



AHS Multi-Year Health Facility Infrastructure Capital Submission 2019

June 21, 2019

Please Note: The following information is being provided to the Ministry of Health for the purpose of obtaining advice, proposals, recommendations, analyses or policy options for the Minister of Health, Treasury Board and Cabinet in relation to the Provinces' Capital Plan.

Executive Summary

The Alberta Health Services 2019 Multi-Year Health Facility Infrastructure Capital Submission describes priority major capital needs (projects over \$5 million). The following information is provided to the Ministry of Health to inform the capital funding process of the Government of Alberta. The submission:

- is mandated in the Health Facilities Capital Program Manual as a major step in the planning and project approval process and is submitted to HEALTH and INFRA on or about May 31st of each year;
- outlines the overall planning and management of health infrastructure;
- communicates the planning and capital investments needed to effectively maintain the existing asset base and modify it as needed to support service delivery strategies;
- provides the Ministers of Health and Infrastructure with the information needed to recommend appropriate future funding for health infrastructure;
- provides a rational and compelling context to Alberta Health (HEALTH) and in turn to Treasury Board and Finance, for annually assessing individual project recommendations relative to provincial capital proposals (including all the ministries' capital submissions) and priorities; and
- when possible provides a preliminary estimate of operating costs for the proposed capital investments.

The report takes into account direction from the Government of Alberta and the priorities outlined in the AHS 2017-2020 Health Plan and Business Plan supporting its key desired outcomes of:

- Improved health outcomes for all Albertans.
- The well-being of Albertans is supported through population health initiatives.
- Albertans receive care from highly skilled care providers and teams working to their full scope of practice.
- A high quality, stable, accountable and sustainable health system.

The AHS Capital Management Strategic Capital Planning team continues to work towards completing Needs Assessments or Strategic Options Analysis for all high priority initiatives identified by Zones or Provincial Programs across the province. These investigations will better inform decision-making and prioritization activities in the future and help ensure the most important projects are identified and presented to Government.

Overview of Infrastructure

1.0 Overview of Infrastructure

AHS is responsible for owning, operating, funding and leasing facilities supporting the delivery of health care. Currently, AHS utilizes in excess of 1,000 owned buildings and leased spaces (including license agreements) for direct care delivery and support services. AHS leased spaces are in both private and government owned buildings.

Most services are directly delivered by AHS in either owned or leased space. Services are also funded by AHS and provided by voluntary and private partners in AHS or non-AHS owned or leased space.

AHS also has key partnerships with universities and colleges acknowledging our shared responsibility to educate and train health professionals of the future, and support ongoing biomedical research and innovations.

As would be anticipated with a large volume of owned and leases spaces, there is wide variability in the condition and age of facilities.

1.1. AHS-Owned Space

AHS owns the majority of the area/space from which services are offered or are required to support health service delivery. The total number of AHS-owned (standalone) buildings is

approximately 500, ranging from the largest urban hospital to small rural service or maintenance buildings.

Acute care hospitals, which comprise the majority of the owned building area, are the most expensive facilities to build and operate within AHS' complement of building assets.

Across the province there are just over 300 continuing care facilities in operation, approximately one-third are owned and operated by AHS, the remaining facilities are owned and operated by private and voluntary organizations.

1.2. Shelled and Vacant Space

A number of acute sites have unfinished shelled and/or vacant space, which has been set aside for specific future development (see the following table).

Some of the spaces that have been shelled for future use have had considerable preparatory work done in anticipation of fit-out (e.g., partial mechanical/plumbing system installs, floor coring etc.). Originally proposed future uses were based on previously developed strategic facility master plans. Most of the vacant space listed below will require redevelopment.

Unfinished Shelled / Vacant Spaces		
Facility	Shelled / Vacant Space (m ²)	Proposed Future Use
Foothills Medical Centre McCaig Tower 5 th Floor	2,410 Shelled	<ul style="list-style-type: none"> Operating Theatres
Foothills Medical Centre Main Building 11 th Floor West Wing	980 Vacant	<ul style="list-style-type: none"> Inpatient or Outpatient Clinical
Foothills Medical Centre Main Building 6 th Floor West Wing	1,420 Vacant	<ul style="list-style-type: none"> Inpatient Clinical (Planning Underway for NICU Expansion)
Peter Lougheed Centre	1,785 Shelled	<ul style="list-style-type: none"> Acute Inpatient
Rockyview General Hospital	5,800 Shelled	<ul style="list-style-type: none"> Laboratory Services Ambulatory Services Facility Support Space
Richmond Road Diagnostic Treatment Centre	9,175 Vacant and Shelled	<ul style="list-style-type: none"> Administration Support Services Ambulatory Services
Calgary South Health Campus	10,500 Shelled	<ul style="list-style-type: none"> ICU Emergency Department Diagnostic Imaging Outpatient Dental Cardiac ICU Day Cardiology Surgical Suites
Red Deer Regional Health Centre	198 Shelled	<ul style="list-style-type: none"> ICU Diagnostic Imaging
Red Deer Regional Health Centre – Ambulatory Annex	81 Vacant	<ul style="list-style-type: none"> Ambulatory Expansion (potential for NAPRA Compliance)
Red Deer Regional Health Centre – Administrative Building	159 Vacant	<ul style="list-style-type: none"> Basement Level (not suitable for clinical space)

Unfinished Shelled / Vacant Spaces		
Facility	Shelled / Vacant Space (m ²)	Proposed Future Use
Chinook Regional Hospital (New Addition)	6,515 Shelled	<ul style="list-style-type: none"> Renal Dialysis Two Inpatient Units Staff Support Unassigned (Level 4 and Level 5)
Chinook Regional Hospital Level 3	1,985 Vacant	<ul style="list-style-type: none"> ICU/CCU Medical/Surgical Beds
Medicine Hat Regional Hospital	410 Shelled	<ul style="list-style-type: none"> Diagnostic Imaging
Medicine Hat Regional Hospital – Level 3	2,048 Vacant	<ul style="list-style-type: none"> Unassigned
Medicine Hat Regional Hospital – Level 6	1,244 Vacant	<ul style="list-style-type: none"> Mental Health Inpatient
Alberta Hospital Edmonton (Building 12)	2,110 Vacant	<ul style="list-style-type: none"> Addictions and Mental Health Inpatient Units
Edson Healthcare Centre	360 Shelled	<ul style="list-style-type: none"> Linen Services Building Support Services
Strathcona Community Hospital	50 Shelled	<ul style="list-style-type: none"> Diagnostic Imaging (MRI)
Fort Saskatchewan Community Hospital	215 Shelled	<ul style="list-style-type: none"> Administrative Off Site/Outpatient Community Programs
Kaye Edmonton Clinic	8,000 Shelled	<ul style="list-style-type: none"> Ambulatory Clinics
Mazankowski Alberta Heart Institute	1,730 Shelled	<ul style="list-style-type: none"> Cardiac Services

1.3 Leased Space

AHS presently manages a portfolio of over 300 leases with an annual operating budget of approximately 90 million dollars. This value considers the rental of the space itself and related operating costs (i.e. systems maintenance, custodial and utilities).

