spending on maintenance and repair is implemented as planned and with the implementation of new maintenance software.

5.2 Long-Term Care Infrastructure

LTC manages two long-term care facilities, Newmarket Health Centre and Maple Health Centre that are similar in design, functionality, and size. Newmarket Health Centre has 132 beds, and Maple Health Centre has 100 beds.

Both homes are two- and three-storey, low-rise buildings located in residential areas with complex care units, secured care units, and respite beds. Each home offers a convalescent care program that offers intensive rehabilitation services to people who need additional time to recover strength, functioning, and independence following illness or injury. In addition to its 100 long-term care beds, Maple Health Centre houses two Adult Day Centres.

Both Health Centres also have a commercial kitchen and servery on each resident floor. Other equipment includes patient care devices, attendant alarm systems, and security systems.

5.3 Long-Term Care Assets and Asset Value

The facility program assets that support the service delivery were considered for LTC. They are defined as equipment that may be fixed, partially fixed, or built into the long-term care facilities. Examples include the commercial walk-in freezers and nurse call stations. The facility assets or building elements are managed by another Region department, Property Services, and are not included as part of the department reporting.

The overall value of LTC facility program assets is approximately \$5.3 million. Figure 5-1 shows the replacement cost by the remaining life by percentage. Figure 5-2 shows the replacement cost (asset value) of LTC assets by the grade earned for condition (e.g., A, B, C, etc.). Overall asset condition by value is fair to good with a fairly uniform distribution of cost against remaining life.

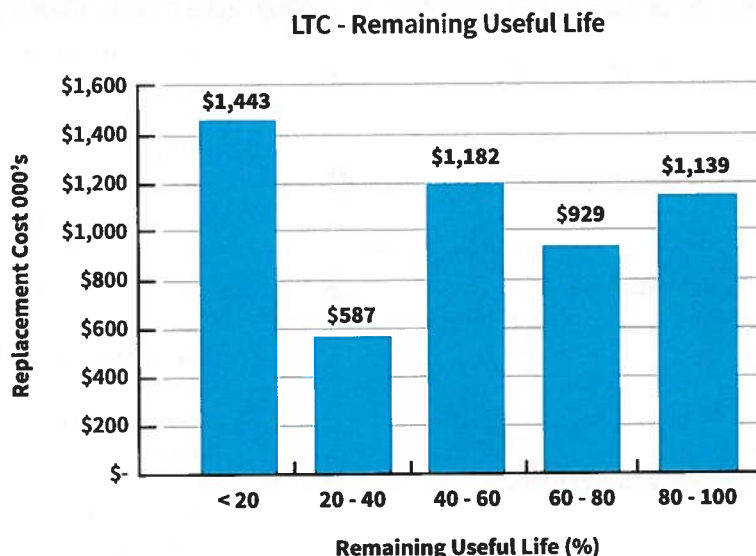


Figure 5-1: LTC Asset Value by Remaining Life

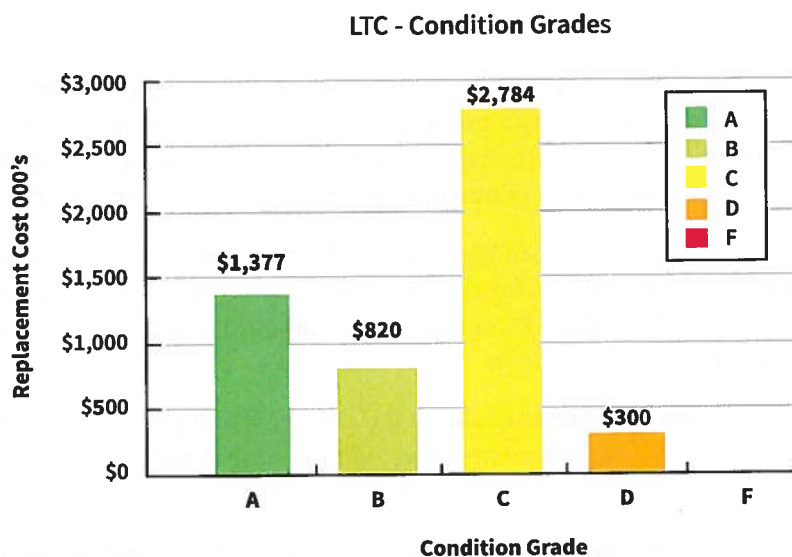


Figure 5-2: LTC Asset Value by Grade

5.4 Results for Reliability

- B** LTC received a B for reliability. This section presents the grades for the performance measures and indicators for reliability, and describes how the measures and indicators were assessed and the reasons for the final grade.

Table 5–2 illustrates both the measures and indicators that were used to determine LTC’s reliability grade, as well as the ratings assigned to each.

Reliability	Measures		Indicators	
B	Service Redundancy	B	1. Facility standby power supply	B
	Compliance to Standards	B	1. AODA	B
			2. Ministry of Health	A
	Functionality	B	1. Facility Amenities	B
	Safety and Security	B	1. Fire Safety – sprinklers	B
			2. Access control – secure units	A
			3. Access control – site and building	B
			4. Security incidents	A

5.4.1 Service Redundancy

Redundancy of service for the residents at the two long-term care facilities considered the ability of the facility to maintain continuous service during a prolonged power failure. This was determined by evaluating the amount of standby power available to provide service and the source of power—whether it was provided through an automated dedicated generator or portable generator requiring manual start-up and control.

The Maple Health Centre has 100 per cent standby power capability, but changes to the kitchen requirements (ability to serve hot meals during a power outage) at the Newmarket Health Centre represent an additional demand on power supply. This means that LTC needs to determine whether the Newmarket Health Centre’s existing standby power supply will be sufficient.

Staff is aware of and understands the need to evaluate the current standby capabilities at Newmarket. This will involve: quantifying the extra power requirements, developing the electrical system design, and identifying or allocating the costs and budgets.

At the same time, staff recognize that basic resident needs can be met by preparing cold meals, as was done during the prolonged power failure in August 2009.

- B** The overall grade for service redundancy is B. This rating is based on the standby power supply indicator.

5.4.2 Compliance to Standards

With any built works, the standards at the time of design are used to guide building development. But even if designed and constructed in accordance with good practices, the agencies responsible for building and equipment standards should periodically review and update them to meet new or emerging requirements or to reflect better performance data. Over time, a facility built according to an original earlier code may be found to be out-of-compliance to a new standard.

LTC has established internal quality standards that might have been used as indicators of compliance except that they are directed toward program delivery and so are not applicable to LTC's state of infrastructure. Instead, LTC looked at applicable compliance standards for AODA and Ministry regulations and guidelines.

B The overall grade for compliance to standards is B.

Accessibility for Ontarians with Disabilities Act

The AODA came into effect in January 2010. It requires all buildings serving the public to comply with its standards before January 1, 2025. This includes filing an annual accessibility report that identifies barriers to equality for people with physical disabilities, and outlines plans for addressing those barriers.

LTC has implemented the following measures or accessible features to address AODA requirements:

- accessible entrances and elevators
- accessible resident rooms, lounges and washrooms
- designated accessible parking spaces complete with signage
- designated slip-resistant path of travel with curb ramp from the accessible parking spot to the accessible entrances

Even with these and other measures in place, interviews with staff for LTC identified the fact that some *minor* accessibility measures remain outstanding such as designated drop-off/ pick-up area and signage. Although the accessibility upgrades do not have to be completed until the legislated date of January 1, 2025, LTC has identified several upgrades to be completed concurrent with other projects. This includes installing curb cuts as part of the parking lot upgrades scheduled for Newmarket Health Centre.

