

National Socio-Economic Plan  
**CURRENT STATE**  
**WORKING GROUP SUMMARIES**

Submitted to  
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## INTRODUCTION

In October 2017, BermudaFirst was reconvened at your request with the vision of creating a National Socio-Economic Plan that shifts mindsets and behaviours, and offers every Bermudian the opportunity and path to participate equitably in our sustainable, growing economy. It was agreed that BermudaFirst would also develop an accompanying Implementation Plan that would: define outcomes and achievable goals/targets; define and prioritise key action initiatives to support Government's execution of the National Socio-Economic Plan; and define key risks and dependencies. To that end, eight working groups, comprised of a diverse group of 80+ individuals representing all sectors of Bermuda, were formed and tasked with: understanding and confirming the current state of their area of focus; defining the recommended future state of that area of focus; identifying the existing gaps between the current and future state; and prioritising key action initiatives that will address the existing gaps and create a meaningful forward movement in achieving the recommended future state.

The eight areas of focus include: economic diversification, education, infrastructure, international business, healthcare, hospitality and tourism, socio-economic foundations and technology. Using a set current state/future state methodology, each working group is supported by BermudaFirst's Working Group Strategist and one of four consulting agencies - Deloitte, Ernst & Young, KPMG and PricewaterhouseCoopers. Further, broad stakeholder engagement, across all working groups, has begun, and will continue to take place, to ensure broad input from all sectors of Bermuda. Diversity and inclusion form the foundation of BermudaFirst's approach to undertaking this initiative. The eight working groups have recently concluded the current state component of the planning process and have moved into the establishment of future state recommendations, with corresponding pathways to success.

Following please find a brief summary from each working group on its current state findings.

## **WORKING GROUP SUMMARIES**

## ECONOMIC DIVERSIFICATION

### Working Group Scope:

- ✓ Define “economic diversification” for the purposes of the National Socio-Economic Plan;
- ✓ Identify and address the road blocks and accelerators to economic diversification;
- ✓ Create an enabling environment to entrepreneurship that ensures a more diverse group of Bermudians have the opportunity to access capital and/or investment resources;
- ✓ Identify existing emerging and potentially new sectors / types of businesses that may reduce Bermuda’s dependence on international business and tourism; and
- ✓ Develop metrics for assessing potential opportunities for Bermuda.

### Introduction:

Diversifying Bermuda’s economy is essential to the sustainability, quality and longevity of the Island. In order to understand the current state of Bermuda’s economy, the Working Group, comprised of key industry stakeholders, with the support of the four consulting agencies (Deloitte, Ernst & Young, KPMG and PricewaterhouseCoopers), first defined “economic diversification” as:

- Supporting niche and developing industries in Bermuda;
- Supporting the growth of small, medium and large businesses; and
- Encouraging entrepreneurial spirit, thus creating job growth for Bermudians.

The Working Group then held a series of sessions to identify the strengths, weaknesses, opportunities, threats, accelerators and roadblocks that currently impact the ability to diversify Bermuda’s economy. More specifically:

### Accelerators:

- Legislative Speed: When it is a priority of the Government, Bermuda has the ability to develop and implement legislation faster than other jurisdictions (e.g. Digital Assets Business Act 2018).
- Concierge Services for international businesses: The concierge service that the Bermuda Business Development Agency (BDA) currently offers new international companies provides a streamlined and proactive approach to new business set up.
- Independent Authorities: the creation of independent authorities, such as the Bermuda Tourism Authority (BTA), has created far more efficient entities that show measurable success.

### Roadblocks:

- Banking system: The process of setting up new bank accounts can be very time consuming. This can lead to businesses shifting to other jurisdictions.
- Legislative reform: There is a need to focus efforts on reviewing and revising outdated legislation and ensuring it fits with the Country’s eagerness to evolve (e.g. appropriate immigration reform and 60/40 legislation changes will encourage companies from overseas to set up operations in Bermuda).

- Over-regulation/bureaucratic process: Small and medium size businesses struggle with the cost of meeting all regulatory standards. Consideration is needed to determine how regulation for these specific companies can be fit for purpose.
- Protectionism: Lack of enabling new opportunities for companies (60/40) and free flow of capital acts as a disincentive to inward investments.

#### **Strengths:**

- Access to key influencers on island: Key influencers (i.e. politicians, private sector business leaders, government employees, etc.) make themselves or their colleagues available to meet with potential investors and other professionals.
- City of Hamilton: The size of the City of Hamilton makes conducting business easier because resources are concentrated and readily available to support new and established businesses.
- Increased entrepreneurship: Although born out of necessity (job loss, un/under employment), there is an increase in local entrepreneurship, which in turn, can result in additional job creation.

#### **Weaknesses:**

- Debt burden: The current debt burden is unsustainable and puts the long term financial stability of the Island at risk. Additionally, it limits the investment options for Government.
- Immigration reform: Bermuda's population and talent pool are decreasing, which could potentially compromise economic growth. Developing a plan and legislation that attracts international talent is essential.
- Legislation drafting process: Unless identified as a Governmental priority, the legislative drafting process is often too slow and does not leverage volunteered assistance. This can lead to growth initiatives withering on the vine without the right legislative support.

#### **Opportunities:**

- Opportunities to support emerging industries: Growth of new sectors and industries (e.g. gaming and blockchain/crypto currency) could yield additional streams of individuals, technology and techniques, and income to the Island.
- Blue Economy Initiative: As an emerging leader in ocean risk science, Bermuda can engage the insurance market which may lead to additional jobs, develop its blue economy, enhance and create a greater awareness of environmental matters and help create new insurance markets for the benefit of the insurance sector.
- Renewable Energy: Supporting solar companies and other renewable energy sources can reduce the Island's carbon footprint, increase the sustainability of the Island and potentially put the Island on a global platform as being an environmentally friendly/ eco-tourism island (similar to Costa Rica).
- Concierge Services for local businesses: Establishing a concierge service, such as what the BDA currently provides to new international companies, would assist in removing existing roadblocks for local entrepreneurs and others, and will create efficiency for potential business owners (local and international)
- Drafting Legislation: Utilising private sector law firms to draft legislation with guidance from the Attorney General's Chambers will increase the volume of legislation developed or modified, improve speed to market and increase competitiveness.

**Threats:**

- US Tax Reform: These changes impact the financial services industry and attractiveness of Bermuda as a jurisdiction.
- Lack of clarity on the impact of Brexit: Solvency II equivalence can be impacted by Brexit.
- Cybersecurity threats, Paradise Papers: A global risk, ineffective data protection can impact Bermuda's reputation and expose the jurisdiction and local companies to litigation.
- CFATF: Successful evaluation of Bermuda with regard to CFATF is essential in order to avoid being placed on the EU Blacklist.

**Next Steps:**

As this Working Group moves into the Future State phase of planning, it will continue to identify and review existing and potential new economic diversification opportunities for Bermuda and, as importantly, identify those actions/initiative that will accelerate the creation of an enabling environment to entrepreneurship as stated within the scope above.

## EDUCATION

### Working Group Scope:

- ✓ A thorough review and assessment of existing data and strategic plans, including the Education Plan 2018 - 2022 , student performance and teacher effectiveness;
- ✓ Ensure a holistic, coordinated approach to public education from Pre-K to College that utilises global standards;
- ✓ Provide recommendations to support training for persons who are not employed, but are employable, and those who are underemployed. In addition, develop recommendations for that segment of our labour force whose skills do not enable employment in traditional roles;
- ✓ Develop a framework for the oversight and coordination of all service providers who deliver workforce training in our community including the public, private and charitable sectors, to avoid duplication and enhance effectiveness;
- ✓ Create a framework for the re-branding and restructuring of the Workforce Development Department; and
- ✓ Ensure that all working group recommendations for education and training programmes are embedded in our education future state summary.