The primary groups that occupy the leased spaces include:

- Acute Care (including Cancer Care)
- Urgent Care
- Public Health and Community Care
- Corporate Services
- Continuing Care
- Addiction and Mental Health
- Emergency Medical Services (EMS)

Strategic lease management is an essential asset strategy when flexibility is required regarding service location, the need to meet increasing demand or where expediency is critical.

Internal capital funds are required to complete leasehold improvements or alternatively AHS Real Estate negotiates an allowance in the lease that provides the required capital; however this can increase the lease operating budget as the capital is amortized over the lease term. Either scenario requires an additional funding source.

1.4 Asset Divestiture Plan

AHS owns a large inventory of assets; however a number of properties have become surplus to its requirements. Not all owned lands and buildings have a strategic value in the long-

term. AHS is completing the required due diligence to assess the needs, condition and value of these properties.

AHS may sell surplus properties subject to approval from the Minister of Health. AHS is required to obtain an independent appraisal of fair market value (FMV) of the property. Properties must be sold for FMV unless the property will be used for the ongoing benefit of other government agencies. The AHS Real Estate land disposal process can create issues for timely, effective handling of land disposal projects. The process for disposal includes: Senior Executive Sponsorship, Government of Alberta (GoA) approval, property condition assessment, appraisal, marketing, sale documentation and closing. Subject to GoA approval, AHS can proceed with the process.

All transactions in land are subject to legislation (Regional Health Authorities Regulation – AR 15/95) that requires AHS to:

- Obtain the Minister of Health's approval (Section 2.6).
- Receive fair value for the transaction (Section 2.71(1). Less than fair market value can be received where "the property will be used for the ongoing benefit of residents of the health region."

The proceeds from the sale of an interest in land can result in one of the three outcomes below:

- proceeds from the sale are deposited in the AHS account;
- the funds are treated as 'general revenue' by AHS; or
- land is transferred for a nominal sum and there are no proceeds.

AHS is in the process of performing due diligence on a number of properties which are likely to be surplus to the long-term needs of the delivery of health care. Currently, AHS has a number of sites that are under contract and follow a government approved process for disposition. Anticipated timing for this process is approximately 12 to 18 months per transaction. AHS will spend approximately \$300,000 in required due diligence (e.g., appraisals, environmental assessments etc.) to complete the transactions. This estimated expense does not consider the cost of demolition. The list of sites for disposition is included below.

North Zone

- Clear Hills County vacant land
- Fort Vermillion Staff Housing property
- Edson Community Health Services property
- Former High Prairie Health Complex property (minus AHS residential property)
- Hythe residential vacant land

Edmonton Zone

- Edmonton Recruitment House property

Central Zone

- Valley Park Manor, Red Deer
- Eckville vacant lands

The following sites are under active contract to be transferred and/or sold:

Central Zone

- Red Deer Nursing Home property
- Drayton Valley Condo Unit (Horizon Village)

South Zone

- Taber Health Unit

1.5 Infrastructure Maintenance Program

The Infrastructure Maintenance Program (IMP) is a Government funding source for projects with a value less than \$5 million. This ongoing program is intended for the planned repair, maintenance and renewal of health facilities and plays a critical role in preserving AHS owned assets. Capital Management works directly with zone leadership to develop a rolling three-year plan for IMP projects according to an allocation formula. The plan is then submitted to INFRA and HEALTH for review and support.

The Government of Alberta 2018-2023 Fiscal Plan (March 16, 2017) identifies Health Care Facilities – Capital Maintenance and Renewal allocations as follows:

- \$130.5 million 2018-2019 (estimate)
- \$108.9 million 2019-2020 (target)
- \$110.4 million 2020-2021 (target)
- \$185.0 million 2021-2022 (target)
- \$165.0 million 2022-2023 (target)

A consistent annual allocation of IMP funds is essential in allowing AHS to adequately plan and address ongoing asset maintenance and renewal. Based on current known requirements and AHS project management capacity, an annual allocation in the range of \$140 million per year is required.

The three-year rolling IMP plan anticipates spending the full amount available to AHS from the Capital Maintenance and Renewal funding on an annual basis. Over the past few years AHS Project Management has increased its capacity and ability to utilize all of the funding, for example in 2018-19 fiscal year AHS

Project Management had approximately 725 active IMP projects, with an average monthly expenditure of \$13 million dollars.

Typical areas of focus for IMP spending in the upcoming years include:

- building and staff security system upgrades and replacements;
- electrical system upgrades and replacements;
- mechanical systems upgrades and replacements;
- exterior building and roof repairs or upgrades;
- life safety systems (fire alarm, nurse call etc.) upgrades and replacements;
- interior finishes upgrades and replacements; and/or
- minor functional projects.

The multi-year project list is subject to adjustments as issues and priorities emerge.

Capital Submission Priorities

2.0 Capital Submission Priorities

The following table identifies the top priorities for the 2019 submission, the submission history, current documentation status and potential next steps.