The recently completed Building Condition Audit (BCA) recommended a detailed AODA audit and plan. The department could use the information from the BCA as a baseline to initiate this more formal AODA audit and identify the priorities and costs of full compliance.

B The grade for AODA compliance is B.

Ministry of Health

The Ministry of Health and Long-Term Care published the *Long-Term Care Home Design Manual* in 2005 to guide the design, construction, and management of long-term care facilities. It issued the *Long-Term Care Homes Act* in 2007 to prescribe the regulations governing aspects of long-term care.

The Ministry routinely inspects long-term care facilities for both service and building- and equipment-related issues. Staff indicated that the Ministry reviews facility upgrade design documents and completes pre-occupancy site visits to ensure compliance with its design standards.

The last Ministry inspections, which were conducted in 2013, did not find any compliance issues at either of the Region’s two long-term care facilities.

- A** The grade for Ministry of Health compliance is A.

5.4.3 Functionality

“When the design of a facility satisfies the emotional, cognitive, and cultural needs of the people who use it and the technical requisites of the programs it houses, it is functionally successful.”¹ In other words, a functional building is more than a building that is structurally sound, it is also a building that is organized for social purposes and includes such considerations as beauty and the physical and psychological well-being of its occupants.

- B** The overall grade for functionality is B. It is based on the rating for the facility amenities indicator.

Amenities

Similar to aesthetics, the amenities provided within a facility’s private and public space lead to customer satisfaction. Both long-term care facilities feature the following amenities:

- On-site hair salon and barber shops
- Snoezelen^{®2} therapy rooms
- Therapeutic gardens
- Café and gift shops
- Daily activities

The Region’s two long-term care facilities provide a number of on-site amenities for resident use. Without a more formal measurement scale that would include resident survey data and comparisons with amenities provided in other long-term care facilities, the final grade for these amenities is necessarily qualitative. LTC could better understand how well-ranked this aspect of functionality is by developing a formal measurement method.

- B** The grade for facility amenities is B.

5.4.4 Safety and Security

Safe and secure buildings are designed to protect people, resources, structures, and continuity of operations from multiple hazards. For the state of infrastructure, LTC has focused on four indicators.

- B** The overall grade for safety and security is B. It is based on the four indicator ratings: fire safety; access control to units, the site, and buildings; and security incidents.

1 “Functional/Operational,” *Whole Building Design Guideline*. http://www.wbdg.org/design/func_oper.php

2 A specialized selection of sensory equipment and materials that may help clients adapt their responses to sensory stimulation and to advance education and therapy goals.

Fire Safety – Sprinkler System

Fire safety includes all the systems and programs in place to protect residents and infrastructure in the event of fire. Because of the complexity and importance of this indicator, additional parameters that influence this indicator are recommended in the section on future considerations (page 51). Without limiting the importance of other parameters, for the purposes of the department’s first state of infrastructure report, this indicator was rated solely on sprinkler system installation.

The overall grade for fire safety is an average of the grades given to the Newmarket and Maple Health Centres. Newmarket received an A since the sprinkler system is installed throughout the facility. Maple has a partial system that provides the resident program areas with full-service coverage, but none to the office and adult day centre portions. Maple received a C grade for this reason noting that signage, emergency lighting and staff training form an integral part of LTC’s fire safety program.

LTC has identified a plan to install a full sprinkler system at Maple in 2015. Future state of infrastructure reports will reflect its implementation.

B The grade for fire safety is B.

Access Control – Secure Units

The Region’s two long-term care facilities have specialized needs for controlling access and ensuring the safety of residents in the secure units.

Security measures include a “wanderer alert” system that signals a monitoring station when a resident is either too far away from the base station or has left the premises.

A comprehensive security audit conducted in 2012 at the two long-term care facilities identified the fact that the alarm sounds similar to other building alarms as a minor issue. Despite this and other minor problems, which are planned to be addressed in near-term upgrades, both facilities were rated highly for access control of the secure units. The grade was determined through a staff assessment of the units and their equipment.

A The grade for access control of secure units is A.

Access Control – Site and Buildings

Access control is one level of security within a multi-barrier approach to facility security. Similar to any resident building, controlled access at entrances and video surveillance allow staff to monitor and control access to protect people and property from vandalism, theft, or other unwanted events. Within the long-term care facilities, access to common space (e.g., the servery), staff office space, and mechanical equipment rooms is also controlled to protect residents and staff.

Security lapses were noted in a 2012 security assessment report. The majority of these lapses would involve correction through a combination of procedures and access upgrades to door locks and closers, and to the video surveillance system to eliminate any “dead zones.” A budget has been set for these improvements and the work is planned for 2014 and 2015.

B The grade for access control to the site and buildings outside of the secure units is B.

Security Incidents

The purpose of this indicator is to show whether any unwanted security incident could be facilitated by site or building attributes such as poor lighting in remote parking lots. Any reported incident would be treated as a serious matter and carefully evaluated by the Region.

The grade is based on staff reports indicating that there had been no security incidents of any kind, including intrusions, vandalism, and theft, in 2013.

A The grade for security incidents is A.

5.5 Results for Capacity

LTC received a grade of A for capacity. The measure is based on two related concepts of utilization: availability and occupancy.

Table 5-3 illustrates both the measures and indicators that were used to determine LTC's capacity grade, as well as the ratings assigned to each. LTC closely monitors and controls these indicators because they are directly tied to provincial funding formulas. Their diligence is reflected in the high grade achieved.

Table 5-3: LTC Capacity

Capacity	Measures		Indicators	
A	Capacity	A	1. Long-term bed days occupied –Target 97%	A
			2. Short-stay bed days occupied –Target 50%	A
			3. Convalescent-bed days occupied –Target 80%	A
			4. Number of required LTC facilities (1)	A

5.6 Results for Condition

LTC received a grade of B for condition. This criterion measured facility program assets (equipment within the facility specific to the program).

Table 5-4 illustrates both the measures and indicators that were used to determine LTC's condition grade, as well as the ratings assigned to each.

Table 5-4: LTC Condition Grade

Condition	Measures		Indicators	
B	Condition	B	1. Condition grade	B
	Preventive Maintenance	B	1. Ratio of reactive work to total work orders	B

Condition

LTC captures the condition of its facilities through a formal building condition audit conducted on a planned frequency of about every five years. This process generates a condition rating for major assets or an aggregate rating for a group of assets such as doors.

B The overall grade for condition is B. Each facility achieved a rating very close to the overall grade.

Preventive Maintenance

There are two basic approaches to maintenance management: reactive and proactive. Reactive maintenance—the time spent reacting to address the consequences of poor condition and frequent breakdowns—can result from an inability to plan for required maintenance. Reactive maintenance is not only more costly than proactive maintenance; it also means that preventive maintenance will get put aside due to constant emergency maintenance work.

The Newmarket Health Centre received a rating noticeably lower than the Maple Health Centre. Staff identified that this is mostly due to the size of the facility, the number of service and program areas, and resource constraints, rather than poor facility condition.

B The grade for preventive maintenance is B.

5.7 Level of Confidence in Long-Term Care Data

Overall, the data confidence for LTC is good, although most results are based on staff knowledge rather than data.