### Introduction:

The Education Working Group (“the Group”) has assessed, the current state of Bermuda’s private and public education, as well as the current state of the Department of Workforce Development. The education and training of Bermuda’s population is essential to our economy and social foundations. The Group have endeavored through this document to capture the current state in key areas where improvement will move our country forward.

There are areas where further information or investigation is required; however, this summary provides an overview of the Group’s findings to date. It is important to note that in some instances the data is not in a form and/or format that can be readily manipulated and used to answer key questions. Data on teacher performance is one example of this. Teacher performance data is collected at the school level and provided to the Ministry of Education. This data is not available in a data base for the entire public education system so that holistic analysis and comparisons of the data can be made.

Additionally, in some instances the data is not recent (within the last two years). Although, the Zero to Three Report on early childhood education was generated in 2015, some of the data used within the report is from the 2010 census and older documents. Moreover, there is no updated data to identify which of the recommendations were adopted. Lastly, there is limited data captured by the Ministry of Education on the private schools, inclusive of homeschools.

These challenges are a key observation of our current state. Despite the data issues, this working group, has compiled a current state report that we hope will inform other working groups, BermudaFirst Executive and the Government of Bermuda.

### Objective:

The Current State objective was to understand the various aspects of Bermuda’s education system (inclusive of Bermuda College and private schools), as well as the Department of Workforce Development, in order to formulate an assessment and identify priorities. The ultimate objective of the Group is to identify the Future State for Bermuda’s education and training of the local workforce and develop an implementation plan for the achievement of the future state.

### Summary of Current State Challenges/Issues prioritised:

Priorities were developed in relation to the following key categories:

1. Perceptions of Bermuda Education - A review of the Bermuda Community Foundation's report titled Vital Signs, revealed the following perceptions of education in Bermuda. The public schools, rated fair or poor and the private schools are rated good or excellent. Opinions are more divided on whether the public school system adequately prepares students for post-secondary education and whether teachers are held accountable for their class performance. The Group conducted a survey of working group members across all working groups. Similar to the Vital Signs report, respondents had a poor view of the public education system inclusive of Bermuda College and a positive view of private schools in Bermuda.
2. Public Education Pre-School – S4 – The following information reflects the top three areas of priority for improvement of the public education system and learning outcomes including:
  - a. *Effectiveness of School Staff* - Many job descriptions and performance appraisal tools for school staff are antiquated. Some roles within the public school system cases have no performance appraisal tool. As a result, it is very difficult to hold staff accountable for doing their jobs and for performing them well. There are a notable number of school staff who do not have the qualifications to match the positions they currently hold. Moreover, Department of Education staff set their own objectives; they are not measured against common performance standards. There are no systems or processes in place for adequately measuring and determining the effectiveness of the Department of Education, schools and school staff. The one group that has a current, research based, rigorous performance appraisal tool is school principals
  - b. *Student Performance* - All students in the Bermuda Public School System are expected to meet targets set for english, mathematics and science. The majority of students are not meeting the expected targets for all three areas from primary to senior school. Of particular concern is student performance in mathematics. This has now become a national concern. It should be noted that excellent performance in mathematics is often tied to high levels of literacy in the areas of reading and comprehension. There are no system targets set for reading. In cases where students are assessed for reading (only at specific grade levels), the majority of students are not reading at grade level.
  - c. *Mental Health Concerns* - School staff, from the preschool level to the senior level, have concerns about the mental health of students. There are insufficient site-based staff to deal with the number of students with presenting behaviors. Further, when students are referred for external services, the service providers are overwhelmed and do not have the capacity to respond or in cases when they do respond, they are unable to sustain services.
3. Private Education
  - a. *Lack of Data* - Limited data is collected and utilised by the Ministry of Education regarding local private schools, inclusive of Home Schools, to ascertain the health of the entire school system.
  - b. *Student Selection* - Private schools in Bermuda are able to select the students that they will accept and expel students when needed. In some instances, expelled students are placed in the Public Education System. Similarly, some students that are not accepted by private schools are enrolled in the Public School System.

4. Home Schools - There is a dearth of available information at a national level regarding home schools from the perspective of: teacher/staff training and student performance. Home schools are currently not regulated.
5. International Standards and Assessments - Private schools such as Bermuda High School for Girls, Mount St. Agnes Academy, Saltus Grammar School, Somersfield Academy and Warwick Academy, align themselves with internationally recognised standards and all utilise some form of international assessments for their students. Some utilise the IGCSE, A levels, Advanced Placement and International Baccalaureate curriculum and assessment tools.
6. Bermuda College
  - a. *Declining Enrolment* - Declining enrolment is the number one issue currently facing Bermuda College. Bermuda College enrolment has declined by approximately 30% since 2014. The decline in enrolment is highly correlated with the cost of tuition and the availability of student financial aid. Although Bermuda College has been fully accredited since 2010 and has several transfer agreements with more than 20 overseas institutions, many students and their parents are still electing to by-pass Bermuda College and go directly overseas.
  - b. *PACE* - Another factor impacting the enrolment at the College is the small number of training contracts with industry. Most of the training contracts within the Professional and Career Education (PACE) Division are with Government Departments and agencies. Of the 91 employers surveyed in 2017 only 30% of respondents had used the College for training in the past 5 years and none of the respondents from the international business sector had used the services of Bermuda College.
7. An Aging Workforce - Twenty-two (22) or 19% of employees at the Bermuda College are over the age of 60 years and eligible for retirement. Nine (9) of these individuals are faculty members and two (2) are academic administrators. Although there may be a loss of institutional memory and knowledge, this also presents an opportunity for fresh ideas and innovation.
8. Revenue Decrease (Challenges) – The decrease of seventy-seven percent (77%) in the College’s operating budget comes from its consistently decreased Government grant, which has been decreased by 40% or \$4 million since 2010. This is also a concern for the College’s accreditors.
9. Aging infrastructure - Less than \$2 million has been made available for capital funding over the past 10 years (\$1,350,000). In the last two years, the College used funds received from its operating grant to complete capital projects. Very little preventive maintenance has been undertaken and many buildings on the Campus are in need of an upgrade.
10. Department of Workforce Development
  - a. *Sourcing Employees* - A recent issue focuses on the growing industries (such as construction) that are unable to source the volume of human capital needed to satisfy their human resource requirements.
  - b. *Lack of a Living Wage* - Many barriers exist for individuals preventing them from being successful in their attempt to secure viable methods of sustaining a promising livelihood. The absence of a ‘livable wage’ structure is a barrier for clients of the Department of Workforce Development. It

has been proven to be more economically sound for job searchers to obtain financial assistance from the Government in order to maintain their family unit.

- c. *Lack of Proactivity* - The workforce development system is based on matching workers' skills to needs in an industry already present locally. There is little or no proactivity in respect to identifying emerging businesses, and preparing local talent for an eventual 'industry start up' – crypto currency is a fine example.
- d. *Lack of Industry Partnerships* - There is a need to improve and build relations in the future. In order for the system to respond to changes in the business environment, industry must participate in the discussions for programme development. They must also assist in the investment of up skilling people to enable them to participate in the competitive race by becoming 'workforce ready'.
- e. *Education Curriculum Not Aligned* - The education curricula does not align with the business needs of the Country, particularly in the public schools and to some degree, the Bermuda College. Parents do not subscribe to the notion that students should 'learn a trade'. This has an impact on apprenticeship programmes. International business is stable (flat), which leads to very limited 'entry level' opportunities for young Bermudians; this impacts internship possibilities. The 'earn while you learn' method has not been able to expand due to a lack of financial support by the Government or employers.