Project	Previously Requested	Documentation Status		Next Steps
		Needs Assessment	Business Case	
Glenrose Rehabilitation Hospital - Energy Centre Services the entire campus – Royal Alexandra Hospital, Capital Care Norwood, Glenrose Rehabilitation Hospital, new CAMH, and additional RAH redevelopment.	Yes	No	Yes	Design
Provincial Sterile Instrument / Medical Device Reprocessing Upgrades Phase 1	Yes	Yes	Yes	Design
Lethbridge Chinook Regional Hospital Inpatient Unit Fit-Out	Yes	N/A	N/A	Design
Peter Lougheed Centre Emergency Department, Laboratory Development, and Mental Health Short Stay Unit / ICU	Yes	Yes	Yes	Design
Rockyview Hospital Fit-Out for Intensive Care Unit and Coronary Care Unit	Yes	Yes	Yes	Functional Program pending
Calgary Cyclotron	Yes	Yes	Yes	Design
University of Alberta Hospital (Walter Mackenzie Health Sciences Centre) Brain Centre (Phased Neuro ICU)	Yes	Yes	Yes	Functional Program underway
Red Deer Regional Health Centre Redevelopment and Expansion	Yes	Yes	No	Business Case
Northern Alberta Laboratory Infrastructure Project	No	No	No	Needs Assessment
Provincial Surgery Access Plan	No	No	No	Needs Assessment

Note: the projects are not listed in priority order.

In addition to the top priorities listed above, it should be acknowledged that there is demand for other capital projects which are not included on the 2019 top priority list. These projects are identified in **Appendix A - Potential Future Major Capital Projects** and highlight the ongoing need for enhanced infrastructure to ensure standards of patient care and patient safety are met.

2.1 Approved Capital Project Priorities

Previously approved projects are not included in this document. However, following table identifies a number of projects that have funding approval but have not yet proceeded to construction. These projects remain of critical importance to AHS.

Project Name	Phase
New Edmonton Hospital	Planning
Royal Alexandra Hospital – Child and Adolescent Mental Health (CAMH)	Design
Bridgeland Complex Continuing Care Facility (Calgary)	Design
Misericordia Community Hospital Emergency Department	Design
Provincial Pharmacy Central Drug Production and Distribution Centre	Planning
Provincial Sterile Instrument / Medical Device Reprocessing Upgrades Phase 1 - Red Deer and Peter Lougheed Centre (other Phase 1 sites remain unapproved)	Planning
Climate Leadership Plan Foothills Medical Centre Power Plant Redevelopment (co-generation initiative)	Design
Foothills Medical Centre Urgent Power Plant Capacity	Design
Misericordia Hospital – Planning - Covenant	Planning
Royal Alexandra Hospital - Planning	Planning
Red Deer Health Capital Planning	Planning
Foothills Medical Centre – NICU (Foundation supported project – approved for functional programming)	Planning
Rockyview General Hospital GI Clinic Expansion (Foundation supported project – approved for functional programming)	Planning

For a full list of the previously approved projects (including those listed above and those approved for planning only), refer to **Appendix B - Approved / Active Major Capital Projects** (i.e., Calgary Cancer Project, New Edmonton Hospital etc.).

2.2 Priority Project Descriptions

2.2.1 Glenrose Rehabilitation Hospital Energy Centre

Project Description / Scope of Work:

Upgrade of the Glenrose Rehabilitation Hospital Energy Centre to meet the increased demand of the expanded and redeveloped RAH/Glenrose/Norwood Campus. The scope of work will include expansion of the Energy Centre to about 4,000 square meters (from 1,942 square meters), additional and upgraded equipment and changes or enhancements to delivery piping, conduits and tunnels.

Rationale for Project:

The Energy Centre was built in 1986 with an upgrade and expansion in 2009. The uninterrupted power supply (UPS) is well beyond its 20 years of service life and the boiler equipment has also reached its load capacity for steam generation and delivery. There is no physical room for expansion and much of the equipment is beyond its useful life. The redevelopment of the campus, including Capital Care Norwood, and the added Northern Alberta Centre for Child & Adolescent Mental Health (CAMH) is dependent on an upgraded and expanded Energy Centre.

Inclusion of electrical co-generation on the RAH/Glenrose/Norwood Campus will reduce energy costs dramatically. The Business Case projects approximate annual operating costs savings of \$2 million per year for 2021 increasing up to \$3.9 million per year by 2037 when full campus buildout is achieved.

Capital Project Cost Estimate:

Costing for the proposed Energy Centre Redevelopment, including co-generation capacity is estimated at \$96 million (based on the 2017 Business Case).

Operating Expenditure Impact:

Facility Maintenance and Engineering operational costs will be minimal with no additional staff required.

Current Status of Project: Business Case completed November 2017.

2.2.2 Provincial Sterile Instrument / Medical Device Reprocessing Upgrades - Phase 1

Project Description / Scope of Work:

AHS has completed a high level review of all Medical Device Reprocessing (MDR) sites in the province to assess compliance with Provincial Infection Prevention Control Standards. The reviews consider operational issues, equipment and infrastructure requirements. Phase 1 represents the eight highest priority sites requiring remediation.

Rationale for Project:

MDR services occur in over 100 AHS facilities and in more than 300 areas within various AHS sites. Reprocessing includes all the steps necessary to make a contaminated reusable medical device ready for its next intended use. MDR is an essential service, supporting patient safety, and directly impacts the prevention of transmission of infections from reusable medical devices used in the delivery of health care.

Accreditation Canada has established standards for Reprocessing and Sterilization of Reusable Medical Devices; many AHS sites have been identified as deficient in past Accreditation surveys.

Capital Project Cost Estimate:

Preliminary cost estimates were based on initial consultant reviews completed between 2012 and 2016. These cost estimates have been refined following Functional Programming and will continue to be updated during the design and pre-construction phases.

Operating Expenditure Impact:

The impact on operating costs will vary by site and is identified in the site specific consultant reports. There will be a marginal reduction in maintenance costs as obsolete, more problematic equipment is replaced. The opportunity to streamline MDR services on a Zone or Provincial basis may be available as the site reviews continue and smaller sites are studied.

Current Status of Project:

A province wide consultant review has been completed for all MDR sites in the province and will inform subsequent phases and future requests.