Table 5-6 illustrates the level of data confidence for each indicator using a colour scale in which green represents high confidence in the data, and yellow represents some concerns about accuracy or the ability to validate staff opinion.

Table 5-6: LTC Grade Summary and Data Confidence

Criteria	Grade	Measures	Indicators	Grade	LTC Data
Reliability	B	Service Redundancy	1. Facility standby power supply	B	
		Compliance to Standards	1. AODA	B	
		Functionality	1. Ministry of Health	A	
			2. Facility amenities	B	
		Safety and Security	1. Fire safety – sprinklers	B	
			2. Access control – secure units	A	
			3. Access control – site and building	B	
			4. Security incidents	A	
Capacity	A	Capacity	1. Long-term bed days occupied –target 97%	A	
			2. Short-stay bed days occupied – target 50%	A	
			3. Convalescent-bed days occupied –target 50%	A	
			4. Number of required LTC facilities (1)	A	
Condition	B	Condition	1. Condition grade	B	
		Preventive Maintenance	1. Ratio of reactive work to total work orders	B	

6

Housing

“It’s very important that my family and I have a home that is safe. Having a nice place to live also gives me a sense of pride and belonging in our community.”



6 Housing

The overall state of infrastructure grade for assets belonging to Housing is a B. Table 6–1 summarizes the rating for each criterion that fed into and supports the overall rating. The individual results show an asset base that is in good condition, reliable, and capacity is acceptable.

When assessing the state of infrastructure, Housing applied the performance indicators to the three types of buildings it owns (townhouse, low-rise, and high-rise), since each type might have its own standards and requirements. At the same time, however, the results are focused on the total performance of the inventory of buildings.

Table 6–1: Housing State of Infrastructure Grades

2013 SOIR Grade (not including Financial)		Reliability	Capacity	Condition
Housing	B	B	B	B
Trend to 2015	↔	↑	↔	↔

6.1 Trend for Housing

For the foreseeable future the trend for Housing and for most Housing indicators is neutral since the predominant housing stock will remain as older units and thus heavily influence the state of infrastructure.

The basic physical structure of the older Housing stock would require significant complex, lengthy and costly re-construction to achieve enhanced modern building code requirements. Accordingly, the older units will never likely achieve grades as high as newer housing will.

Occupancy is a measure of capacity. Considering the many factors involved in managing tenant turn over, even within a managed and focused effort, the ability to improve this grade above a B would be difficult.

On the positive side, the current asset management practices have produced good results that should continue if spending on maintenance and repair is implemented as planned. Some improvement should be seen in Reliability based on a Board-approved plan to install power generators at many facilities, thereby improving the ability to maintain services during power outages.

Looking beyond the two-year frame for the trend analysis, it is possible to predict that the planned new housing stock will cause an upward trend for condition initially and a potential increased tenant turn over which likely will increase in proportion to the increased housing stock. This may cause a downward trend on capacity (occupancy) as staff will have to prepare and rent units more frequently and especially if other constraints on staff resources surface.

Additional services and infrastructure will increase funding requirements to maintain the state of infrastructure in both the near and long term. This situation should be reviewed and documented in the next state of infrastructure report.

6.2 Housing Infrastructure

Housing York's portfolio includes 35 facility locations originally provided through three different programs. The portfolio is comprised of townhouses and low- and high-rise (more than six storeys) apartments. Clientele include seniors, families, singles and people with disabilities. A small number of units include supportive housing programs such as Community and Home Assistance to Seniors (CHATS).

In 2012, there were 2,201 housing units within the 34 locations. The 35th location, MacKenzie Green, was added in 2013. Units built by the province are under two funding programs: the Public Housing program and the Provincial Reform program. The buildings built by the Region are under the Regional Housing program. All new facilities are now being built through the Region. Each program is subject to different funding arrangements that are important for administration purposes and the provision of financial reserves and funding.

The facilities under public housing are the oldest units while the regional housing facilities are the newest. The oldest facility was built in 1966, but the majority of the facilities were built in the 1970s and 1980s.

There are three new facilities planned for delivery in the next one to three years.

6.3 Housing Assets and Asset Value

Housing assets are facility assets and defined as the building elements, which include architectural (building envelope), mechanical, and electrical. Housing assets are comprised of the townhouses, apartment buildings, and shelters within the Housing portfolio. The assets also include all equipment and furnishings within the facilities not belonging to tenants.

The total value of Housing assets is approximately \$442 million. Figure 6-2 shows replacement cost distributed across the remaining life. Figure 6-2 shows the replacement cost (asset value) of Housing assets by the grade earned for condition (e.g., A, B, C, etc.). Assets valued at approximately \$271 million are in the <20 per cent remaining life category suggesting that despite the good condition of assets, this represents a significant expenditure requirement.

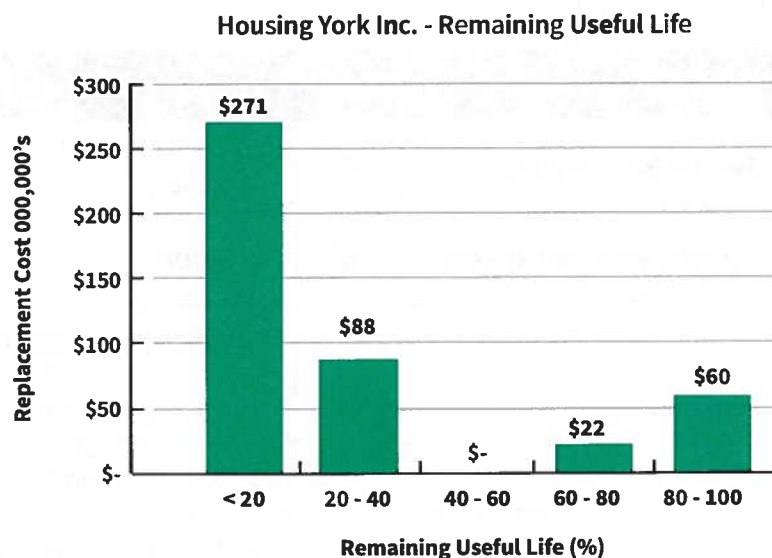


Figure 6-1: Housing Asset Value by Remaining Life

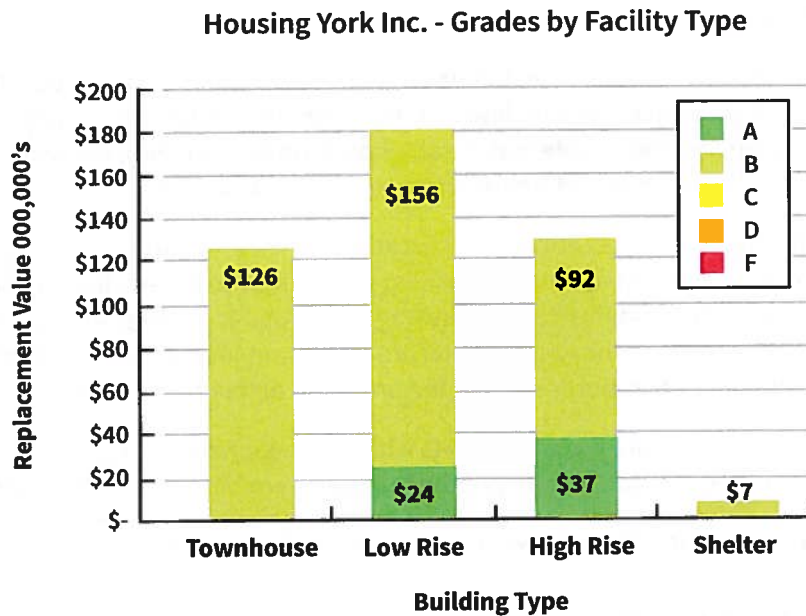


Figure 6-2: Housing Asset Value by Condition Grade

6.4 Results for Reliability

Housing received a grade of B for reliability. This section presents the grades for the performance measures and indicators that were developed to arrive at Housing’s overall reliability grade, and analyzes the results.

