Abstract

The staging of sport events occurs over a fixed duration of time, requiring an influx of resources and human involvement. This situation can result in environmental issues such as excess greenhouse gas emissions and waste generation. Furthermore, economic outcomes are not always equally shared amongst local host communities, and unequal access to participation can manifest in unforeseen ways from the event organizer’s perspective. Sports organizations are recognizing the potential for operation related negative impacts, yet most efforts to mitigate these adverse outcomes lack theoretical grounding and holistic approaches aligned with principles of sustainability.

USA Triathlon (USAT) is not exempt from the challenges faced in sustainable event management. With 400,000 plus members, USAT is the largest multisport organization in the world. Through managing five owned events and sanctioning over 4,300 races on an annual basis, the combined potential for a negative footprint is significant. To temper the potential impacts of USAT events, this project focused on an overarching sustainable event strategy to equip management, operations, and race directors with a suite of resources to manage and mitigate the overall sustainability footprint of events toward desired outcomes that adhere to principles of sustainability.

The USA Triathlon Guidebook to Sustainability has been created to cultivate organizational awareness and understanding of sustainability while ultimately providing a strategy for sustainable event management. The guidebook, approved by USA Triathlon will be made available to all USAT employees and race directors to serve as an implementation tool and resource guide to improve the sustainability of triathlon events throughout the United States.
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**Introduction and Background**

In 2018 the sports industry amassed $71.1 billion of revenue in North America, with an expectation for 3% growth on an annual basis (PwC, 2018). Furthermore, over 150 million individuals attended professional sporting events in the same year (U.S. Travel, 2019). These statistics highlight the role of sport in popular culture, one synonymous with religion and politics. However, one can only imagine the resources required to meet the demand of this massive market. As sport events provide fans with positive benefits ranging from casual entertainment to a sense of identity, they do so at the expense of tradeoffs. Events produce a myriad of environmental, social, and economic externalities.

The organization and operation of sport events can involve negative environmental impacts as there is a demand for energy, transportation, sourcing, travel, water, food and drink. Events have the potential to impact local ecosystems, source reserves of finite natural capital, and produce carbon emissions that contribute to climate change (Collins et al., 2009). Studies have shown that travel is responsible for the most significant proportion of adverse environmental impacts associated with sport events (Collins & Cooper, 2017). Beyond the travel of event attendees, the transportation of supplies and infrastructure contributes to the second-highest source of carbon emissions (Johnson & Cook, 2015, p.4). Also, operational aspects such as vendor stands, microphones, lighting, timing systems, and other equipment require energy that, when generated emits carbon, unless sourced from renewable energy.

The solid waste generated at sport events compounds upon environmental impacts. The emotional connection between fans and sport events results in overconsumption habits related to products and services, such as the consumption of food and drink (Triantafyllidis, 2018). A study done to assess the ecological footprint of an English Football game found that the average attendee generated a footprint seven times greater than someone going about everyday business (Collins et al., 2009). Vendors further contribute to waste generated at these events as the plates, utensils, cups, bottles, and straws they supply are typically made of single-use plastics that end up in landfills (Johnson & Cook, 2015, p. 15).

The environmental effects of sport events are not centralized in specific locations of operations. Waste from events is transported to regional landfills, which are associated with further environmental degradation, such as methane emissions, soil degradation, and groundwater contamination (Newton, 2009). Methane emissions from the landfill, coupled with the carbon emissions stemming from event-related travel, transportation, sourcing, and energy generation, all contribute to climate change. Climate change is associated with numerous cascading effects such as biodiversity loss, ocean acidification, sea-level rise, and an increase in extreme weather events (Knutti, 2019). Moreover, the International Panel on Climate Change
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has warned that humans have until 2030 to cut carbon emissions by 45% to keep the rise in
global temperature below 1.5°C this century, thus mitigating the potential effects of climate
change (IPCC, 2019).

Climate change poses human health risks. The potential health risks range from the immediate
effects of physical health and mortality to potential long-lasting effects on mental health
(Haines et al., 2006). Sporting events and participants are incredibly vulnerable to these
effects. As the planet heats, competing and spectating in outdoor sport events will become
increasingly challenging as climate change brings harsher heatwaves, more intense rain, greater
fire risk, and other threats ("Cancelled races, fainting players," n.d.). The viability of many
outdoor sports such as running, cycling, and swimming will be threatened by climate change,
potentially limiting participation, markets, fandom, and access to healthy lifestyles.