The current status of Phase 1 MDR Upgrades is as follows:

- Two of the eight sites (Cold Lake Healthcare Centre and Lac LaBiche Healthcare Centre) are being implemented by AHS Project Management with IMP funding.
- Budget 2018, announced full funding of two Phase 1 MDR sites; Red Deer Regional Health Centre (RDRHC) and Peter Lougheed Centre (PLC) in Calgary.
- Functional Programming is now complete for five of the six sites, with the Foothills Medical Centre site deferred to 2020.
- Six Phase I MDR sites will proceed to design with Alberta Infrastructure taking the lead. Project cost estimates for five of the six sites were updated following Functional Programming and are currently being reviewed prior to initiating design.
- Four sites remain unfunded: Northern Lights Regional Health Centre, Westlock Health Centre, Sturgeon Community Hospital and Foothills Medical Centre

2.2.3 Lethbridge Chinook Regional Hospital Inpatient Unit Fit-Out

Project Description / Scope of Work:

Fit out of one of the two shelled-in 32 bed Inpatient Units to help address existing and future bed capacity demands.

Rationale for Project:

Previous planning data identified that the Chinook Regional Hospital would be short beds by 2010. In 2011 a review of bed needs validated and confirmed an additional 30 beds would be required upon opening of the New Addition and this was shown to be the case. Current bed needs continue to validate the need for additional capacity.

Capital Project Cost Estimate:

The cost to fit out one 32 bed inpatient unit was previously estimated at approximately \$16 million. An update of the capital costs should be undertaken. It would take about 18 to 24 months to complete this project.

Operating Expenditure Impact:

The annual operating costs for the new 32 bed inpatient unit are estimated at approximately \$10 million.

Current Status of Project:

The 32-bed inpatient units intended for the shelled in space in the New Addition were included in functional programming as part of the Major Capital Project scope. The fit out of the proposed 32-bed inpatient unit can proceed into design upon funding approval.

2.2.4 Peter Lougheed Centre Emergency Department, Laboratory Development, Mental Health Short Stay Unit, and Psychiatric ICU

Project Description / Scope of Work:

The Peter Lougheed Centre (PLC) East Wing expansion project was separated into four phases; two of the four phases were completed in 2010 with the funding available. Future incomplete phases envisioned expansion of the busiest Emergency Department (ED) in Calgary and reallocation of existing Lab space to the 6th floor. The ED expansion includes planning for a Mental Health Short Stay Unit, a Psychiatric ICU, and the downstream impacted areas of Minor Surgery and Women's Health.

Rationale for Project:

Both the PLC ED and Lab spaces are insufficient to support current patient volumes and the infrastructure does not meet current standards in terms of Infection Prevention and Control (IPC), and Occupational Health and Safety. Upgrades to both the ED and the Lab space are required for staff to have a more efficient work space that can flexibly respond to the changing needs for both departments. The development of the new Mental Health Short Stay Unit will better support mental health patients with close proximity to the ED. The vacated existing Mental Health Short Stay unit will be redeveloped as the first Psychiatric ICU in the Zone which will add new capacity that is urgently needed.

Capital Project Cost Estimate:

2018 Functional Programming estimated the capital costs to be \$94 million.

Operating Expenditure Impact:

For the new spaces and program expansions, the estimated increase in incremental operating costs is \$70 million which includes contingencies. One time transition costs are estimated at \$12 million.

Current Status of Project: The project has been identified since the Master Plan completion in 2005. A Needs Assessment and Business Case equivalent have been completed. Functional programming was completed in December 2018. The tender process for design consultants is underway.

2.2.5 Rockyview General Hospital Fit-Out Shelled Space for Intensive Care Unit and Coronary Care Unit

Project Description / Scope of Work:

Development of the entire fifth floor of the south addition of Rockyview General Hospital (RGH) for a new 28-bed combined Intensive Care Unit (ICU) and Coronary Care Unit (CCU) unit. The new unit would provide enhanced space for patients, families and staff in terms of meeting standards and guidelines and providing infrastructure to support best patient care. Only 20 beds would be operationalized at this time.

Rationale for Project:

The unit has not had any major upgrades or renovations for 35 years and cannot accommodate emerging technologies, new equipment or support new methodologies in patient care delivery. There are issues related to IPC standards, storage and space. All exterior windows to the existing unit were blocked with the construction of the South Addition in 2009. The loss of natural light has had an impact on patient care and family/staff satisfaction. The intent to operate in situ was only to be temporary. As a result, there are building code issues associated with the current configuration.

Capital Project Cost Estimate:

The Project Overview Report (September 2017) estimated the cost at \$42.15 million.

Operating Expenditure Impact:

Based on the current ICU/CCU activity, the estimated full operating costs for seventeen beds (ten ICU, seven CCU) is \$24.4 million which includes a contingency of ten percent. The

intent is to continue to staff and operate the new unit within their current funding levels for 17 beds. The 3 additional beds will be used as swing beds in high occupancy times. There will be a one-time incremental cost expected to be incurred and estimated at \$0.61 million.

Current Status of Project:

The project was identified in the RGH Master Plan completed in 2005. A Needs Assessment was completed in May 2013 followed by a Project Overview Report completed in September 2017. The Functional Programming is set to begin in late spring 2019.

2.2.6 Calgary Cyclotron

Project Description / Scope of Work:

The development and operation of a cyclotron and radiopharmaceutical production facility in Calgary is recommended.

Three alternative sites for the proposed facility at or near Foothills Medical Centre (FMC) are reviewed in the Business Case (2014). Proximity is critical as radiopharmaceuticals decay during transport. A location immediately west of the FMC Special Services Building is the preferred alternative because it offers the best integration and most efficient delivery of radiopharmaceuticals to FMC facilities.

The project would be designed to provide the functionality and space needs as described in the Calgary Cancer Project Functional Program (June 2014) Section 5.7.1.

Rationale for Project:

The proposed project would enable an expansion of Positron Emission Tomography (PET) scanning capacity in Southern Alberta and continuity of Single Photon (SPECT) imaging. These valuable diagnostic tools will see increasing demand due to demographic trends. Patient experience will be improved by eliminating service disruptions caused by inconsistent radiopharmaceutical supply to Southern Alberta, and offering access to additional PET/SPECT imaging opportunities due to development and production of a broader scope of isotopes and radiopharmaceuticals.

Capital Project Cost Estimate:

The estimated capital cost for the recommended development option at the FMC site was \$36.3 million as determined in the Business Case completed in October 2014.