Table 6–2 illustrates both the measures and indicators that were used to determine Housing’s reliability grade as well as the ratings assigned for each.

Table 6–2: Housing Reliability Grades

Capacity	Measures		Indicators	
B	Service Redundancy	C	1. Facility standby power supply	C
	Compliance to Standards	B	1. AODA	B
	Functionality	B	1. Customer satisfaction	A
			2. Facility aesthetics	B
			3. Facility amenities	B
	Safety and Security	B	1. Fire Safety – sprinklers	B
			2. Access control	A

6.4.1 Service Redundancy

Redundancy of service for residents of the 35 housing locations considered the ability of facilities to maintain service during a power failure. This was determined by evaluating the amount of standby power available to provide service and the source of power—whether it was provided through an automated dedicated generator or a portable generator requiring manual start-up and control. Standby power is required by legislation for high-rise units with more than six storeys. However, Housing is installing permanent fixed standby power supply on new facilities with four or more storeys as a matter of practice. This decision stems from a Board-approved report³ based on a review of power supply needs of the facilities and tenants.

The standard or expectation for fixed standby power supply is based on a number of factors including the number of storeys. Other factors are the number of units (those with 100 or more), any special needs of the residents, or any special needs for equipment, such as the sewage pumping station at Keswick Gardens.

Most housing sites with fixed backup power generators were given a higher score since, in the event of failure of the normal power supply, these generators automatically supply power. But locations not requiring backup power (essentially townhouse and certain low-rise locations) that did have back-up power installed were given a lower grade on the assumption that these resources could be better employed elsewhere. In the end, five multi-storey facilities did not have a permanent fixed standby power supply and did not achieve the highest grade for this indicator. Nine facilities received an A.

- C** The overall grade for service redundancy is C. It is based on the rating for the facility standby power supply indicator.

6.4.2 Compliance to Standards

With any built works, the standards at the time of design are used to guide building development. But even if designed and constructed in accordance with good practices, the agencies responsible for building and equipment standards should periodically review and update them to meet new or emerging requirements or to reflect better performance data. Over time, a facility built according to an original earlier code may be found to be out-of-compliance to a new standard. Since each existing building presents a unique set of economic conditions or constraints in the application of newer codes and standards, there is an understanding that the performance expected from existing buildings may not be equivalent to that for new construction. In other words, the performance level required of existing building upgrades may be less than that for new facilities.

While internal organizational standards or practices can also be used as an indicator of compliance, the indicator used for Housing is based on the requirements for AODA. Other standards have been identified in the section on future considerations.

- B** The overall grade for compliance to standards is B.

Accessibility for Ontarians with Disabilities Act (AODA)

The AODA, which came into effect in January 2010, requires all buildings serving the public to be in compliance with its standards before January 1, 2025. This includes filing an annual accessibility report that identifies barriers to equality for people with physical disabilities, and outlines plans for addressing those barriers.

3 Emergency Power Plan Proposal, Housing York Inc. December 8, 2004, Report of the General Manager

The grade for this indicator relied on information gathered through staff interviews. Housing has implemented a number of measures to address AODA requirements. These include:

- adding braille-embossed buttons inside elevators, backlighting the buttons, and adding an audible signal at elevator entrances to indicate which car is answering a call and what direction it is moving in;
- changing the handles on kitchen taps and cupboards, lowering sections of countertops, ensuring fridge freezers have double doors, and stoves have controls on the front panels;
- adding grab bars in every new bathroom and roll-in showers to barrier-free units;
- ensuring corridor floors are unobstructed and absorb sound, the transition from one floor surface to another is without tripping hazards, and the colour and intensity of the lighting is specific to deteriorating eye sight; and,
- extending the life of battery back-ups to give residents more time to evacuate in case of emergency.

Even with these measures in place, interviews with staff for Housing identified the fact that some accessibility measures remain outstanding and certain requirements, such as physical dimensions of hallways, will never be met. Generally, older locations were built with different standards, such as smaller room sizes, making it difficult to comply with AODA standards.

B The grade for AODA compliance is B.

6.4.3 Functionality

According to the *Whole Building Design Guideline*, “When the design of a facility satisfies the emotional, cognitive, and cultural needs of the people who use it and the technical requisites of the programs it houses, it is functionally successful.”⁴ In other words, a functional building is more than a building that is structurally sound, it is also a building that is organized for social purposes and includes such considerations as beauty and the physical and psychological well-being of its occupants.

B The overall grade for functionality is B. It is based on the ratings for customer satisfaction, facility amenities, and aesthetic indicators.

Customer Satisfaction

Customer satisfaction is typically an operational measure important to program delivery, although Housing includes measures of building quality such as appearance, comfort, condition, and so on. Engagement with the customer can be a useful means to identify issues and improve satisfaction with the services being provided.

In the most recent Customer Satisfaction Survey, Housing exceeded their targeted 80 per cent overall satisfaction level.

A The grade for customer satisfaction is A.

4 “Functional/Operational,” *Whole Building Design Guideline*.http://www.wbdg.org/design/func_oper.php

Aesthetics

The aesthetics of a building can include both physical and visual attributes. Building elements that are noticeable appeal directly to our senses: line, shape, texture, color, light/dark, and space.

Although subjective in nature, aesthetics are a useful indicator. Both aesthetics and amenities lead directly to customer (i.e., tenant or resident) satisfaction. The first impressions of a building's appearance can be critical to gaining and maintaining occupancy. This is an important consideration for Housing, especially in older buildings.

Housing has a wide variation of building elements across its portfolio. Many older facilities have basic construction such as painted block walls, while newer facilities have modern construction materials, increased lighting, and so on.

B The grade for aesthetics is B.

Amenities

Similar to aesthetics, the amenities provided within a facility's private and public spaces lead to customer satisfaction. Amenities captured in the location attributes include common space, personal outdoor space, parking, laundry, and recreational space. Location is also an important amenity because it can provide access to shopping, public transit, and other features.

B The grade for amenities is B.

6.4.4 Safety and Security

Secure and safe buildings are designed to protect people, resources, structures, and continuity of operations from multiple hazards.

B The overall grade for safety and security is B. It is based on the rating for fire safety and access control.

Fire Safety – Sprinkler System

Fire safety includes all the systems in place to protect residents and infrastructure in the event of fire. Housing has a number of proactive measures in place to address fire safety, including:

- education seminars put on by the fire department for tenants during Fire Prevention Week and at other times;
- annual and quarterly fire drills at low- and high-rise buildings respectively;
- annual fire safety training for site staff, including Building Attendants;



Mackenzie Green awaits Canada Green Building Council LEED® Silver certification, meeting strict criteria for resource efficiency, sustainable material selection, and innovative design.

- fire safety equipment tests carried out on more frequent basis than required (e.g., sprinkler valves tested monthly as opposed to bi-monthly); and
- apartment fire safety features customized to suit tenant needs (e.g., strobe lights for hearing impaired).