Expanding on the aspect of participation, it remains unclear if events plan and account for
 equitable participation. Ma et al. identifies social indicators in the evaluation of sustainable
events, which include human habitat and settlements, social equality, sustainable event
policies, health protection, and community-wide participation (Ma et al., 2011). Through
landscape analysis of sport events, the social domain appears to be often overlooked.
Moreover, barriers, sometimes invisible to event planners, exist through examples such as
socioeconomic class. Little to no research is available that addresses equitable participation of
sport events.

Although sport events often generate profit for organizations who oversee the event, that
benefit is not always shared by local communities where the event is hosted. Sport events are
temporal and can trigger a variety of short or long term positive or negative impacts, which
result in positive or negative net outcomes (Taks et al., 2015). Examples such as the 2014 FIFA
World Cup in Brazil and the 2014 Winter Olympics in Sochi, Russia showcase instances where
the net economic outcome of hosting a sport event resulted in adverse losses, which can be
attributed to massive infrastructure expenditures (Cunningham et al., 2015). Accurate impact
assessments of events ranging in scale from small to large are missing, and measuring these
impacts is a complex process (Taks et al., 2015). However, research has shown that barriers to
local businesses engaging with sport events have critical impacts on the economic contribution
of events in local communities, as well as the satisfaction of event visitors (Taks et al., 2015).

The sport of triathlon is not exempt from the challenges faced in managing events. USA
Triathlon (USAT) serves as the governing body for the sport of triathlon in the United States.
With over 400,000 members, USAT has the largest membership of any multisport organization
in the world. USAT is responsible for managing five national championship events and
sanctioning another 4,300 events on an annual basis. The combined footprint of all USAT events
and operations is significant in terms of solid waste generation and carbon emissions. Currently, no sustainability strategy exists within USAT to manage the environmental outcomes or the social and economic impacts of managed and sanctioned events. Nor has waste or emission data been collected to baseline the footprint of events. Without a sufficient sustainability plan in place, USAT events are susceptible to widespread environmental impacts along with undesirable social and economic outcomes.

The complex challenges that sport events create present no easy solution. Negative outputs driven by various operational aspects span different spatial and temporal scales. Furthermore, the multitude of stakeholders in the form of athletes, vendors, suppliers, organizers, municipalities, and attendees burden communication and planning efforts. When decisions are made to manage sport events from a sustainable perspective, not all stakeholders may be supportive, based on perceived inconveniences or economic threats (Laing & Frost, 2010). Operational issues such as access to public transportation, waste management, and renewable energy differ on a place by place basis (Laing & Frost, 2010). Organizations must allocate time and effort to understand the complexity of sport event management to develop appropriate plans to manage and mitigate negative impacts.

To temper the aforementioned impacts of USAT events, for my MSUS culminating project, I created an overarching sustainable event strategy that equips management, operations, and race directors with a suite of resources to manage and mitigate the overall sustainability footprint of events toward desired outcomes. The USAT sustainability strategy has been developed in a guidebook that includes a detailed change management strategy, best practices, useful case studies, links to resources, and key performance indicators to measure and evaluate success. The theory of change employed in my project argues that promoting awareness and fostering knowledge will lead to an organizationally understood sustainability strategy that transforms current event management approaches and outcomes. The critical step to improving sustainable outcomes for USAT events was ensuring that USAT developed a competency of defining sustainability principles and applying those principles to their events. Therefore, the guidebook I created is a sustainability strategy, serving as a tool for promoting the adoption of sustainable approaches, thus creating the basis for sustainability competencies that will be cultivated within the organization.

The scope of work provided by USAT was environmentally focused. Communications with USAT decision-makers uncovered excitement and openness to incorporate various approaches to sustainability. Therefore, I dedicated additional effort to exploring the potential opportunities for social and economic impact. The mission of USAT as an organization is to grow and govern the sport of triathlon. By analyzing access to the sport of triathlon through the lens of
sustainability, I worked to discover pathways to grow the sport in an equitable and just manner, so that my project provides additional value to the organization.