Operating Expenditure Impact:

At the time of the writing of the Business Case, partial operation of the Calgary Cyclotron facility was projected for the 2019/2020 fiscal year. There would be a ramp up period for the proposed facility. Annual costs were projected at \$5.7 million for the first full year of operations (2020/2021), reaching \$6.3 million in fiscal year 2025/2026, and \$6.800 million in fiscal year 2030/2031.

Current Status of Project:

A Business Case was completed in October 2014.

2.2.7 University of Alberta Hospital (Walter C. Mackenzie Health Sciences Centre) Brain Centre (Neuro ICU)

Project Description / Scope of Work:

The overall development of a clearly-recognizable Brain Centre at the University of Alberta Hospital (UAH) will provide space upgraded to current patient care practices and safety standards, improve operational efficiencies and provide additional beds for the neurosciences program in the Edmonton Zone. The Neuro ICU will be 20-24 private bed ICU with an in-unit CT suite. The project will provide sufficient program space to support patient, family and staff needs consistent with current models of care.

Rationale for Project:

The existing 10 bed Neuro ICU became operational in 1985 and provides a combination of intensive care and rehabilitation support but has not been renovated in the past 30 years resulting in patient safety and care challenges. The existing unit is a fully open ward that does not meet current critical care nor healthcare facilities standards.

The preferred development approach for the new Neuro ICU recommends creating a 20-24 bed Neuro ICU unit on Level complete with single patient rooms and a CT suite integrated within the unit. The location will support in-room rehab and aligns with the long-term vision for the site. A necessary prerequisite to this development is to relocate other inpatient beds and non-acute offices and clinics to shelled areas of the Mazankowski Alberta Heart Institute and the Kaye Edmonton Clinic. The preparatory work improves aging infrastructure and enables use of existing underutilized space consistent with development plans for the site.

Capital Project Cost Estimate:

INFRA estimates a capital project cost of \$212 million.

The University of Alberta Hospital Foundation (UAHF) continues to view the Brain Centre as a top fundraising priority and has raised over \$46 million to date for various neuroscience projects including an Inter-operative MRI Surgical Suite, Advanced Imaging and Gamma Knife Centre, Neurovascular Interventional Suite and Stroke Ambulance Pilot Project. The foundation remains committed to supporting this initiative contingent upon government funding contributions by donating \$12 million toward this project, and choosing a development approach that positively contributes toward the long-term vision.

Operating Expenditure Impact:

The 2018 Business Case identified that based on an increase from 10 to 24 ICU beds a \$37.2 million increase in annual operating cost is projected.

Current Status of Project:

The Brain Centre and the Neuro ICU project has been identified since the UAH Master Plan since 2000 and reconfirmed through long-term master planning updates in 2016. A Health Economics Assessment and Needs Assessment for the Brain Centre were completed. A Business Case for the 20-24 Neuro ICU Phase was completed in December 2018 and Functional Programming is ongoing.

2.2.8 Red Deer Regional Health Centre Redevelopment and Expansion

Project Description / Scope of Work: The Red Deer Regional Hospital Centre (RDRHC) Master Plan 2014 identified the need for additional inpatient bed capacity at the site. The Master Plan recommended the construction of a new inpatient tower and simultaneous expansion of supporting services to meet short and medium-term service demands. In December 2015, a Needs Assessment was completed validating the Master Plan. A refresh of the Needs Assessment is complete and has been submitted to Alberta Health. A Clinical Service Plan is nearing completion.

Rationale for Project: There are a number of key factors identified by the RDRHC Needs Assessment supporting the need for near-term expansion and redevelopment. RDRHC is currently not meeting AHS performance measure targets for emergency room wait times, length of stay, and also has longer wait times for surgical procedures. Medical beds have been consistently operating well over 100% occupancy for a number years. RDRHC is experiencing significant growth in acuity as its role as a regional referral centre increases. Tertiary services in Calgary and Edmonton refer patients sooner to RDRHC after treatment also increasing inpatient demand at the site.

Capital Project Cost Estimate: To be confirmed.

Operating Expenditure Impact: To be confirmed.

Current Status of Project:

The original Needs Assessment submitted in 2015, an updated Needs Assessment was completed in 2018, this later document incorporated initiatives identified in the Zone Health Care Plan developed for the Zone. A Clinical Service Plan is nearing completion. Budget 2018 included one million dollars for “Red Deer Health Capital Planning”, it is anticipated these funds will be used initially to advance the Business Case.

2.2.9 Northern Alberta Laboratory Infrastructure Project

Project Description / Scope of Work:

To be determined.

Rationale for Project:

There is documented need to invest in new laboratory facilities, particularly in Edmonton, northern, and central Alberta. The labs at the University of Alberta hospital are over extended with significant space constraints that prevent optimum operations. The College of Physicians and Surgeons of Alberta, which accredits all lab spaces, has flagged Edmonton lab space issues since 2011. There is a significant risk to quality as a result of inadequate space and infrastructure.

Capital Project Cost Estimate:

To be determined.

Operating Expenditure Impact:

To be determined.

Current Status of Project:

A new Needs Assessment reflecting the modified scope of work will be required.

2.2.10 Provincial Surgery Access Plan

Project Description / Scope of Work:

The Provincial Surgery Access Plan project involves a multi-faceted approach with investments both in operations and capital assets. The project will address surgical wait times by increasing resources to meet demand including but not limited to extending operating hours, centralizing referral pathways, modifying referral and OR booking processes. Capital investments will include fitting out shelled OR capacity, adding new OR capacity, enhancing / converting OR technology by implementing digital ORs. To accommodate additional capacity it will require building systems upgrades, increased pre/post-op requirements, inpatient bed increased capacity, ICU capacity, outpatient pre/post-op clinic capacity and clinical support services (MDR, Lab, Pharmacy, DI, Environmental Services, etc.).

Rationale for Project:

Albertans need access to high quality surgical services for life, limb and vision-saving intervention. Surgery is critical to improve quality of life by restoring health, alleviating pain and improving function and independence. Approximately 50% of patients in Alberta waiting for surgical interventions are waiting longer than their clinical recommended targets. To address this issue AHS has developed a framework to improve Albertans' access to surgical care. The goal is to bring wait times for all elective surgeries within four months by the end of four years.