While all these facets of the fire safety program are important contributors to fire safety, there was insufficient time and resources to develop a comprehensive grading scheme that would include these and other parameters of fire safety. Instead, for the department’s first state of infrastructure report, this indicator is rated simply on fire suppression or sprinkler system installation. Grading is based on building type, whether the sprinkler system coverage is full or partial, and whether it is new or existing construction.

New low- and high-rise locations are required to have full sprinkler systems receiving a failing grade of F if they have partial or no systems. All new facilities meet the requirement for full systems and received an A grade.

Existing low- and high-rise locations are not required by code to have full sprinkler systems and receive an A if they do. Since they are not regulated to have full systems like in new construction, they do not receive a failing grade as in new construction but rather receive a lower grade of C if they have partial systems or D if they have none. Most existing facilities in this grouping received a C grade.

Townhouse locations, whether new or existing, are not required to have sprinkler systems and receive an A grade for full or partial systems and no grade if they have none.

In all, six facilities received a grade of A whereas 21 facilities received a C since they have partial sprinkler systems in place. As expected, most of the townhouse locations do not have any sprinkler systems so those locations were not assigned a grade.

B The overall grade for fire sprinkler safety is B.

Access Control

Access control is one level of security within a multi-barrier approach to facility security. Similar to any resident building, controlled access at entrances and video surveillance (passive or active) allow staff to monitor and control access to protect people and property from vandalism, theft, or other unwanted events. This indicator focused on building access.

All of Housing’s multi-storey units have access control systems and, as a result, were assigned an A. Townhouses are not required to have an access control system and so were not rated for this indicator.

A The grade for access control is A.

6.5 Results for Capacity

Housing received a B for capacity. The measure is based on a concept of utilization: having the unit ready and available for occupancy.

Table 6–3 illustrates both the measures and indicators that were used to determine Housing’s capacity grade, as well as the ratings assigned to each.

Table 6–3: Housing Capacity

Capacity	Measures		Indicators	
B	Capacity	B	1. Occupancy rate	B

Occupancy rate

Occupancy rate is a measure of the number of units in a building that are occupied. In the private sector, a healthy market occupancy rate is about 97 per cent, which represents a balance between landlord and tenant interests. A landlord prefers a high occupancy rate because it provides greater opportunities for revenue, whereas prospective tenants prefer a higher vacancy rate (the number of units in a building that are not rented out) because it offers greater choice and keeps rent low. Low occupancy rates could indicate a problem with the appearance of the building or units. It also means having to spend time and money to find additional tenants.

Rather than consider market vacancy, Housing chose a social housing perspective that considered its occupancy rate and how it manages resident turnover. As a measure of efficiency, Housing should strive to have units occupied as quickly as possible, especially since the social housing supply is, and probably will be for a long time, much lower than the demand for it. Table 6–4 shows the sliding scale developed using overall market figures as a guide to help establish parameters for measuring occupancy.

Table 6–4: Social Housing Occupancy Grade Scale

Private Sector Balanced Rental Market View	Vacancy Rate	Social Housing View	Occupancy Rate	Occupancy Grade
Shortage	1.0%	High Occupancy	99%	A
	1.5%		98.5%	B
	1.7%	Current	98.3%	B
Moderate	2.0%	Acceptable	98%	C
	2.6%		97.4%	D
Balanced	3.0%	Low Occupancy	97%	F

Housing capacity for 2013 is based on occupancy rates that, on a monthly average, run approximately 98.3 per cent (38 units out of a total 2,201 units in 2013 with the exception of MacKenzie Green for which there was no data), thereby earning a B.

Efforts involved in managing occupancy and unit availability—including preparing the unit for new tenants upon vacancy, encountering occasional difficulties with tenants moving out on time, and coordinating the termination of new tenants’ existing leases for the creation of a new one with Housing—has an affect on the ability to fill vacancies. Other factors also have some bearing on the ability of Housing to fill vacancies.

These include facility amenity indicators, such as location, aesthetics, building features like balconies and outdoor space, unit size and features, common space, and regulatory requirements.

B The grade for occupancy rate is B.

6.6 Results for Condition

Housing received a B for condition.

Table 6-5 illustrates both the measures and indicators that were used to determine Housing’s condition grade, as well as the ratings assigned to each.

Table 6-5: Housing Condition Grade

Condition	Measures		Indicators	
B	Condition	B	1a. Condition grade	B
			1b. Facility condition index rating	B
	Preventive Maintenance	B	1. Ratio of reactive work to total work orders	B

Condition

Housing captures the condition of its facilities through a formal building condition audit conducted on a planned frequency of about every five years. This process generates a condition rating for major assets or an aggregate rating for a group of assets such as doors or windows.

Every facility in the Housing portfolio received a B. The only variations were in the actual numeric scores and a few selected assets that fell below this grade.

B The overall grade for condition is B.

Facility Condition Index

Facility Condition Index (FCI) is an established functional indicator used to generate an overview of a facility’s condition as a numerical value. The FCI is calculated as the ratio of total facility needs (repair, upgrades, etc.) to the current replacement value (the lower the ratio the better the condition of the facility).

Industry expectations are that an FCI value of 5 per cent is good, so this was set as the target for a B grade.

The average 10-year FCI value for all facilities in the Region is about 10 per cent, thus with targeted spending to achieve an FCI of 5 per cent, the grade for FCI will be good or B.

However, there was considerable variation in FCI value in the portfolio. Many older facilities saw values in the high teens. It was the newer facilities, which had very low FCIs that raised the average to a higher level.

B The grade for the facility condition index is B.

Preventive Maintenance

There are two basic approaches to maintenance management: reactive and proactive. Reactive maintenance can result from an inability to plan for required maintenance because of poor condition and frequent breakdowns, insufficient resources, or insufficient planning. Reactive maintenance is not only more costly than proactive maintenance it also means that preventive maintenance will be put aside due to constant emergency maintenance work.

Although most locations earned a B, several rated a C. Housing locations with lower grades reflect not only resource constraints, a shortage of time and a technical shortcoming in the current maintenance planning software, but also to facility age and condition.

B The grade for preventive maintenance is B.

6.7 Level of Confidence in Housing Data

Overall, the data confidence for Housing is high. The data used to develop the analysis that went into rating Housing's performance indicators was collated from a range of data sources, the majority of which came from staff knowledge and efforts to cross-reference against detailed lists of facility attributes.

Table 6-7 (see page 44) illustrates the level of data confidence for each indicator using a colour scale in which green represents high confidence in the data, and yellow represents some concerns about accuracy or the ability to validate staff opinion.