Several resources and methods have been utilized in the development of USAT's sustainable event strategy. My research includes an intensive literature review of peer-reviewed articles, canvassing of the sport and event landscape through event guides, case studies, and certifications, along with subject matter experts’ interviews. Drawing on this extensive research, I performed a gap analysis on the current state and incorporated creativity to achieve results in devising an encompassing suite of sustainability resources for USAT. The application of provided resources on an event basis will encourage the necessary collective action for USAT to sustainably manage both sanctioned and owned events, ultimately driving the organization to the forefront of sports and sustainability.

**Literature Review**

The staging of sports events has direct impacts on host communities (Taks et al., 2015). Also, these impacts can have cascading effects beyond the immediate scope of the event, such as greenhouse gas emissions via travel contributing to global climate change. Sport events are temporal and can set off short- or long-term, positive, or negative impacts, which result in positive or negative outcomes (Taks et al., 2015). As discussed in the “Introduction and Background” section, these outcomes have economic, social, and environmental implications.

Sport organizations are recognizing that their operations have a significant negative impact on the environment, and understand that by addressing these impacts they are averting legal recourse, saving money, and building stronger relationships with key stakeholders such as customers, fans, local communities, governments, and corporate partners (Babiak & Trendafilova, 2011). According to the Babiak and Trendafilova study regarding decision-making surrounding sustainable management practices, there are multiple motives for sport organizations to adopt green management practices (Babiak & Trendafilova, 2011). A strong motivation is a drive to legitimate an organization or event by conforming to institutional pressures (Babiak & Trendafilova, 2011). Organizations comply by falling in line with societal norms, values, and expectations (Babiak & Trendafilova, 2011). Furthermore, mimetic and associative forces within the sport industry serve as a driver as organizations aim to emulate other organizations and businesses outside of sport who are participating in green activities (Babiak & Trendafilova, 2011). Compliance and risk mitigation also serve as critical motives, as organizations look to avoid scrutiny and regulation from the government and media (Babiak & Trendafilova, 2011). Additional motives to adopt sustainable management practices derive from financial incentives and opportunities. Organizations may strive to be environmental leaders to achieve first-mover advantages (Babiak & Trendafilova, 2011). The opportunity to
develop strategic partnerships plays an essential role in sustainability motives, and these opportunities can arise through first-mover advantages (Babiak & Trendafilova, 2011). Beyond partnerships, sustainable management practices enhance financial opportunities through money savings via process efficiencies and new marketing opportunities through image enhancement (Babiak & Trendafilova, 2011). Many sport organizations are viewing sustainability as a value driver that can be a source of opportunity, innovation, and competitive advantage, rather than a cost, constraint, or charitable deed (Babiak & Trendafilova, 2011).

Sustainability has become widely practiced by sport organizations. However, there remains a lack of clarity in the practical understandings of the concept of sustainability (Lindsey, 2008). Furthermore, research on sport and sustainability is limited and lacks theoretical grounding (Lindsey, 2008). Research investigating event impacts has primarily been restricted to the economic dimensions, often neglecting social and environmental dimensions (Ma et al., 2011). The lack of consistent sustainability practices in the sport industry, coupled with minimal research, has led to sport organizations adopting an assortment of sustainability strategies.

There is a variation among sport organizations in terms of how they are embracing and enacting sustainability, ranging from a few cursory activities (e.g., planting trees, encouraging public transport, and collecting used sport items) to large-scale, integrated plans (e.g., partnering with environmental NGOs, utilizing renewable energy, and offsetting carbon emissions) (Babiak & Trendafilova, 2011).

A motive to participate in sustainable management practices exists in the sport event space. However, there is a disconnect and misunderstanding of how to approach sustainable event management. It has been recognized for a long time that there is a need for more systematic event planning if events are to achieve their various goals (Ma et al., 2011). Historical approaches to sustainable event management tend to produce fragmented results and lack a holistic approach of incorporating broader economic, social, and environmental dimensions of sustainable development (Ma et al., 2011). The use of indicators for social, economic, and environmental dimensions of event impact planning is encouraged in events to set a baseline (Ma et al., 2011). For an event to be sustainable, it should be evaluated from the outset based on key sustainability indicators that are identified and monitored over a long period (Ma et al., 2011).