Capital Project Cost Estimate:

High level estimates currently being developed, these will require validation through more detailed planning (Business Case).

Current Status of Project:

The five Zones, with support from the Surgical Strategic Clinical Network have developed a framework and are in the process of completing detailed plans to address surgical wait times.

2.3 Parking Structures

HEALTH legislation mandates that parking operates as an *ancillary service*, which means that no government-provided health care dollars can be used to build new parking capacity. All parking-related costs, including maintenance, major repairs, and the planning and construction of new facilities must be fully recovered through revenue collected from users of the service. Many of the parking capital projects described in this section will be funded through debt financing which will be repaid through parking fees.

AHS builds and upgrades structures to meet safer parking standards as well as encourages transportation demand management measures such as ride sharing and alternate modes of transportation, but recognizes that parking remains essential for most patients and staff. AHS is committed to providing parking services that are sustainable, effective, and efficient for all.

The table below summarizes ongoing or pending parking initiatives.

Location	Number of Stalls	Estimated Cost (\$M)	Comments
New Grande Prairie Regional Hospital Parkade	1,100	\$36	Construction of the above ground parkade and connecting pedway began in early 2018. The project will be 100% funded from the Parking Infrastructure Reserve (PIR). Completion in fall of 2019.
Foothills Medical Centre Lot 1 Replacement	2,030	\$75	Construction is complete and the parkade is in partial operation (75%) as deficiencies are addressed. Full capacity is anticipated in fall 2019. Design work was funded from the PIR while the construction was debt financed.
Calgary Cancer Centre Project	1,650	\$157	Calgary Cancer Centre is being constructed on FMC Lot 7 and requires 1650 underground parking stalls. Construction will be funded through debt financing.
Alberta Children's Hospital	503	\$15.5	Expansion of the above ground parkade began in the fall of 2018 and is expected to be complete in the fall of 2019. The project is 100% funded from the PIR.
Royal Alexandra Hospital / Glenrose Rehabilitation Hosp.	800 not confirmed	\$35 estimate only	ELT has approved \$2M in funding from the PIR to design a parkade on the RAH campus. Design began in late 2018. AHS has not approved construction.
Edmonton General Continuing Care Centre	650	\$25	Replacement of the parkade has been approved. The project will be 100% funded from the PIR. It is anticipated construction will begin in the spring of 2019 and be completed in the fall of 2021.
Calgary Centre for Child & Adolescent Mental Health	156	\$8	Construction is expected to begin on the building in 2019. The stalls are all underground. The project will be 100% funded from the PIR.
Edmonton Centre for Child & Adolescent Mental Health	85	\$7.2	Construction start is TBD. The stalls are all underground. The project will be 100% funded from the Parking Infrastructure Reserve.
Major Repairs and Upgrades	N/A	\$8	Structural, mechanical, electrical, and architectural upgrades to existing structures and surface lots. Upgrades will be funded from the PIR and operational accounts.
Edmonton / Calgary / Lethbridge	N/A	\$6	Suicide prevention fence / screening will be added to 11 existing parkades in Edmonton, Calgary, and Lethbridge. The project will be funded from the PIR. Construction is to begin in 2019.

Conclusion

3.0 Conclusion

The Capital Submission is updated and resubmitted each year to reflect the ever-changing needs of the dynamic health system in Alberta.

The Capital Submission identifies the high priority capital projects which support AHS' strategic directions and current fiscal realities, and are aligned with the Government of Alberta's direction and priorities.

It is being provided to the Ministry of Health to aid in the development of their Health Plan for recommendations to Treasury Board and Cabinet in relation to the Province's Capital Plan.

Appendix A: Potential Future Major Capital Projects

Not in order of priority.

Zone	Project Name
South	Bassano Health Centre Redevelopment or Replacement
	Bow Island Health Centre Redevelopment
	Brooks Health Centre Redevelopment
	Cardston Hospital Facility Replacement with an Integrated Hospital / Health Centre
	Chinook Regional Hospital – Phase 2
	South Zone Inpatient Psychiatry Services Including Child and Youth
	Lethbridge (Permanent) Medical Detox and Residential Treatment Facility (35 bed)
	Medicine Hat Regional Hospital – Phase 2
	Medicine Hat Addictions & Mental Health/Community Program Services Consolidation
Calgary	Addiction and Mental Health 144 New Complex Long-Term Beds
	Alberta Children’s Hospital - Expansion Brain Health Program
	Calgary Community Health Centre Upgrade/Expansion
	Foothills Medical Centre – Cardiac Catheter Lab Renovations
	Foothills Medical Centre – Cardiac Function Clinic
	Foothills Medical Centre - Emergency Department Ambulance Bay
	Foothills Medical Centre - Integrated Stroke Treatment Unit
	Foothills Medical Centre – Medication Room Upgrade
	Foothills Medical Centre – On-call Rooms Renovation
	Foothills Medical Centre – Renal/Transplant Renovation North Tower
	Foothills Medical Centre – Renovation of 9th Floor Cardiac Clinics
	Foothills Medical Centre – Spine/Neurology Unit Expansion
	Foothills Medical Centre – Stephenson Advanced Cardiac Imaging Centre
	Foothills Medical Centre – Unit 21/22 (Mental Health) Renovation
	Foothills Medical Centre – Unit 26 Renovations