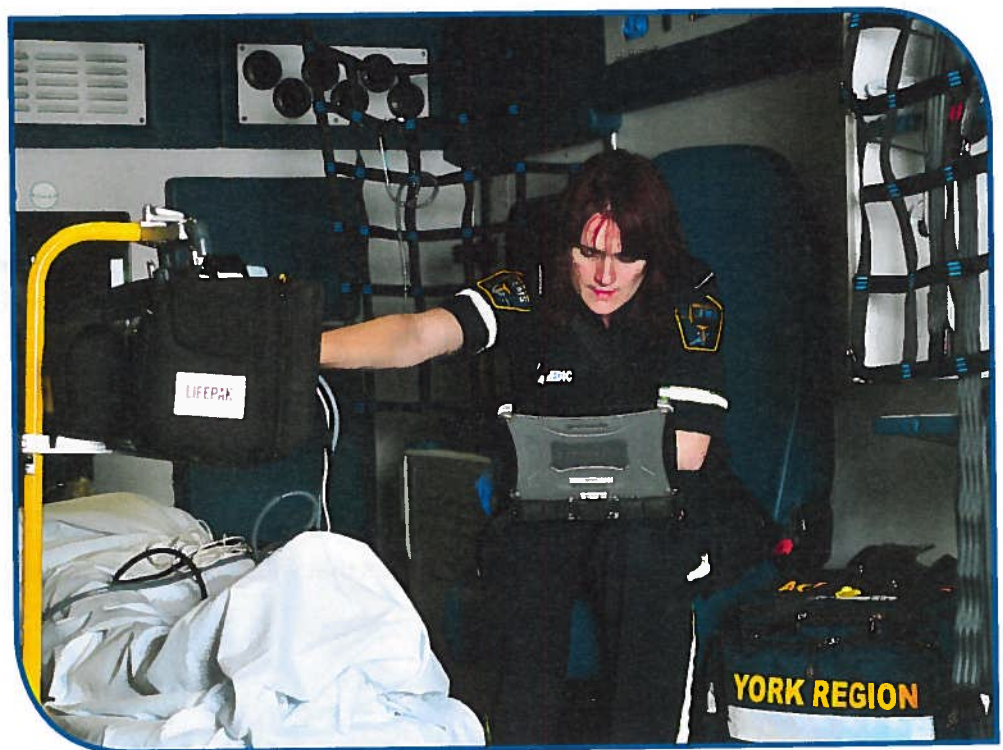
Table 6-7: Summary of Housing Grades and Data Confidence

Criteria	Grade	Measures	Indicators	Grade	LTC Data
Reliability	B	Service Redundancy	1. Facility standby power supply	B	Green
		Compliance	1. AODA	B	Yellow
		Functionality	1. Customer satisfaction	A	Green
			2. Facility aesthetics	B	Green
			3. Facility amenities	B	Green
		Safety and Security	1. Fire safety – sprinklers	B	Green
			2. Access control	A	Green
Capacity	B	Capacity	1. Occupancy	B	Green
Condition	B	Condition	1. Condition grade	B	Green
			2. Facility condition index	B	Green
		Preventive Maintenance	1. Ratio of reactive work to total work orders	B	Yellow

7

Emergency Medical Services (EMS)

“A well-maintained ambulance with reliable equipment allows me to provide the best care possible for my patients.”



7 Emergency Medical Services (EMS)

The overall state of infrastructure grade for assets belonging to EMS is an A. Table 7-1 summarizes the rating for each criterion that fed into and supports the overall rating. The overall results demonstrate the standards and approach adopted by the Region for this critical service and corresponding asset base. The individual results show an asset base that is well managed and maintained, in very good condition, reliable, and fully meeting capacity measures of availability.

Table 7-1: EMS State of Infrastructure Grades

2013 SOIR Grade (not including Financial)		Reliability	Capacity	Condition
EMS	A	A	A	A
Trend to 2015	↔	↔	↔	↔

7.1 Trend for Emergency Medical Services

With the outstanding grades achieved by EMS, the plan is to aim for small, constant improvements in efficiency while maintaining stable performance and results year in and year out.

7.2 Emergency Medical Services Infrastructure

There are 20 EMS stations, within which are some facility program assets that include 16-tonne vehicle hoists, EMS response training room equipment, such as portable walls, and a high-bay vehicle wash station.

Rolling stock includes ambulances, support vehicles, and supervisor vehicles. EMS program equipment includes equipment for each ambulance and spares. The program equipment includes defibrillators and stretchers.

7.3 Emergency Medical Services Assets

EMS assets are program assets and defined as capital equipment that supports the staff or service. EMS program assets are not associated with facilities. They include the EMS fleet, which is comprised of ambulances and support vehicles, and ambulance equipment. EMS facility and facility program assets are not included in the state of infrastructure report for this reporting period.

7.4 Results for Reliability

EMS received an A for reliability. The grades for the performance measures and indicators that were developed to arrive at EMS' reliability grade, and an analysis of the results, are presented in this section.

Table 7-2 illustrates the measures and indicators that were used in determining EMS' reliability grade, as well as the ratings assigned to each.

Table 7-2: EMS Reliability Grades

Reliability	Measures		Indicators	
A	Service Redundancy	A	1. Fleet reserve	A
	Compliance to Standards	A	1. Asset replacement	A

7.4.1 Service Redundancy

A core principle in EMS is that ambulance or response vehicles be kept in a state of readiness. Part of the strategy to achieve this state of readiness is to have reserve vehicles available so that others can be removed from duty for maintenance or unscheduled repairs.

Fleet reserve is the only indicator for this measure. In addition to those required for duty service, EMS maintains an ambulance reserve of approximately 30 per cent. Although there is no reference standard or standard of practice, the following observations can be made:

- There have been no incidents in which a duty ambulance was needed and was not ready for use; therefore, the reserve can be judged sufficient.
- There are numerous factors involved in the calculation of reserve requirements, including size of fleet, repair practices, replacement practices, and number of personnel.

The adequacy of reserve will be reviewed as part of the overall EMS service review and the suitability of this ratio validated.

A The overall grade for service redundancy is A. It is based on the rating for the fleet reserve indicator.

7.4.2 Compliance to Standards

EMS vehicles and equipment are governed by maintenance service standards prescribed by the manufacturers of the equipment. Other standards applicable to the program service are training and certification of staff, but these are not well suited for state of infrastructure reporting. Once the computerized maintenance management system, M5 by Asset Works, is appropriately resourced, it will be possible to track adherence to prescribed maintenance schedules. In the meantime, asset replacement will be used for this measure.

A The overall grade for compliance to standards is A. It is based on the rating of the asset replacement indicator.

Asset Replacement

EMS is meeting its internal standard to replace assets at the end of their life cycle. A six-month period is provided to accommodate the change-over of ambulances at the expiration of the five-year life cycle. This gives EMS time to replace the vehicles through auction or donation, and to prepare the new replacement ambulances for service. Reserves play a role during this process as well.

Given their role in EMS delivery, the most stringent rating scale is applied to ambulances, whereas for other vehicles and equipment, a more lenient grade is allowed. Out-of-tolerance asset replacement for ambulances

would receive a lower grade than would less critical equipment. Although some equipment assets are past due their replacement timing, a significant majority are meeting it.

A The grade for asset replacement is A.

7.5 Results for Capacity

EMS received an A for capacity.

Table 7-3 illustrates both the measure and indicator that were used in determining EMS' capacity grade, as well as the ratings assigned to each. EMS closely monitors and controls these indicators because they are directly tied to provincial and internal standards.

Table 7-3: EMS Capacity

Capacity	Measures		Indicators	
A	Capacity	A	1. EMS response rate	A

EMS uses the Canadian Triage and Acuity Score (CTAS), which has five categories of patient condition for determining the time in which a patient should be seen by a physician, to characterize EMS response. EMS exceeded the targets set for all five categories in 2013.

7.6 Results for Condition

EMS received an A for condition.

Table 7-4 illustrates both the measures and indicators that were used in determining EMS's condition grade, as well as the ratings assigned to each.