### **Conclusion:**

There are many connections between the education and training of Bermuda's community, the challenges within our socio-economic foundations and the need for economic diversification. Furthermore, the opportunities for the education system and Department of Workforce Development to improve education and/or training in the areas of technology, tourism and hospitality, healthcare and international business abound. Infrastructure improvements will be needed in some instances to create environments to support the afore-mentioned opportunities.

This current state summary identifies those areas where there are critical challenges that must be addressed to:

- ✓ avoid negative repercussions for Bermuda's social and economic development;
- ✓ avoid further disenfranchisement of black Bermudians and particularly black males;
- ✓ minimise substance abuse;
- ✓ empower Bermudians to grow and develop; and
- ✓ prepare students effectively for the 21<sup>st</sup> century.

### **Future State and Next Steps**

The Group understands that education and training must be included in all working groups so that a holistic approach can be taken to ensure improvement. The Group's next steps will address the following areas and provide recommendations and a road map to achieving the Future State:

- ✓ Discussions with other working groups regarding the challenges of Bermuda's social foundations;
- ✓ Analysis of data gathered and continued review of workforce development, and public and private education;
- ✓ Solutions and recommendations to address "low hanging fruit";
- ✓ Solutions and recommendations to address critical challenges; and
- ✓ Solutions and recommendations to address challenges identified in the priority list.

## HEALTH CARE

### Working Group Scope:

Create an implementation plan to reform Bermuda's health system as it relates to:

- ✓ quality of care;
- ✓ financing and payment reform and informatics integration;
- ✓ regulatory reform;
- ✓ universal coverage and preventative health; and
- ✓ long-term care.

### Introduction:

In Bermuda the current state of health care can be described as:

- unaffordable premiums and copays for many in our community;
- high prevalence of chronic disease;
- needing greater health literacy for many in our community;
- limited cost containment due to fragmented care delivery models;
- under-utilisation of technology;
- needing more focused regulation;
- needing focused action on long-term care; and
- needing reimbursement reform from a fee for service model to patient-centric and outcome based billing models.

The five areas of priority are (1) quality of health care (2) reform of the regulatory system (3) finance and payment reform & informatics integration (4) universal health coverage & preventative health and (5) long-term care.

Life Expectancy vs Cost Per Capita of health care services is a global measure of cost effectiveness of national health systems. Bermuda's current life expectancy is 81.01 years and our \$701m<sup>1</sup> spend equates to an expenditure of \$11,362 per capita.<sup>2</sup> This expenditure is greater than the \$9,000 OECD average and lags below the trend line in terms of life expectancy of countries with similar levels of investment.

The principle driver of health care costs is the underlying health of the population. Statistics from the 2014 Bermuda STEPS Survey<sup>3</sup> and actual utilisation of system services confirms the prevalence of chronic diseases is the greatest risk to continued escalation of Bermuda health care costs. Bermuda's population health profile of 75% overweight, 33% high blood pressure, 12% diabetic are the result of poor, but controllable, behavioral health decisions. The high incidence of chronic disease that results in 173 residents on dialysis (Per 100k equates to: 274 vs 125 United States) costs the jurisdiction \$26m per annum and cannot be attributed to overzealous physician utilisation of system resources. National health expenditure will not rescind until the demand side, (i.e. population health) improves drastically.

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<sup>1</sup> 2017 National Health Accounts Report

<sup>2</sup> Ibid

<sup>3</sup> 2014 STEPS to a Well Bermuda Survey

**Areas of Priority:**

The critical priority opportunities that have emerged include:

1. The Bermuda Hospitals Board Act 1970 establishes the Hospital as the anchor institution in the health system; however it is not a monopoly, as it lacks the ability to set its own market pricing. Government policy encourages the transfer of high margin services into the private sector to strip volumes and Government write downs of subsidy debt compromises the financial viability of the service. If the Bermuda Hospitals Board (BHB) defaults on the Acute Care Wing mortgage, this will result in a call on Government as the guarantor and a downgrading of Bermuda's sovereign credit rating, thus potentially triggering a relocation of the insurance sector overseas. The development of a funding model to stabilise BHB's revenue model and infrastructure investments is required.
2. The Bermuda Health Council Act 2004 established the regulatory body to license, certify, set fees and manage codes of practice for the health care industry. However, the regulatory teeth included in the Legislation were never enacted. Consequently, the Bermuda Health Council (BHEC) is powerless to manage cost escalation due to diseconomies of scale owed to too much medical equipment and quality as result of unchecked utilisation. BHEC requires legislative reform that will ensure it has the tools required to perform its function. Physicians are resistant to regulation; however, all advanced economies regulate their health systems. Regulatory reform needs to ensure that physicians are a part of decision-making mechanism that weigh system quality and economic goals.
3. The current physician reimbursement system is based on fee for service. Physicians do not have access to the full CPT code book, which limits the effectiveness of their recording and billing appropriately for services rendered to patients. A review of the physician billing models should be undertaken with a view to developing outcome-based reimbursement models for some chronic conditions.
4. Largely due to the decompression of the economy, there is an emerging two class system of health care with contributing factors such as growing ranks of uninsured, underinsured, private sector co-pays and greater access to overseas care for the insured and wealthy. Continuous development of clinical affiliation agreements that serve to provide universal access to care and generate a net reduction in health care expenditure should be prioritised. The design and application of co-pays should be reviewed as part of billing reform.
5. The lack of an integrated electronic medical record system presents an opportunity to improve the quality of care through reduced fragmentation and reduce health system costs by eliminating duplication and other intersystem frictional costs. It is recommended that Bermuda implements an integrated electronic medical record system that enhances population health data management, coordinates physician care, enables the measurement of patient outcomes and allows for greater patient data transparency. Without an EMR, true efficiency gains will be difficult to achieve.
6. There is a high prevalence chronic disease, but limited evidence to demonstrate that patients are being managed in accordance with best practices. There is a need for system-wide integration (physician, patient, payer) of clinical pathways that ensure patients with like conditions are being subjected to same standard of care, which will allow reimbursement based on outcomes. The high incidence of obese, hypertensive & diabetic residents becoming dialysis candidates is indicative of

poor management of patients through the primary care pathway before they decompress acute crises.

7. The ranks of the uninsured and underinsured is growing as persons shift from comprehensive to basic cover. Reform needs to be considered on how to ensure universal access to care and avoid a two-class health system.
8. The literature suggests that 50% of the determinants of chronic disease are attributed to individual behavior. Therefore, there needs to be continued support for education and initiatives that inform and support our community in adopting healthier life choices.
9. The senior, over 65 demographic is the fastest growing demographic in Bermuda, which therefore, increases demand for long-term care. Although new beds in the system are required, Bermuda will not be able to out build demand. A multi-faceted strategy needs to be adopted, including programmes that encourage and support in-home care for the elderly, improved optimisation of bed flow between the acute hospital and step-down units in the community (currently most provide rest home as opposed to nursing care), construction of new community beds and develop a national care strategy for palliative care to reduce overly aggressive end of life expenditure.
10. The Bermuda Hospitals Board should procure a clinical affiliation agreement with an overseas tertiary hospital for the purpose of enhancing on-island delivering of medical tuition and clinical standards with a view towards improving access to more cost effective care.

Cracking the health care code will not be easy. There is no silver bullet, but Bermuda is working like most jurisdictions to increase efficiency. Initial investment will be made by adhering to strategies that enhance the quality of services delivered by system providers and reimbursements that are geared to patient outcomes will improve value delivered by the System.