Zone	Project Name
Calgary continued	Foothills Medical Centre – Wireless Network Upgrade
	Foothills Medical Centre NICU Renovations and Expansion
	Foothills Medical Centre Surgical Capacity (McCaig OR Suite)
	Foothills Medical Centre Kitchen Redevelopment
	New North Health Campus Land Acquisition
	North Health Campus Development
	North Health Centre Development (AHS already owns the land)
	Peter Lougheed Centre – East Wing Basement Redevelopment for Staff Lockers, etc.
	Peter Lougheed Centre - West Wing (Carnet Centre) for HPTP, Day Medicine and GI Endoscopy Renovation
	Richmond Road Diagnostic Treatment Centre - Fit out of Shelled Space
	Rockyview General Hospital - Ambulatory Redevelopment (Medical Device Reprocessing, Pharmacy, Pre-admission clinic)
	Rockyview General Hospital - Fit-Out Shelled Space for Laboratory
	Rockyview General Hospital - GI/GU Expansion
	Rockyview General Hospital – Highwood Building Interim Renovations: DI / OR, Expansions, etc.
	Rockyview General Hospital – Maternal Newborn Services
	Rockyview General Hospital – Unit 45 Mental Health Relocation from Trailers
	Simulation Centre Hub – eSim Program
	South Health Campus - Women’s Pavilion
	South Health Campus Mental Health Pavilion
	Southern Alberta Forensic Psychiatry Centre Redevelopment Phase II
Strathmore District Hospital Redevelopment	
Central	Consort Hospital and Care Centre Renovation
	Coronation Hospital and Care Centre Renovation
	Innisfail Health Centre Redevelopment
	Lacombe Hospital and Care Centre Redevelopment
	Lloydminster Hospital Redevelopment
	Olds Hospital and Care Centre Redevelopment and Expansion

Zone	Project Name
Central continued	Our Lady of the Rosary Redevelopment (Castor)
	Rocky Mountain House Health Centre Replacement
	St. Joseph's General Hospital Redevelopment (Vegreville)
	St. Mary's Continuing Care Centre Redevelopment (Trochu)
	St. Mary's Hospital Emergency Department and Triage Expansion (Camrose)
	Stettler Hospital and Care Centre Redevelopment
	Sundre Hospital and Care Centre Replacement
	Three Hills Health Centre Renovation
	Wainwright Health Centre Replacement
	Wetaskiwin Hospital and Health Centre Expansion and Renovation
	Edmonton
Alberta Hospital Edmonton / Henwood Redevelopment	
Alberta Hospital Edmonton Redevelopment	
Alberta Hospital Edmonton Specialty Care Program Expansion (Schrag Pavilion)	
Edmonton Addiction and Mental Health Urgent Care Centre	
Edmonton Colorectal Screening Centre	
Edmonton General Hospital Infrastructure Stabilization and Renewal	
Edmonton North East Community Health Centre	
Glenrose Rehabilitation Hospital Redevelopment (Accessibility Improvements, Nursing Units, Aquatic Therapy)	
Grey Nun's Community Hospital - ED and Main Floor Expansion	
Grey Nun's Community Hospital – Service Relocation into Community	
Grey Nuns Vascular Surgery OR	
Mazankowski Alberta Heart Institute (MAHI) Fit Out of Shelled Space as per Master Plan	
Misericordia Community Hospital - New Bed Tower (medical and surgical beds)	
Misericordia Community Hospital and Villa Caritas Mental Health Consolidation (on main campus)	
Misericordia Community Hospital Redevelopment of Existing Treatment Centre	
Royal Alexandra Hospital Redevelopment – New Clinical Services Building, Existing Building Demolition and New Acute Care Tower	

Zone	Project Name
Edmonton continued	Royal Alexandra Hospital - Final Phase
	Stollery Children's Hospital Surgical Clinics
	Stollery Children's Hospital New Tower Development (as per Master Plan)
	Stollery Children's Hospital Cardiac Move and Beds
	Sturgeon Community Hospital – Endoscopy and Ambulatory Clinic (Phases 3 and 4 of current project) and Inpatient Bed Expansion
	Sturgeon NICU Development
	University of Alberta Hospital 18 Bed Inpatient Unit
	University of Alberta Hospital Development Phase 1 (includes KEC Expansion and new Clinical Support Building
	University of Alberta Hospital Development Phase 2 (includes new Inpatient Tower and renovations to existing WMC)
	University of Alberta Hospital Emergency Department Second Floor Redevelopment
	University of Alberta Hospital Medical Outpatient Unit Expansion
	University of Alberta Hospital Transplant Redevelopment
	Westview Redevelopment
	Youville Home Redevelopment and Renewal
North	Beaverlodge Hospital Replacement
	Bonnyville Health Centre Emergency Department and Triage Expansion
	Cold Lake Healthcare Centre Redevelopment
	Elk Point Healthcare Centre Redevelopment
	Grande Cache Healthcare Centre Redevelopment
	High Level Health Centre Expansion
	La Crete Health Facility Redevelopment
	Lac La Biche Healthcare Centre Redevelopment
	Northern Lights Regional Health Centre Redevelopment
	Peace River Primary Care Centre Consolidation
	QEII Hospital and Mackenzie Place Redevelopment, Grande Prairie
	St. Paul Healthcare Centre Redevelopment
	St. Theresa General Hospital Redevelopment Fort Vermilion

Zone	Project Name
North continued	Westlock Healthcare Centre Redevelopment
	Whitecourt Hospital Redevelopment
Province-Wide	Expand Community Residential Housing with Care and Supports for Children with Medical Complexity
	Expansion of Community Housing and Support Programs for People with Mental Illness (Edmonton and Calgary)
	Long-Term Care and Supportive Living New Builds, Refurbishment and Replacement (to 2025)
	Province-wide Medical Device/Sterile Instrument Processing Upgrades Phase 2
Seniors Health	Long-Term Care Additional Bed Capacity (Calgary Zone)
	Long-Term Care and Supportive Living Refurbishment and Replacement (Province-Wide)
Addictions and Mental Health	Increase Bed Capacity (non-acute mental health beds) Province-wide
Cancer Care	Cross Cancer Institute Main Floor, 5 th Floor and Pharmacy (pre-work to support Phase 1 Development)
	Cross Cancer Institute Phase 1 Development (includes renovations to pharmacy and vaults)
	Cross Cancer Institute Phase 2 (major renovation and expansion)
Diagnostic Imaging	Stollery Children's Hospital Pediatric Diagnostic Imaging Renovation
Alberta Public Laboratories (APL)	Calgary Based Lab Infrastructure Project (Diagnostic and Scientific Centre (DSC), Foothills Medical Centre, Provincial Laboratory for Public Health (ProvLab), etc.)
Pharmacy Services	Pharmacy NAPRA Compliance
	Medicine Hat Regional Hospital Pharmacy Renovations
Nutrition & Food Services / Linen & Enviro. Services	Laundry Modernization Phase 1 – Lethbridge and Ponoka
	Laundry Modernization Phase II - QEII Hospital, Red Deer Regional Health Centre and Northern Lights Regional Health Centre
EMS	Edmonton EMS Response Improvement Initiative
	EMS Provincial Rural Infrastructure Improvement Project
Alberta Kidney Care	Chinook Regional Hospital Renal Unit Relocation/Expansion (to shelled space in new addition)
	Edmonton Zone New 21 Station Dialysis Unit
	Olds Hospital Renal Satellite Unit Redevelopment
	Red Deer New 30 Station Satellite Unit