Organizations are adopting the use of practical "how-to guides" and toolkits out of interest in making events more sustainable via planning. Ma et al.’s research indicated that the lack of strategic sustainable thinking at the planning stage of events resulted in a breakdown of necessary conditions to achieve sustainable outcomes (Ma et al., 2011). The Responsible Event Framework, which was co-produced by the Council for Responsible Sport, City of Eugene, and the Urban Sustainability Directors Network, employs a triple bottom line-driven strategy for
event management. The triple bottom line approach of the Responsible Event Framework adheres to Ma et al.'s criteria developed for evaluating sustainable events, which include sustainable economy (consumer habits, investment, employment), sustainable society (human habitat and settlements, social equality, sustainable event policies, health protection, community-wide participation), and sustainable environment (conservation areas, sports facilities, transport, energy, water, waste, and biodiversity) (Ma et al., 2011).

Research conducted on the development of sustainable events found that host residents were low on the priority of stakeholder engagement (Ma et al., 2011). However, the involvement of host communities and recognition of their views is essential to cultivating trust and successfully implementing plans (Frey et al., 2008). Stakeholder identification and analysis are critical in enabling effective partnerships, with the collaboration of partnerships contributing to the most significant positive impact on sustainability initiatives (Waligo et al., 2013). Responsibility of stakeholder interactions falls on leadership and must be integrated into the early stages of event planning (Waligo et al., 2013). As triathlon events occur in a multitude of settings, which involve a variety of municipalities and diverse communities, stakeholder engagement in the planning process must take precedence.

Due to a lack of academic literature specific to sustainable triathlon events, it is necessary to turn to additional academic domains to provide the rationale for the development of a USA Triathlon sustainability strategy for event management. Much of the literature borrowed focused on mega-events; however, the majority of USA Triathlon events are considered non-mega events. Non-mega sport events lack a general definition, but are generally smaller in size, scale, scope, and reach than their mega counterparts (e.g., Olympic Games, the World Cup, and the Boston Marathon) (Taks et al., 2015). Inherent features of non-mega events are similar to mega-events in that strategies and tactics need to be developed and implemented that manage inputs of human, financial, physical resources, and time in a sustainable manner (Taks et al., 2015). However, non-mega events are uniquely different from mega-events in their ability to facilitate sustainable local partnerships and coordination efforts for host communities (Taks et al., 2015). The similar conditions surrounding sustainable event management of all scales justify the adoption and application of practices not specific to USA Triathlon events.

**Project Approach and Intervention Methods**

The first step in developing my culminating experience (C.E.) project involved conducting research. I canvassed peer-reviewed articles, nonacademic articles, green event guides, green sports organizations, and frameworks to understand challenges pertaining to sustainability and sport events. Through initial research, I developed a deep understanding of the problems associated with sport events, challenges to sustainable event management, existing solutions
and approaches, and the current landscape of sport and sustainability. The scale of USAT events range from small to medium size, a segment that has limited information concerning sustainability studies and knowledge. To ensure a robust approach to research, I extended my focus to sustainable event management and sustainable tourism, as sport events fall under these broader themes. My research, exemplified in my literature review, cultivated an understanding as to how and why sports organizations are approaching sustainability, and what approaches were best suited for USAT to adopt.

Furthermore, I conducted interviews with subject matter experts as another method of gathering information. Subject matter experts working in the sports and sustainability realm have shared industry best practices, which assisted me in the development of the sustainable event strategy for USAT. The following individuals all contributed in building my knowledge of sustainability and sports and educated my approach to developing the sustainable event guidebook: Shelly Villalobos (Council for Responsible Sport), Michele Grossman (Waste Management), Garett Wong (Green Sports Alliance), and Aly Criscuolo (New York Road Runners). Through the interview process, I have developed a relationship with these subject matter experts and leaned on their knowledge throughout my culminating experience project. These individuals, plus ASU faculty Colin Tetreault and Erin Schneiderman, reviewed my guidebook and provided feedback.

Upon developing an understanding of the challenges and issues facing sport events, I focused my attention on the operations of USAT as they pertain to USAT-owned and sanctioned events. I utilized the Framework for Strategic Sustainable Development (FSSD) as a method of analyzing the current state and identifying unsustainable gaps. Also, FSSD assisted in my comprehension of the core values and success criteria for USAT as an organization. This step ensured a thorough understanding of USAT as an organization and organization-specific processes.