## HOSPITALITY & TOURISM

### Working Group Scope:

Produce a deliverable that helps to establish the agenda for growth and improvement of Bermuda's hospitality and tourism product including:

- ✓ A thorough review and assessment of the Bermuda Tourism Authority (BTA) strategy and organisational structure;
- ✓ Supporting increases in visitor spending and visitor arrivals with key areas of focus; and
- ✓ Promoting community engagement via awareness initiatives and engagement of citizens as tourism ambassadors.

### Introduction:

The year 2017 marked the turnaround of the Bermuda Tourism Industry for the first time in over 20 years, with several successive quarters of increased air and overall visitor arrivals. However, there is still much work to be done. The Working Group's current state review of Bermuda's Tourism & Hospitality sector revealed a number of improvement initiatives necessary to continue the upward trend and ensure the long-term growth and sustainability of the Sector. One such initiative is the need to review financial arrangements that cover gratuities, fees and government taxes paid at hotels and/or restaurants to ensure equity for workers and an acceptable return for hospitality investors.

In addition to identifying the Sector's strengths, weaknesses, opportunities and threats, the Working Group also ascertained the various interdependencies that exist across the areas of focus within the National Socio-Economic Plan. More specifically:

### Current State Challenges/Areas of Priority:

The following eight areas of priority have been ranked based on what this working group has determined poses the most risk to development of tourism and hospitality in Bermuda. More specifically:

1. **Utility Costs:** High utility costs drive up the price of hospitality/tourism services, ultimately resulting in a prohibitive cost for tourists and Bermuda being a comparatively expensive tourism destination:
  - a. Diesel is currently the most expensive form of fuel and is used as the predominant fuel to power Bermuda.
  - b. The new regulator (Regulatory Authority) might result in improvements; however there are currently no defined plans to reduce costs.
  - c. The lack of incentivising for using energy 'smarter' with this solution does not address the overall issue of expensive fuel.
2. **Air & Cruise arrivals:** The reduction of air arrivals in the last decade compared to cruise arrivals is correlated to the decrease in overall visitor spending given the considerably higher on-island spending on average associated with air visitors. While air arrivals continue to increase and trend in the right direction continued focus on seeking out new market opportunities and increasing visitor spending is critical.
  - a. Air visitors spend an average of \$1,421 per person per stay compared to cruise visitors, who spend approximately \$115 per person per stay.
  - b. Up until 2005, air arrivals outweighed cruise arrivals each year.
  - c. In 2017 Bermuda visitors were comprised of 61% cruise arrivals vs 39% air arrivals compared to 61% air arrivals and 39% cruise arrivals in 2000.

- d. There is a lack of variability in the country of origin of Bermuda's visitors (i.e. lack of options from emerging economies like Asia).
3. **Accommodation:** The accommodation options currently offered in Bermuda are limited with a historical reduction of licensed properties and globally followed "brand" names in the hotel sector:
  - a. There is a declining number of hotel offerings and meaningful hotel investment, with an increase in unlicensed and unregulated visitor rental properties.
  - b. Local workers remain challenged by off-season layoffs.
  - c. The exit and inability to secure globally recognised hotel brands has resulted in a lack of access to the brands' internal marketing channels enjoyed by other tourism destinations.
  - d. The overall cost of service provision is high, resulting in a small profit margin. This translates to property improvements and staff training costs being more onerous.
4. **Activities:** An already expensive cost of supplementary tourist services (e.g. restaurant costs), combined with a lack of options for entertainment, negatively impacts the overall tourism experience for our current visitors.
  - a. While strategic focus has been placed on developing new entertainment/excursion opportunities for our visitors, choice remains limited during both day and night times.
  - b. The 17% gratuity charge on top of all bills, does not necessarily equate to the actual quality of service received or incentivise the service provider to deliver the quality of experience that should be expected for that level of gratuity. Gratuities should be earned through the provision of high quality service rather than being automatically added to one's bill.
5. **Transport:** The lack of an integrated transportation system that provides convenient, practical and cost effective island-wide transport limits island-wide access for our visitors.
  - a. Buses are not fit for purpose. Nor do the routes cover all areas of the Island on a timetable that is convenient or practical.
  - b. Transportation costs are high, possibly creating a barrier to visitor uptake.
  - c. Electric cars have recently been introduced to the Island via the hotels and while the response from visitors and residents alike have been very positive, there is concern over the ability to expand on the offering.
6. **Sector Collaboration:** Feedback suggests that while once the norm, collaboration between key industry stakeholders (i.e. hoteliers, airlines, airport authority, etc.) has decreased, with a tendency of working within silos now being the norm.
  - a. Bermuda hotels and airlines used to have strong relationships, but this has not been used effectively in recent times resulting in missed opportunities.
  - b. Consistent stakeholder collaboration is critical to the successful addressing of industry challenges and taking advantages of new opportunities.
7. **Communication:** On-island communication efforts have not successfully translated into Bermudians seeking out the industry as viable for career development/growth or even feeling a part of the overall tourism product.
  - a. Hospitality-related careers are not perceived as viable by Bermudians, which is reflected in the lack of Bermudians in executive and management positions throughout the Industry.
  - b. In the past, the external marketing campaigns were run on-island, creating an understanding by residents of how Bermuda was being marketed and also creating a buzz and/or pride in Bermuda as a viable tourist destination.

8. **Business and sports tourism:** Lack of holistic approach to creating the business and sports tourism product results in lost opportunity in these key target markets. While 2017 and 2018 have been turnaround years for tourism overall and, in particular, sports tourism, with measured results, the successful promotion of these niche segments are not without their challenges.
  - a. Poor first impressions from Private Air Terminal
  - b. Lack of focus on business tourism to encourage cross selling (e.g. extended stay and combining with family break, golf trip, watersports etc.)
  - c. The value proposition for attracting international sports teams for on-island training remains a challenge and is often cost prohibitive.
    - i. Not enough accommodations currently tailoring their offering for this market (e.g. bundles or lower “off season” rates)

**Interdependencies:**

A number of dependencies exist across the eight areas of priority including:

- ✓ Utility costs are a significant cost to the tourism product offered and there is an interdependency of identifying a solution from the Infrastructure Working Group.
- ✓ Similarly, there is an interdependency to the Infrastructure Working Group in resolving the Transportation issues identified with relation to tourism and hospitality.
- ✓ The Education and Socio-Economic Foundations Working Groups can support a shift in perceptions regarding hospitality and tourism being a viable career path.
- ✓ The International Business Working Group can help attract “hotel brands” which can add to the hospitality offering.

## INFRASTRUCTURE

### Working Group Scope:

The Infrastructure Working Group's remit is to develop a national infrastructure plan that provides the foundation for future infrastructure development in Bermuda.

### Introduction:

The BermudaFirst Infrastructure Working Group ("the Group") has assessed, at a high level, the current state of infrastructure in Bermuda. There are areas where further information or investigation is still required; however, this summary provides an overview of the Group's findings to date including challenges and priorities relevant to maintaining Bermuda's essential infrastructure, as well as achieving the Government's economic and social goals.

### Objective:

The Current State objective was to understand the various aspects of Bermuda's infrastructure system and formulate an assessment of the current condition and priorities for the near term (the next 5 years) and longer term development and redevelopment (5 to 25 years). The ultimate objective is to develop the first Bermuda National Infrastructure Plan ("the Plan") in order to provide a foundation for future infrastructure development in Bermuda. National infrastructure plans are enablers that can optimise future infrastructure investment. Additionally the Plan will contribute to public awareness of the key role infrastructure plays in economic and social development. In addition to addressing solutions to infrastructure challenges, the National Infrastructure Plan will incorporate recommendations to support urban expansion, particularly a more dynamic City of Hamilton with a greater number of residents.