Appendix B: Approved / Active Major Capital Projects

	Project Name	Total Approved Funding (000)	Phase
1	Calgary Cancer Project	1,410,027 160 beds	Design and Construction
2	New Edmonton Hospital	930,000 436 beds	Planning
3	Health Capital Maintenance and Renewal (IMP)	995,173	Grant
4	Grande Prairie Regional Hospital	762,748 178 beds initially plus 64 shelled	Construction
5	Foothills Medical Centre (Calgary)	528,730 69 renovated treatment spaces	Warranty
6	Norwood Long Term Care Facility (Edmonton)	363,911 350 beds	Construction
7	Medicine Hat Regional Hospital	274,625 224 new treatment spaces and 6 ORs + 40 renovated treatment spaces	Construction
8	High Prairie Health Complex	234,020 30 acute care beds + 67 continuing care beds	Completed
9	Edson Healthcare Centre	211,568 24 acute care beds + 76 continuing care beds	Warranty
10	Royal Alexandra Hospital – Child and Adolescent Mental Health (CAMH)	200,000 101 beds	Design
11	Bridgeland Complex Continuing Care Facility (Calgary)	130,535 198 beds	Design
13	Fort McMurray Residential Facility-Based Care Centre (Willow Square)	110,000 144 beds	Construction
14	Misericordia Community Hospital Emergency Department	85,000 60,000 patient visits/year	Design
15	Provincial Pharmacy Central Drug Production and Distribution Centre	73,620	Planning
17	Stollery Children's Hospital Critical Care Program (Edmonton)	64,474 18 new beds, redevelopment of 39 existing beds.	Construction

	Project Name	Total Approved Funding (000)	Phase
18	Provincial Sterile Instrument / Medical Device Reprocessing Upgrades Phase 1 Red Deer and Peter Lougheed Centre	57,192	Planning
19	Northern Lights Regional Health Centre Repairs (Fort McMurray)	43,093	Construction
20	Lloydminster Continuing Care Centre	34,839 60 beds	Construction
21	Climate Leadership Plan Foothills Medical Centre Power Plant Redevelopment (co-generation initiative)	28,000 Generate 8 MW of power. Offset 27,000 tonnes of GHG annually.	Design
22	Foothills Medical Centre Urgent Power Plant Capacity	24,000	Design
23	Provincial Heliports	25,010	Construction
24	Richmond Road Diagnostic and Treatment Centre - Chronic Pain Centre Development (Flood Recovery)	19,400	Construction
25	Red Deer - Secure Detoxification and Residential Treatment Facility (PChAD)	9,115 (8 Beds)	Construction
26	Rockyview General Hospital Electrical Upgrade (IMP)	4,326	Construction
27	Misericordia Hospital - Planning (Edmonton) - Covenant	8,513	Planning
28	Royal Alexandra Hospital - Planning (Edmonton)	8,667	Planning
29	Peter Lougheed Centre Emergency Department, Laboratory Development, and Mental Health Short Stay Unit / ICU	4,876 - APPROVED FOR PLANNING ONLY	Planning
30	Rockyview Hospital Fit-Out for Intensive Care Unit and Coronary Care Unit	250 - APPROVED FOR PLANNING ONLY	Planning
31	Provincial Sterile Instrument / Medical Device Reprocessing Upgrades Phase 1- Fort McMurray, Sturgeon, Westlock, Foothills Medical Centre	1,778 - APPROVED FOR PLANNING ONLY	Planning
32	Red Deer Health Capital Planning	1,000	Planning
33	University of Alberta Hospital (Walter Mackenzie Health Sciences Centre) Brain Centre (Phased Neuro ICU)	12,600 - APPROVED FOR PLANNING ONLY	Planning
34	Foothills Medical Centre – NICU	0 Foundation Supported Project – APPROVED FOR PLANNING	Planning
35	Rockyview General Hospital GI Clinic Expansion	0 Foundation Supported Project – APPROVED FOR PLANNING	Planning

Appendix C: References

Alberta Health Services. *Alberta Health Services Health and Business Plan 2016-2017*. Retrieved April 2017 from: <https://www.albertahealthservices.ca/assets/about/publications/ahs-pub-health-business-plan.pdf>

Government of Alberta - Business Plan 2017-20 Health (March 16, 2017). Retrieved April 2017 from: <https://finance.alberta.ca/publications/budget/budget2017/health.pdf>

Government of Alberta - Treasury Board and Finance. Population Projection Alberta and Census Divisions 2016-2041 (June 2016). Retrieved April 2017 from: <https://open.alberta.ca/dataset/5336155/resource/509cc23c-e135-4004-b4dc-4845a12d273c>

Government of Alberta / Alberta Health Services. *Creating Connections: Alberta's Addiction and Mental Health Strategy (September 2011)*. Retrieved March 2014 from: <https://open.alberta.ca/publications/9780778583226>

Government of Alberta - *Valuing Mental Health: Report of the Alberta Mental Health Review Committee 2015*. Retrieved June 2016 from: <https://open.alberta.ca/dataset/d8413604-15d1-4f15-a979-54a97db754d4/resource/1a5e7a16-3437-428e-b51f-4ba9201767a4/download/alberta-mental-health-review-2015.pdf>

Government of Alberta *Changing Our Future: Alberta's Cancer Plan to 2030*. Retrieved May 2016 from: <http://www.health.alberta.ca/initiatives/cancer-plan.html>

Health Quality Council of Alberta - Alberta Quality Matrix for Health. Retrieved March 2014 from: https://d10k7k7mywg42z.cloudfront.net/assets/5328869d4f720a651500030b/User_Guide_R290506.pdf

Alberta Health Services. *Community and Rural Health Planning Framework*. Retrieved June 2016 from: <https://www.albertahealthservices.ca/info/page4057.aspx>