Table 7-4: EMS Condition Grade

Condition	Measures		Indicators	
A	Condition	A	1. Condition grade	A
	Preventive Maintenance	A	1. Ratio of reactive work to total work orders	A

Condition

A vehicle that is in serviceable condition is one that:

- is maintained in safe and reliable operating condition, including its emergency equipment;

- can be fully used as intended; and
- is in a mechanical condition that meets the manufacturers minimum specifications (i.e., brake rotor and brake pad thickness) at all times.

Although EMS does not currently grade condition, it manages a strict preventive maintenance schedule that maintains assets in serviceable condition. This maintenance schedule, when combined with on-hand reserves, means no vehicle or equipment is placed into service that does not meet serviceable condition requirements.

A The grade for condition is A.

Preventive Maintenance

There are two basic approaches to maintenance management: reactive and proactive. Reactive maintenance can result from an inability to plan for required maintenance because of poor condition and frequent breakdowns, insufficient resources, or insufficient planning. Reactive maintenance is not only more costly than proactive maintenance; it also means that preventive maintenance will be put aside due to constant emergency maintenance work.

The grade for this indicator was based on evidence provided by staff about the performance of fleet vehicles and the evidence of the detailed maintenance schedules used by EMS.

A The grade for preventive maintenance is A.

7.7 Level of Confidence in Emergency Medical Services Data

Overall, the data confidence for EMS is very good. All data used for EMS was based on a review of its practices and standards and staff opinion. The exception was the base inventory data, which includes attributes such as age and cost of assets, and the financial data that was obtained from business plans.

Table 7-6 illustrates the level of data confidence for each indicator using a colour scale in which green represents high confidence in the data, and yellow represents some concerns about accuracy or the ability to validate staff opinion.

Table 7-6: Summary of EMS Grades and Data Confidence

Criteria	Grade	Measures	Indicators	Grade	LTC Data
Reliability	A	Service Redundancy	1. Fleet reserve	A	Green
		Compliance	1. Asset replacement	A	Green
Capacity	A	Capacity	1. EMS response rate	A	Green
Condition	A	Condition	1. Condition grade	A	Green
		Preventive Maintenance	1. Ratio of reactive work to total work orders	A	Yellow

8 Initiatives to Improve Asset Performance

A core component of asset management is condition assessment of assets. Assessments provide crucial information for decision making including reporting changes in service levels, identifying candidate assets for maintenance or renewal, and as an input into life cycle cost modelling for capital planning and funding scenarios.

The process of condition assessment generates a large amount of data especially when combined with decisions for maintenance and capital planning. To improve on their decision-making processes CHS has invested in technology and process improvements.

In the case of EMS, this includes the Asset Works M5 fleet maintenance management already in place, and a Fleet and Life Cycle Review that is being undertaken. The review will examine in detail their current practices and develop recommendations for the current fleet and supporting business processes, business rules and process enhancements.

The current Housing and LTC maintenance management software provides only basic functionality to schedule work orders and maintenance tasks. This has been identified as an area for improvement with purchase of new software in the near future. They also utilize the software application Asset Planner, a capital planning tool to help them better understand the physical condition of their buildings and make informed decisions about capital expenditures. They are currently transitioning to fully utilize the Asset Planner software having recently loaded all building condition assessment data into it.

9 Future Considerations

CHS has broken new ground in this state of infrastructure report. While it followed the lead of the departments that had completed state of infrastructure reports on core public infrastructure, it still had to establish performance indicators that reflect the unique requirements of its program services. That is because operating measures that might be routine in the road, water, and wastewater environments do not necessarily reflect the differing mission of a department that supports community programs.

In the course of developing indicators that did enable the consistent assessment and rating of the service area's assets, the department identified a number of valid measures and indicators with the potential to provide meaningful results. These performance indices were not used for this report because the department did not have enough data to support their inclusion, could not clearly define the measure or indicator, or could not assess the results qualitatively.

Performance indicator development is an iterative, learning process. Since these indicators show promise, they are presented here, both as a record of their consideration for this report and as a recommendation for use in future state of infrastructure reports.

In addition, potential indicators that were identified after the CHS infrastructure had been assessed are also included here. That they occurred to staff illustrates that development of performance indicators is a process, one which staff will improve with time and experience.

Whatever indicators the department uses for its next state of infrastructure report, the bottom line is this: indicators should help CHS make better decisions about where to invest its resources and to determine whether any actions it takes can influence upward changes in its score.

9.1 Financial

Financial grades are recommended to be included in any state of infrastructure report and for all assets.

Near-Term Financial Planning

Near-term financial planning is a measure of the extent to which rehabilitation and replacement needs have been identified over the 10-year business planning period, and whether these needs have been adequately budgeted for. It provides an impetus to estimate future costs of rehabilitating and replacing assets.

Long-Term Financial Planning

This measure is a reflection of the ability to understand and plan for the significant costs to replace assets. It is determined as the ratio of financial reserves to asset replacement value.

The percentage of reserve funds available compared to the current depreciated or replacement value of infrastructure provides insight into the economic stability and security of the Region, which indicates whether it can reliably fund long-term replacement needs.

9.2 Long-Term Care

LTC considered and disqualified the following indicators for this report. These indicators remain valid for consideration in future reports.

Building Code

This indicator is a measure of reliability. It measures whether a facility meets building code requirements now or at the time of construction. Achieving an informed opinion of building code compliance requires a detailed understanding of the regulations and the building. This indicator was not graded because to do so would require a comprehensive building audit. Although generating a grade for this indicator is not recommended as a high priority (other indicators can capture significant facets of the compliance-to-standards measure), it is still important and therefore recommended for future consideration.

Once the building's construction and way of performing have been fully understood then an appropriate service level can be determined from a position of knowledge and an appropriate balance established.

Note: This indicator also applies to Housing since it also owns facilities through Housing York.

Equipment and Other Codes

This indicator is a measure of reliability. It applies to standards for equipment and other devices such as elevating devices, pressure vessels and gas-fired equipment (boilers and gas-fired heaters), and other equipment regulated by authorities such as the Electrical Safety Authority, and the Technical Standards and Safety Authority. Typically, it is required that periodic (e.g., annual) inspections are completed as part of this type of standard.

Equipment and other codes were not graded in this report. It is highly likely that LTC would be fully compliant with this indicator. At the same time, however, LTC's ability to document compliance to this indicator is limited because configuring the maintenance software to track the status of required inspections is difficult and time-consuming. With the department intending to purchase new maintenance software, it is recommended that LTC documents the results of periodic inspections when the new software is implemented.

Note: This indicator also applies to Housing since it also owns facilities through Housing York.

Customer Satisfaction

This indicator is a measure of reliability. It is typically an operational measure important to program delivery, and this is how LTC has defined it. Since it is entirely focused on program aspects, results are not suitable for use in the state of infrastructure report and accordingly no grade could be assigned.

However, other organizations, including Housing, use customer or tenant surveys as a way to report on other aspects of the facility, such as appearance, comfort, condition, and so on. Engagement with the customer can be a useful means to identify issues and improve satisfaction with the services being provided. It is recommended that LTC considers expanding its survey to include information related to facility functionality as an extra source of insight into building performance.

Aesthetics

This indicator is a measure of reliability. It is difficult to define although easily understood as important to people. It can include both physical and visual attributes. Building elements that are noticeable (such as, line, shape, texture, colour, light/dark, and space) appeal directly to our senses.