### Summary of Current State Challenges/Issues prioritised:

Priorities were developed in relation to three key infrastructure goals:

- ✓ Resilience – infrastructure issues, which if not appropriately addressed, could result in significant impairment of public safety, economic sustainability and/or social well-being;
- ✓ Economic development – infrastructure that is essential to maintaining or growing economic prosperity; and
- ✓ Social development–infrastructure essential to maintaining/improving social equity and quality of life.

1. Aging energy infrastructure: It is understood that current power generation infrastructure is past its useful life, resulting in operational inefficiencies and increased costs to consumers. More importantly, there is the possibility of critical failure in energy reliability, which would negatively impact on Bermuda's economy. BELCO has recently received approval to replace approximately half of its generating system and is planning to proceed with building a new dual fuel power plant.
2. Long term residential care for the elderly: The current facilities and system of long term residential care is inadequate in meeting the needs of the elderly. The need for more residential care suited to the aging population's needs, is rapidly facing a crisis. Specialised residential care is needed for people who require nursing and dementia care. The system for rehabilitative care, home care and preventative care appears to be inadequate and leads to the over-use of hospital acute care beds.
3. Affordable housing: There is an immediate and urgent lack of emergency shelter for persons in crisis (e.g., domestic abuse). Additionally, there appears to be a lack of affordable housing for lower income families, which needs to be further assessed (i.e. number of housing units available vs. population in need.) Finding the balance between tenant and landlord rights may result in opening up existing

affordable housing units. While housing is identified by multiple working groups, the Infrastructure Working Group will take the lead on addressing this issue.

4. West end cruise ship capacity for larger ships: The West End cruise ports' capacity to receive larger ships due to arrive summer of 2019 is in question. There does not appear to be a clear plan to address whether the current port infrastructure can accommodate larger ships. It should be noted that the intention to further increase the size of cruise ships entering Bermuda is not supported by the BermudaFirst Executive team.
5. Transportation system: The current transportation system is disjointed and does not provide an integrated or cost effective solution for locals or visitors alike. Further, public buses are in very poor condition owing to insufficient infrastructure life cycle maintenance and reinvestment. The public, particularly those people most dependent on public transportation (i.e. low income families and the elderly) and tourists are being inadequately served. There is a need to collect ridership data, redevelop schedules around users' needs and reinvest to ensure sustainability.
6. Adequate infrastructure for vulnerable individuals and families in crisis: See points 3 and 5 above.
7. Bridges resilience (i.e. Long-Bird, Swing Bridge and the Causeway): Bermuda's bridges need major repairs/replacement. Public Works reports that geo-technical studies and planning for repair/replacement are in the early stages.
8. Sewage treatment: Bermuda has limited wastewater/sewage treatment. The Hungry Bay outfall needs replacement. Dumping of raw sewage may create public health concerns. The lack of sewage treatment could have serious implications for Bermuda's tourism brand and our broader environmental eco-system.

In many respects, Bermuda's infrastructure is sound and fit for purpose. However, the current state summary identifies those areas where there are challenges that should be addressed to:

- ✓ avoid negative repercussions in terms of Bermuda's continued social and economic development;
- ✓ are essential to maintaining current standards; and/or
- ✓ could support enhanced social or economic results.

#### **Planning, Standards and Regulation:**

One systemic theme was observed across multiple infrastructure categories: the need for greater planning and coordination, establishing and enforced standards and enhancement of regulation. There are systemic issues that have gone unaddressed and as a result, increase costs to consumers, and in some instances, result in inferior quality infrastructure and disruption (e.g., trenching works). These observations were made across water, energy, public transportation and road infrastructure, but are not necessarily limited to those infrastructure sectors.

#### **Next Steps:**

The Group's next steps will address the following areas and provide recommendations and a road map to achieving the Future State.

- ✓ Solutions and recommendations to address near term challenges
- ✓ Visioning including public engagement in near and long term planning

- ✓ Opportunities for major step changes owing to technology or implementation of leading infrastructure practices
- ✓ Enablement through improved planning, life cycle maintenance and investment
- ✓ Urban development

## INTERNATIONAL BUSINESS

### Working Group Scope:

- ✓ Identify and address the road blocks and accelerators to international business;
- ✓ Understand the current state and a roadmap to desired outcomes of the future state;
- ✓ Develop a future state strengthening the position of Bermuda as a stable and reputable jurisdiction for international businesses;
- ✓ Capitalise on new sectors and leverage emerging technologies to Bermuda's benefit; and
- ✓ Develop metrics for assessing potential opportunities for Bermuda.

### Introduction:

The International Business (IB) sector is one of the largest contributors to the Bermuda economy. Whilst there are unprecedented external threats and continued internal issues related to the IB sector, enhancing the quality and overall business environment and Bermuda value proposition is essential to the continued success of the economy. The Working Group held a series of sessions to identify the strengths, weaknesses, opportunities, threats and roadblocks that currently impact the ability to sustain and grow Bermuda's economy. More specifically:

### Strengths:

- **Strong prudent yet collaborative regulatory framework:** The BMA and other IB regulators have established a strong, reputable regulatory framework that meets or exceeds international standards (Solvency II equivalence, Basel III, CFATF) and enables businesses to operate on a global scale. In addition to the regulatory framework, Bermuda is a jurisdiction focused on transparency and compliance and has signed and complied with multiple TIEAs.
- **Innovation:** Bermuda has a history of innovation in the IB sector, particularly related to the insurance sector (captives, side cars and ILS). With an agile and collaborative approach, Bermuda has been able to take advantage of industry needs and niches. Most recently, this has been demonstrated by the approach to Digital Asset Businesses and Initial Coin Offerings.
- **Access to Intellectual Capital:** Bermuda has decades of experience in servicing the IB sector and has created a pool of accessible intellectual capital and service providers over the years.
- **Stable Government and Commercial Courts:** The historic stability of the Government along with a robust and tested commercial court system have been a strength for Bermuda.
- **Access to key stakeholders:** Key stakeholders like politicians, private sector business leaders, government employees and regulators are available and accessible.
- **Responsiveness to external threats:** The proactive approach to external threats (US Tax reform, Paradise Papers, EU Black listing etc.) helps maintain and/or differentiate the Bermuda Brand in an ever complex environment.
- **Geographic proximity & Lifestyle:** Bermuda's location in proximity to the US, UK and Canada makes it an ideal location for attracting new business. Additionally, the quality of living in Bermuda is at a relatively very high standard, and is a welcoming and safe place for visitors and businesses alike.

**Weaknesses:**

- **Cost of doing business:** The extremely high costs associated with doing business in Bermuda is a deterrent for many companies looking to do business here (i.e. real estate, human capital, taxes).
- **Debt burden:** The current debt burden is unsustainable and puts the long term financial stability of the Island at risk and contributes to the high cost of doing business.
- **Legislation drafting process:** Unless identified as a Governmental priority, the legislative drafting process can be slow, bureaucratic and inefficient resulting in inactivity and/or fragmentation between Government and Industry.
- **Lack of local talent:** The education system is not producing the quality and/or quantity of local talent in the fields needed to support IB.
- **Immigration reform:** Bermuda's population and talent pool have been in decline, which is impairing economic growth. Long and short term uncertainty related to access to talent in the short and long term is a weakness.
- **Heavy reliance on and the fickle nature of the Bermuda brand:** The paradox of our brand is that our brand is attractive, but fragile, and susceptible to material shocks. Bermuda's attraction for IB is heavily tied to our brand as a jurisdiction. With a growing number of external threats (beyond our control) and increased jurisdictional competition, the heavy reliance on a brand as a value proposition and differentiator creates a weakness for Bermuda.