With a comprehensive understanding of USAT problems and identified potential solutions related to sustainable event management, I developed the event sustainability strategy into a guidebook. I used the Council for Responsible Sport's Responsible Event Framework in building out the sustainability strategy for USAT event management. I decided on the Responsible Event Framework because it utilizes a holistic approach to guide all event stakeholders and organizers towards achieving environmental, social, and economic goals. Furthermore, I relied on my connection with Shelley Villalobos in guiding me through the application of the framework. The framework provided additional value by suggesting metrics to focus on and identifying indicators that can determine successful progress towards sustainability. I based the choice to use the Responsible Event Framework because other sport organizations have applied it to their events, and it focuses on sport events, which aligned with USAT's thought processes, values, and success criteria.
Through utilizing the Responsible Event Framework and drawing from my literature review, I addressed the most notable gaps and shortcomings in the approaches of sports organizations toward sustainability. Those gaps included a lack of theoretical grounding in sustainability, lack of a holistic approach, and misguided planning processes resulting in lackluster results (Ma et al., 2011). Therefore, I dedicated an early section of the guidebook to capacity-building efforts. The purpose of this section was to ensure that USAT developed an understanding of what sustainability is and how sustainability pertains to event management. Similarly, I included a vision and goal setting section in the guidebook as a basis for USAT event planning efforts to ensure there are baseline competencies and agreement around desired outcomes.

Furthermore, I developed separate sections based on different operational aspects and stakeholders, with emphasis on priority aspects outlined in the Responsible Sport Framework. Each operational section includes a summary of operation-specific sustainable impacts, an overall goal, key performance indicators, and operation-specific event management strategies. Operational sections include energy, transportation, waste, water, procurement and production, and attendee engagement. The last part of the guidebook focuses on reporting, marketing, and collaboration efforts related to sustainability. Included in all sections are useful links and case studies that serve as plausible evidence to back the strategy. Through consultation with USAT, I created the guidebook in Microsoft Word.

In addition to the guidebook, I created ancillary documents tailored to race directors of sanctioned events. Aspects from the guidebook were adapted in the creation of a checklist for sanctioned races. Flexibility was prioritized in the sanctioned race checklist to combat the challenges set forth by a multitude of event settings. However, race directors will take notice of the priority USAT is making in terms of sustainability and will be provided the resources to layer sustainability into the planning efforts of sanctioned events. The guidebook and race directors documents were integral pieces in fostering internal sustainable knowledge and practices, which inform the theory of change detailed above. Although the guidebook and supporting race director documents focus on sustainable event management, the employees and race directors working with the documents are exposed to sustainability competencies as a byproduct. I have provided not only the strategy and action items in the guidebook but also the logic of why certain activities are important from a sustainability perspective. To further ensure organization competence, I made a point to discuss strategy on all USAT conference calls and maintain an open line of communication to answer sustainability-related questions. Therefore, the USAT final deliverables provided both internal and external sustainable awareness and outcomes.

I committed to a formative evaluation approach for my guidebook and the effectiveness of the sustainability strategy. I worked closely with Andy Horn (Event Services Senior Manager, USAT) and Brian D’Amico (Director of Events, USAT). Together we set deadlines for submissions of
deliverable drafts to ensure an iterative development process. The purpose of draft submissions was to ensure the strategy aligns with the organization’s needs, values, mission, expectations, and scope of work while also building organizational competencies of sustainability and sustainable event management. The feedback received from submissions helped me evaluate both the plausibility of the strategy and the sustainability comprehension level of USAT. Ultimately this process encouraged co-production between me and USAT for the visioning process, goal setting, and approach toward achieving a desired future state of events. I also shared drafts with subject matter experts and ASU faculty to gain additional feedback and considerations. A similar evaluation process occurred with the sanctioned race document through feedback sessions with identified race directors.

USAT and I originally planned to apply and evaluate the sustainable event guidebook at an identified event hosted in Tempe, AZ, on April 4th, 2020. I assisted in early race planning efforts via conference calls. Additionally, my guidebook draft submissions were immediately applied in the planning for the April event, per USAT approval. The effectiveness of the guidebook was going to be analyzed post-event, and necessary changes would be made. However, COVID-19 disrupted that plan, therefore eliminating the pilot application of the sustainability strategy.