Although subjective in nature, aesthetics is a useful indicator. Both aesthetics and amenities lead directly to customer (i.e., tenant or resident) satisfaction and improved marketability. Since there is no relevant customer data, aesthetics was not rated for LTC. However, because of its potential, LTC is recommended to consider it.

With respect to Housing, the first impression of how a building's aesthetic appearance can be critical to gaining and maintaining occupancy, an important consideration to CHS especially in older Housing buildings. However, Housing York currently has a 98.3 per cent occupancy rate.

Energy Footprint

This indicator is a measure of reliability. It is a well-accepted goal to reduce the energy footprint of any service or activity, including facilities, whether because of the global impact of greenhouse gas emissions or simply because of the recognition of the bottom-line contribution of energy reduction measures.

This indicator was not measured in the current state of infrastructure report despite its recognized importance. LTC staff and management would like to consider developing data for future reports.

Note: Housing York completed a major energy upgrade program in 2012 and measures its energy consumption on a continuing basis using the Region's Energy and Environmental Management System (EEMS).

Fire Safety

The scope of fire safety is recognized as more complex and comprehensive than the use of an effective but simple indicator of sprinkler coverage. Future reports are recommended to consider broader building characteristics that influence fire safety such as construction materials, fire separators, fire ratings, exits, alarms and emergency lighting, etc. Other program factors should also be considered and include safety awareness and training of both residents and staff. Ultimately, the intended outcome is the correct interpretation of conditions that pose a threat to life and property, based on code requirements and best practices that motivated owners and building managers adopt for effective methods of fire prevention and control.

Capacity

In measuring capacity, LTC focused only on the occupancy rate and use of existing beds. It did not measure the demand for the service and the supply or quantity of stock (e.g., housing or beds) on hand to meet current and future demand. These aspects of capacity were not measured because they are the responsibility of multiple levels of government, community agencies, and non-profit organizations and not the direct responsibility of the Region. However, CHS is recommended to consider service as part of asset management, at which point the supply and demand view of capacity could be included in future state of infrastructure reports. Even if demand always outstrips supply, it is a useful measure at the political and policy-setting levels.

Note: The recommendation applies equally to Housing since it also owns facilities through Housing York.

Facility Condition Index

This indicator is a measure of condition. Facility Condition Index (FCI) is an established functional indicator used to generate an overview of a facility's condition as a numerical value. The FCI is calculated as the ratio of total facility needs (repair, upgrades, etc.) to the current replacement value (the lower the ratio the better the condition of the facility).

The FCI was not graded because CHS was not able to separate financial data on the facility to include only the facility program assets. LTC is recommended to assign portions of the reserve fund to specific asset components.

9.3 Housing

Any measures or indicators in which Housing shares a common interest with either LTC or EMS (building codes, equipment and other codes, energy footprint, capacity) are not repeated here. What follows are those indicators unique to Housing that were considered and disqualified for this report.

Security Incidents and Site Access Control

This indicator is a measure of reliability. Its purpose is to reveal whether an unwanted security incident was facilitated by site or building attributes (e.g., poor lighting in remote parking lots) that could be remedied.

Although staff had no knowledge of any serious incidents having occurred, because of the extent of the properties involved and limitations in recording this type of data, it was not possible to confidently rate this indicator. Hence, an overall grade could not be assigned due to a lack of confidence in data and knowledge. To enable this indicator to be documented, Housing is recommended to evaluate their Housing locations, develop incident reporting protocols and start collecting data.

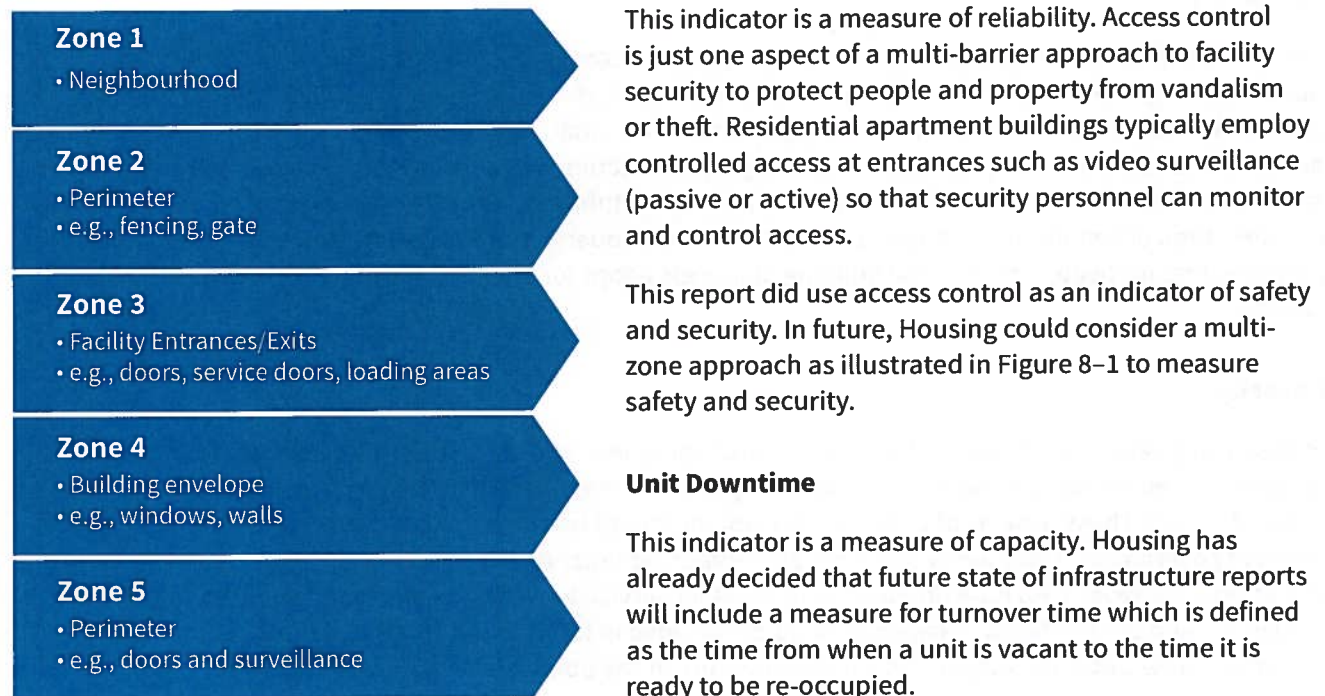


Figure 8-1 Hierarchy of Security Zones

a tenant. Although some data was available for this report, it was limited to select unit types and could not be used to reliably generate a grade.

Downtime is a controllable element which, if kept as short as possible, can contribute positively to unit occupancy rates. Housing is encouraged to develop this for future reporting.

9.4 Emergency Medical Services

In addition to considering energy footprint, the following indicators are identified for possible use in the future.

Fleet Availability

This indicator is a measure of reliability. Fleet availability is an alternative way to measure reserves. It is the average number of vehicles available for use in comparison to the total inventory (breakout by type of vehicle). Vehicle availability can be measured between the time a work order is opened and until the time the work order is closed. By adopting fleet availability as an indicator for the future, EMS would be able to determine the number of days vehicles were available by measuring downtime for maintenance and unscheduled repairs.

Capacity to Meet Future Demand

This indicator is a measure of capacity. EMS has completed a service capacity analysis to look at its needs for staffing and for EMS station locations now and into the future. EMS is recommended to use the analysis and results to develop indicators for this measure.



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