**Opportunities**

- **Nearshoring:** Companies are increasingly concerned with the jurisdictions in which they do business and due to close proximity to the US and the UK, Bermuda is an ideal location to transfer existing business operations to, in comparison to more geographically remote jurisdictions; especially when considered in relation to US Immigration policy.
- **Domestication (to Bermuda) of IB Jobs:** Determine incentives for existing IB to re-domesticate jobs to Bermuda.
- **Crypto/Fintech/Biotech/Regtech:** Being on the forefront of adoption and attracting these new types of businesses will allow Bermuda to compete on a global scale and be widely regarded as an innovator in this area.
- **Growth of aircraft & shipping registry:** Growing the current registry allows for Bermuda to dive into new sectors by securing new types of business we may have not had before.
- **Trust/ HNWI sector:** Bermuda has the potential to increase its current HNWI sector from the current number (estimated to be less than 50), with the exploration of Family Office and super yacht capabilities.

**Threats:**

- **Uncontrollable external threats:** As governments globally struggle with deficits, the increase in policies aimed at reducing the value and reputation of off-shore jurisdictions will continue and

the country's resources and ability to respond will be diminished. i.e. US Tax reform, BEPS, EU/OECD black/grey listing, UBO registers.

- **CFATF:** Successful evaluation of Bermuda with regard to CFATF is essential in order to avoid being placed on the EU Blacklist.
- **Immigration reform:** Bermuda's population and talent pool are decreasing, which could potentially compromise economic growth. Developing a plan and legislation that attracts international talent is essential.
- **Communication:** Our ability to continually champion and have the general population gain an understanding of the evolving value proposition of the core IB constituents (excluding the service providers) and how changes in IB business models are resulting in a reduced need for labour here in Bermuda; particularly entry level positions.
- **Increased jurisdictional competition:** Competition to attract IB has been on a steady rise with other jurisdictions (small and large) attempting to replicate Bermuda's strengths (regulation, legal, etc.).
- **Outsourcing:** The high costs of doing business, coupled with a finite supply of appropriately skilled local talent, has driven many IB companies to outsource jobs to lower cost jurisdictions.
- **Loss of current stakeholder confidence:** Concerns by the existing IB constituents about the impact to perceived reputational capital by new constituents within the IB community (e.g. reinsurance/ insurance vs. digital currency stakeholders).

#### Roadblocks:

- **Dated infrastructure:** There is little/no capacity in the current infrastructure to be able to implement and sustain new innovations on island.
- **Vulnerability to changes:** As a dependent territory and small jurisdiction we are constantly at risk of non-aligned external influences from the UK government, etc.
- **Legislative reform:** There is a need to focus efforts on reviewing and revising outdated legislation and ensuring it fits with the country's eagerness to evolve.
- **Lack of access to Government:** The IB sector and the Government do not have a cohesive and seamless relationship, which can cause misunderstanding in terms of needs.

#### Next Steps:

The aim of the IB Working Group is to develop a Future State strengthening the position of Bermuda as a stable and reputable jurisdiction for international businesses, as well as capitalising on new sectors and leveraging emerging technologies to Bermuda's benefit. This will include, but not be limited to:

- Identifying the desired outcomes of the future state;
- Develop an evaluation matrix to enable the effective assessment of potential IB opportunities; and
- Review of existing known potential IB initiatives.

## SOCIO-ECONOMIC FOUNDATIONS

### Working Group Scope:

Produce a deliverable that helps establish the agenda for growth and improvement in the sectors of Bermuda society that have been underserved, disenfranchised and/or ignored including:

- ✓ Review of existing data, documentation, reports, etc.; and
- ✓ Develop a national plan to dramatically decrease anti-social behavior, substance abuse and income inequality.

### Introduction:

The Socio-economic Foundations Working Group (“the Group”) has assessed, at a high level, the current state of Bermuda’s socio-economic foundations. There are areas where further information or investigation is required; however, this summary provides an overview of the Group’s findings to date. The Group identified challenges and priorities that are relevant to improving Bermuda’s social foundations so that Government’s economic and social goals can be achieved. It should be noted that while anti-social behaviour is not directly addressed, given the existing programmes and Government focus on this area, this Group believes that addressing the key areas of priority identified below will address the rise in such behaviour.

It is important to note that in some cases there is a dearth of quantitative data. Additionally, in most instances where there is an abundance of data points, key information regarding demographics such as race, has not been collected, making implications and societal solutions grounded in data difficult. Further, there are many organisations in Bermuda that do not collect data electronically, making capture and reporting for the purposes of this report a challenge. Lastly, many organisations measuring similar data do not utilise the same indicators making comparisons difficult. Despite these challenges, the Group has compiled a current state summary and a more comprehensive PowerPoint document that we hope will inform other working groups, the BermudaFirst Executive Committee and the Government.

### Objective:

The Current State objective was to understand the various aspects of Bermuda’s socio-economic foundation, to formulate an assessment and identify priorities for the near term (1 - 5 years) and longer term (5 to 10 years) as applicable. The ultimate objective of the Group is to identify the Future State for Bermuda from a socio-economic perspective and develop an implementation plan for the achievement.

### Summary of Current State Challenges/Issues prioritised:

Priorities were developed in relation to the following key categories: Employment, Abuse (physical, emotional and substance), Homelessness, Low Income and Community Support (see comprehensive PowerPoint for more detail). Within these categories, the following critical areas in need of urgent attention were identified:

1. Wage disparities: There are wage disparities between Bermudians and Non Bermudians as well as between blacks and whites. The Bermuda Employment Brief 2017 highlights these disparities and the Census 2016 reaffirms them.
2. Food Costs: Many persons in the Bermuda community struggle to put nutritious food on the table. The Department of Financial Assistance (FA) spends significant amounts of money assisting Bermudians with the purchase of groceries. For example, FA provided \$3,624,075.00 from Q1 – Q3 2017 to clients for food. The Eliza DooLittle Society (EDLS) provided 42,646 meals (groceries packaged

as breakfast, lunch, and dinner) which fed 21,567 mouths in 2017. From January to March of 2018, EDLS provided 15,965 meals which fed 6,903 mouths. The numbers of clients signing up has steadily increased since Q4 2017. EDLS is one of many organisations that provide groceries and/or feed the hungry (i.e. Meals on Wheels, The Salvation Army Food Bank, etc.). Many of the people who receive groceries and meals from various agencies have full time jobs, but they find it difficult to “make ends meet”.