**Outcomes/Findings**

A comprehensive sustainable event guide now exists to be applied to USA Triathlon owned and sanctioned race events. Although other green event guides exist, the *USA Triathlon Guidebook to Sustainability* is the only guide explicitly focused on triathlon races through the lens of holistic sustainability. Furthermore, the guide serves as the first sustainability strategy integrated by USA Triathlon as an organization. Three primary categories comprise the guidebook; Introduction, Operations, and Marketing, along with several subcategories (refer to the outline of USA Triathlon Sustainable Event Guidebook in Appendix).

In addition to the guidebook, two ancillary documents, a sustainable event checklist, and one-pager with to planning action items and resources were created. These documents serve as introductory and implementation tools created primarily to assist race directors. The intended goal of these documents is to cultivate a scenario in which sustainability efforts are efficiently planned for and implemented throughout the entire portfolio of USA Triathlon owned and sanctioned races.

As a measure of quality control and viability of implementation, the *USA Triathlon Guidebook to Sustainability*, along with ancillary documents were produced via a formative evaluation process. Not only did Andy Horn of USA Triathlon participate in the review process, but I also enlisted the help of several subject matter experts working in the sport and sustainability space. The formative review process, through three rounds of revisions, resulted in well-received...
documents by USA Triathlon and a sustainability strategy concept to be implemented upon the return of race events. Furthermore, this creation process allowed for the propagation of sustainability and how it applies to triathlon races to disseminate within USA Triathlon, as I was able to explain the theory behind the strategy when questioned by USAT. In addition, having the backing of subject matter expert review provided a proof of concept that assisted in overcoming pushback on aspects of the sustainability strategy. Ultimately, the formative evaluation method instilled a literacy baseline of sustainability competencies in USA Triathlon to ensure that select employees (Andy Horn and Brian D’Amico) understand why a sustainable event strategy is imperative and how the strategy works to address sustainability problems.

The *USA Triathlon Guidebook to Sustainability* and additional documents will be available on the USA Triathlon website by the end of April, 2020. All documents will also be distributed to sanctioned race directors directly from USA Triathlon. In light of the COVID-19 pandemic, it is unknown when the implementation of the sustainability strategy will occur.

The global pandemic created challenges for completing this project per the original plan. I was actively consulting and advising in the planning process of the Collegiate Club and High School Triathlon National Championship event scheduled to occur on April 3rd and 4th in Tempe, AZ. The event was to serve as the pilot for the sustainability strategy laid out in the guidebook. As a consequence, I will not be able to participate in the piloting stage while involved in this project (perhaps a job opportunity, though?).

Positive aspects and opportunities arose out of the global pandemic circumstances as well. I am proud of the resilience and adaptability displayed by both USA Triathlon and myself in the face of the current crises. Not once was there any discussion of abandoning or postponing the progress made toward sustainability by USA Triathlon as an organization. The situation created a new window of opportunity in which Andy Horn from USAT could find more time to work with me. Moreover, a convenient time frame opened up to share the new sustainability resources and initiatives with race directors while there is a lull in event planning and operations. This newfound time should allow for a cohesive and well-communicated sustainability strategy to roll out in both owned and sanctioned race events upon the recurrence of races post pandemic.

Once applied to events, I anticipate the guidebook to have immediate impacts on reducing environmental harm. Over the long term, I envision the guidebook as a resource that ensures the economic productivity of USAT events to local, host communities. Additionally, the guidebook provides consideration for equity and inclusion of triathlon, creating pathways to grow participation in the sport, aligning with the mission of USAT. In the meantime, the process of developing the sustainability strategy has initiated my original theory of change. The information provided in the guidebook and race director documents, coupled with the formative evaluation process served as an introduction to what sustainability is and how it can
be applied to triathlon events. Given the circumstances of no pilot event, a barrier was created to test the level of sustainability competencies acquired by USAT staff and event planners. However, based on anecdotal evidence acquired via formative evaluation and through USAT conversations (with select employees and race directors) focused on sustainability efforts, it appears that baseline literacy of sustainability competencies have been established.