3. Health Care Costs: Bermuda has a growing number of uninsured and underinsured individuals. According to Census 2016, the percentage of the population with major medical insurance decreased to 72% from 84% in 2010. Additionally, the percentage of the population that are uninsured increased to from 5% to 8%, and the underinsured: those on the Standard Health Benefit, Govt. Health Insurance Plan: HIP, and Future Care increased from 2% - 6%, 5% - 6%, and 3% - 5% respectively. FA paid \$4,089,920.00 for HIP insurance and \$3,107,313.00 for Future Care Insurance (Seniors) for clients from Q1 – Q3 of 2017. Furthermore, the 2013 Household Expenditure Survey identified an almost 49% increase in money spent on insurance from the 2004 survey. The next survey is scheduled for 2019.
4. Electricity Costs: Bermuda has among the highest electricity costs in the World and the impact on the Community can be seen in various data points. Locals who have asked for assistance paying their electricity bills can be found on Facebook; many of these posts were shared with members of the Working Group. The 2013 Household Expenditure Survey, cites a 67% increase in the cost of fuel and power over the 2004 survey. The Survey further cites that the increase in spending was due to a 70% growth in spending on electricity.
5. Seniors are Financially Challenged: Bermuda’s senior population continues to grow. An item of significance in the 2016 Census was that seniors (65 years and over) had the largest percentage point increase (+3) from 14% to 17%. The number of seniors receiving financial assistance is noted at 743 seniors. However, the current system does not reflect households with two seniors. The system counts them as one client; thus, the number of seniors currently on FA is higher. A number of seniors who are self-sufficient require financial support from FA to pay rent, health insurance, utilities and/or buy food. For seniors who require rest home or nursing home care, but cannot afford it, FA paid \$7,645,558.00 from Q1 – Q3 of 2017.
6. Affordable Housing: The largest area of support from FA is the payment of rent. In 2017 Q1 – Q3, FA paid \$11,215,615.00 for rent. Census 2016 was the first to ask unsheltered persons about employment. There were 63 working persons who were un-sheltered. The 2013 Household Expenditure Survey identified a marginal increase of 1.5% over 2004 for payment of housing expenses.
7. Emergency Housing Needed for Victims of Domestic Abuse: The Centre Against Abuse no longer has a dedicated shelter at an undisclosed location for victims of abuse and their children who need to be removed secretly for their safety. It is the understanding of this Working Group that there are no other facilities dedicated for this purpose on the Island.

### **Conclusion:**

Key elements of the socio-economic foundations of Bermuda are in need of careful review and action. There are many connections between the socio-economic foundations of Bermuda’s community and the need for improved education and training, better infrastructure support for the housing of working adults

and senior citizens, affordable healthcare and equitable and inclusive income opportunities for all regardless of race or gender.

Additionally, Bermuda has a growing non-profit/charity sector designed to offer help to the community. There are over 500 listed in the Centre on Philanthropy's website; however, the delivery of services by the public and charitable sectors is often fractured and thus, not as effective as it could be. Thoughtful amalgamation is required for non-profits that provide the same or very similar services in order to increase efficiency, provide holistic support to clients and effectively use charitable dollars. Further, a strategic review of the Charities Commission to ensure its own effectiveness and that of the non-profit sector would be beneficial, specifically to ensure: both the Commission and registered non-profits remain fit for purpose; that there is no overlap and/or duplication, and if so, to plan for amalgamation where needed; and to ensure the organisational structure and talent are the right fit for the 21<sup>st</sup> Century generally, and the needs of Bermuda, specifically.

Initiatives for support of our citizenry must include the middle class. There are signs that this group is also financially stretched. We have been informed that there are persons who meet all of the criteria for financial assistance except the fact that they are home owners; selling their homes and renting creates additional societal challenges now and in the future.

This current state summary identifies those areas where there are critical challenges that must be addressed to:

- avoid negative repercussions for Bermuda's social and economic development
  - o avoid shrinking the middle class
  - o avoid growing the low income class
  - o avoid further growth of the homeless population
  - o avoid further disenfranchisement of black Bermudians, particularly black males
- minimise substance abuse
- empower Bermudians to grow and develop

#### **Future State and Next Steps:**

The Group understands that socio-economic foundations must be inculcated into all working groups so that a holistic approach can be taken to ensure improvement. As a result, working group members will join each of the other working groups during Future State deliberations and will continue to meet as a group on a regular basis to discuss progress and develop the Future State. The Group's next steps will address the following areas and provide recommendations and a road map to achieving the Future State:

- ✓ Discussions with other working groups regarding the challenges of Bermuda's social foundations;
- ✓ Analysis of data gathered and continued review of government, charitable and other helping services;
- ✓ Solutions and recommendations to address "low hanging fruit";
- ✓ Solutions and recommendations to address critical challenges; and,
- ✓ Solutions and recommendations to address challenges identified in the priority list.

## TECHNOLOGY

### Working Group Scope:

Produce a deliverable that establishes a plan of action to both enhance Bermuda's position as a technology enabled leading financial services centre; and establishes technology as another pillar of Bermuda's economy including:

- ✓ Development of a plan to enable a digital Government;
- ✓ Development of a future state vision and plan to enable technology to become another pillar to Bermuda's economy; and
- ✓ Provide a plan to foster the growth and development of the local IT market

### Introduction:

The Technology Working Group is uniquely positioned to underpin many of the objectives of other working groups as Bermuda evolves into the global economy, accelerated by technology. The Team reviewed a number of data sources to capture the current state in line with the stated scope of work.

### Summary of Current State Challenges/Issues prioritized:

We made several observations of the challenges that exist in the current state across the eight major dimensions listed below:

1. **Local IT Market**
  - a. High cost of skilled IT labor continues to hamper growth and innovation locally
  - b. Majority of local IT companies transact within Bermuda and are not internationally focused
  - c. Local IT market is declining
2. **Digital Government**
  - a. Bermuda Government online services are limited to an information based portal and limited economic capabilities leaving the opportunities for digital transformation.
3. **Technology economy**
  - a. Bermuda has robust (but aging) telecom infrastructure.
  - b. Technology education is lacking.
4. **Tourism**
  - a. Becoming a technology enabled country is key to attracting younger tourists.
  - b. Technology enables further monetisation of tourism.
5. **Economic diversification**
  - a. Current technology career opportunities are limited.
6. **Healthcare**
  - a. Antiquated medical records systems in doctor's offices and increasing costs
7. **Education**
  - a. Need to revamp public education technology courses (BTEC)
  - b. Lack of integrated technology use in public schools
  - c. Bermuda College technology programs revamp required

- d. Fragmented technology working groups (i.e. ECAB, Chamber, etc.)

## 8. Infrastructure

- a. Aging city with very little smart city initiatives
- b. Regulatory Authority review required

### **Conclusion:**

As inferred in the prior section, Technology has key dependencies with the following BermudaFirst Working Groups: Tourism, Economic Diversification, Healthcare, Education and Infrastructure.

Identifying the right future state for Bermuda is the next activity of this Working Group. A view and understanding of the ambitions and desires of the other Working Groups, particularly those 5 outlined above, is critical for this Working Group to proceed and ensure it is in line and meeting those objectives set elsewhere within the BF initiative.

### **Appendix noting any data sources used for the development of the two page document**

- Technology Current State Findings PowerPoint deck
- State of ICT in Bermuda (2015 to 2017)
- HBR Countries Digital Competitiveness Report
- 2017 List of ICT Companies (Dept. of Stats.)
- SAGE Submission – Technology (Michael Branco)
- Regulatory Authority Sectoral Review 2018.

## APPENDICES

## APPENDIX A – Working Group Members

### **Economic Diversification**

John Wight (Co-Chair), Michael Collins (Co-Chair), Andrew Banks, Wendell Brown, Michelle Khaldun, Kevin Richards, Tammy Richardson, Aaron Smith, Erica Smith, Mark Watkinson

### **Education**

Phil Butterfield (Co-Chair), Dr. Duranda Green (Co-Chair), Jeanne Bean, Charles Dunstan, Pandora Glasford, Dave Horan, Kalmar Richards, Holly Richardson, Ru-Zelda Severin, Lisa Smith, Richard Winchell

### **Infrastructure**

Lorianne Gilbert (Co-Chair), Wendy McLeod (Co-Chair), James Campbell, Vicki Coelho, Dennis Fagundo, Charles Gosling, Lee Sylvestor, Denton Williams

### **Healthcare**

Michelle Jackson (Co-Chair), Scott Pearman (Co-Chair), Ed Ball, Jonathan Brewin, Henry Dowling, Katura Horton-Perinchief, Debbie Jones, Dr. Wesley Miller, Lucille Parker, Dr. William Peckett, Katie Richards, Kathy-Ann Swan

### **Hospitality & Tourism**

Andy Burrows (Co-Chair), Malika Cartwright (Co-Chair), Bushara Bushara, Colin Campbell, Michael Daniel, Dennie O'Connor, Rehanna Palumbo, Kevin Richards, Stephon Todd

### **International Business**

Darren Johnston (Co-Chair), Patrick Tannock (Co-Chair), Craig Bridgewater, Jeremy Cox, Leila Madeiros, Sean Moran, Ross Webber, Anthony Whaley, Richard Winchell, Greg Wojciechowski

### **Socio-Economic Foundations**

Gita Blakeney Saltus (Co-Chair), Chris Furbert (Co-Chair), Vivien Carter, Stephanie Guthman, Kim Jackson, Georgina Roach-Ball, Gil Tucker, Rev. Nicholas Tweed, Mark Wade

### **Technology**

Michael Branco (Co-Chair), Chris Maiato (Co-Chair), Malcolm Butterfield, Tim Calveley, Karomoko Darrell Dickens, Malcolm Furbert, Chris Garrod, Stuart Lacey, Dave Mallon, Kyle Masters, Ben Nwasike, Dion Smith, Coral Wells

## APPENDIX B – Resources

### Economic Diversification

- Global Entrepreneurship Index
- BEDC – Barriers to Entry Report
- BEDC – Impediments to Starting an Online Business
- The Legacy of the AC Endeavour Programme – Bernews, July 5, 2017
- Bermuda Business Development Agency (BBDA) website – Bermuda’s Advantages
- Bermuda Tourism Authority website
- Regulation plans attract crypto business – Royal Gazette
- IFC Review Bermuda Section – BBDA
- 10m Pledge as shift sign MOU with Bermuda – Royal Gazette
- L.F. Wade Airport Redevelopment Project
- Why Costa Rica is the most eco-friendly place to visit

### Education

- Bermuda Census 2016
- Bermuda College Annual Reports
- Bermuda College Fall Census Day Reports
- Bermuda College Annual Budget Brief
- Childcare Standards 2017
- Dept. Workforce Development data
- Facts and Figures
- How... Most Improved Schools Keep Getting Better
- Learning Forward
- Plan 2022
- Supporting Emotional Wellbeing in Schools
- Zero to Three in Bermuda May 2015 Report
- 2017 Public School System Report to the Community
- 2017 BC Survey of Employers

### Healthcare

- 2017 National Health Accounts Report
- Ibid
- 2014 STEPS to a Well Bermuda Survey
- Health Strategy Update Forum
- Healthcare Ageing in Bermuda 2004
- Employers Compliance Public Report
- 2016 Population and Housing Census
- The provision of funding financing and governance of long-term services and supports for the elderly and disabled in Bermuda
- Long term care action plan 2017
- OECD Frequently Used Health Statistics
- Bermuda Cost Containment and Quality Improvement Committee Report 2014 (BMDA)
- Best Practices in Homecare for Seniors 2014: Synthesis from the 2014 International Forum

- Department of Statistics (2014) Low income threshold 2013: Analysis of low income households in Bermuda 2004-2013. Unpublished internal report by the Department of Statistics of Government of Bermuda, Dated June 2014
- Bermuda's Senior: Despite the world's third highest GNI per capita elderly do not fare well compared to the less wealth countries, Keith Archibald Forbes, May 20 2018

### **Hospitality & Tourism**

- 2015 Advancing the National Tourism Plan
- 2015 Bermuda Holiday Accommodation Rentals
- Bermuda Hotel Association – hotel expense data
- 2017 Bermuda Tourism Authority Cruise Exit Survey
- Bermuda Tourism Authority Org Chart
- 2016 Bermuda Tourism Authority Public Perceptions Report
- 2012 National Tourism Plan
- 2017 Visitor Arrivals Report

### **Infrastructure**

- BELCO Energy Future Presentation
- Government of Bermuda, Transportation Green Paper
- Hamilton Waterfront Development Steering Committee – Working documents
- News articles and remarks relating to the Transportation Green paper
- 2017 – 2018 Budget Book (Estimates of Revenue and Expenditure for the Year)
- BHB's New Sewage Treatment Plant – A Clean Solution – BHB Website
- Chief Engineers' presentations
- Corporation of Hamilton, Sewerage charges
- Hospital's new sewage plant is switched on – Royal Gazette, April 2014
- Review of Public Education in Bermuda (2007)
- St. George's water and waste water feasibility report, Nov 2017
- St. George's Sewerage Act
- Water II: Water Management For the Future Presentation at ILSI Annual Meeting, Jan 2018
- Watlington Waterworks Ltd and Bermuda Waterworks Ltd, presentation by Alan Rance.
- Review of Public Education in Bermuda (2007)
- News articles and Govt. of Bermuda websites relating to health, housing, prisons and education
- Publically available materials provided by the Bermuda Hospitals Board
- Feasibility study for a long-term care facility for seniors by BDA Land Development Corporation
- Organization websites for National Library, National Gallery and the National Museum

### **Socio-Economic Foundation**

- Bermuda Drug Information Network 2017 Report
- Bermuda Employment Brief 2017
- Bermuda Job Market Employment Brief May 2017
- Bermuda Police Crime Statistics for 2016
- Census 2016
- Centre Against Abuse 2017 Statistics

- Centre on Philanthropy website
- Dept. Financial Assistance Statistics Q1 – Q3 2017
- Eliza Doo Little Society data
- Household Expenditure Survey 2013
- Low Income Thresholds
- Meals on Wheels data
- National School Survey 2015
- Pathways Bermuda Data
- Recidivism Rates – Ministerial Statement November 2016
- Salvation Army Shelter Statistics
- Study of Substance Abuse Amongst the Homeless
- Vital Signs Study 2017
- Women’s Resource Centre Statistics
- World Prison Brief

### **Technology**

- State of ICT in Bermuda (2015 to 2017)
- HBR Countries Digital Competitiveness Report
- 2017 List of ICT Companies (Dept. of Stats.)
- SAGE Submission – Technology (Michael Branco)
- Regulatory Authority Sectoral Review 2018.

## APPENDIX C – Stakeholder Engagement to Date

### Economic Diversification

- Bermuda Business Development Agency (BBDA)
- Bermuda Economic Development Corporation (BEDC)

### Education

- ABIC
- BPSU, School Principal Division
- Bermuda College
- Bermuda Construction Association
- Dept. of Financial Assistance
- Ministry of Education
- Saltus Grammar School
- Warwick Academy

### Healthcare

- Argus Insurance
- BHB
- BPSU
- Bermuda Diabetes Association
- Bermuda Medical Doctor's Association

### Hospitality & Tourism

- BELCO
- Bermuda Business Development Agency
- Bermuda Hospitality Institute
- Bermuda Hotel Association
- Bermuda Tourism Authority

### Infrastructure

- BELCO
- Corporation of Hamilton
- Ministry of Public Works
- Ministry of Transportation and Regulatory Affairs
- Watlington Waterworks Ltd and Bermuda Waterworks Ltd

### International Business

- ABIC
- Alternative investment Management Association
- Bermuda Business Development Association
- Bermuda Stock Exchange (BSX)

### **Socio-economic Foundations**

- Age Concern
- Bank of Bermuda Foundation
- Bermuda Football Association
- BIU
- Centre Against Abuse
- Department of Financial Assistance
- Eliza Doo Little Society
- Focus
- Meals on Wheels
- Mirrors
- Pathways Bermuda
- The Family Centre
- Women's Resource Centre
- Youthnet

### **Technology**

- Bermuda College
- Bermuda Government Fintech Committee
- E-Commerce Advisory Board (ECAB)
- Fintech Bermuda
- Technology Leadership Forum (TLF)