**Recommendations**

Through the *USA Triathlon Guidebook to Sustainability*, ancillary documents, and my consultation with Andy Horn and Brian D’Amico, I have detailed all of the recommendations for my client. The guidebook houses a thorough, holistic strategy to be applied to USA Triathlon events (refer to the appendix for outline). The guide advises organizational visioning, mission setting, and goal setting processes be incorporated and shared amongst event planners and race directors. The next section of the guidebook provides operational actions and considerations to undertake in pursuit of sustainable event management. These operational aspects address the economic, environmental, and social implications of producing a triathlon race event.

Furthermore, strategies include leveraging the platform of events to advocate for sustainability-related issues (e.g., social justice topics, climate advocacy, etc.). The guide also provides a focus on information sharing and how sustainability can be marketed, reported on, and serve as a catalyst for creating new partnerships, sponsorships, and other collaborative opportunities. The next steps for USA Triathlon are laid out in the concluding section of the guidebook, including a call to action for USA Triathlon to sign onto the U.N. Sport for Climate Action Framework, pursue partnerships, identify and designate a sustainability team, and commit to pursuing a third-party sustainability certification.

A crucial point that I conveyed to USA Triathlon is that sustainability is an ever-evolving process. Seeing that I provided the organization with the first iteration of a sustainability strategy for event management, I wanted to be sure that the pursuit of sustainability continues past my involvement and that complacency does not ensue via the thought that the guidebook is a pathway to an end goal. Instead, USA Triathlon must continuously analyze performance and set new goals, ultimately developing a more robust sustainability approach over time. A more aggressive implementation and progression of sustainability must take place at the USAT owned events to lead by example for race directors of sanctioned events. This approach must also include frequent feedback sessions and open lines of communication with event planners, race directors, and the athletes themselves to better understand and adjust strategies.

I urged USA Triathlon to scale operations and approaches over a specific time frame. Sustainability, or particular aspects of, should transition from optional to required in terms of
operations, race sanctioning standards, and in supplier and vendor contracts. Furthermore, USA Triathlon can expand sustainability approaches from events to all organizational operations by adopting similar practices within the office and applied to all facets.

To manage this ever-evolving process in pursuit of sustainability, I recommended USA Triathlon create a role or team within the organization dedicated to sustainability. I will shamelessly offer my services to continue the work if the opportunity presents itself. At a minimum, I will detail what a sustainability role within USAT might entail.

Lastly, the COVID-19 pandemic has exposed fragilities in most systems and organizations, including USAT. Empathizing, and understanding that no organization is perfectly equipped to handle the crises of a global pandemic, I applaud the measures that USAT has taken, including constant messaging and support of members, hosting virtual race events, and indulging triathletes with a steady stream of triathlon related content. However, I did pose a few thoughts that USAT could consider regarding the current situation. Could specific mechanisms be put in place that would support those who are financially burdened by the absence of race events (e.g., race directors, vendors, professional athletes, etc.)? Can USAT establish a contingency plan that allows for quick transition to virtual events? This slow period opens up the door to address these previously unimaginable circumstances. Although I did not provide direct recommendations, I challenged USAT to use this time to reflect on how a more robust and resilient system can emerge from this current scenario.

**Conclusions**

The mission for my project was to deliver USA Triathlon with a sustainability strategy that could apply to the over 4,000 owned and sanctioned annual race events. The *USA Triathlon Guidebook to Sustainability*, along with the checklist and one-pager, provides USA Triathlon with that exact strategy, one that is flexible enough to be applied to all events, regardless of setting or scale. Although the outcome of this project is one that I am incredibly proud of and something that I believe will serve as a defining piece in USAT’s sustainability journey, challenges were ever-present. The steepest learning curve was not one regarding sustainability, but instead developing an understanding of the role and perspective of race directors. Race directors are pragmatic in their event planning and operations, so I quickly learned that the sustainability strategy for USAT events must easily integrate into the current race event planning and operating processes. This approach was not educated in any academic literature but resulted from interviews with subject matter experts and an open line of communication with Andy Horn at USAT. My biggest takeaway in this regard is the value and necessity for truly understanding the system that a strategy is attempting to change, and the fact that a wide array of considerations must be processed. Even a triathlon event is a far more complex and challenging system to enact change than I had initially planned.
As stated earlier, the pursuit of sustainability is an ever-evolving process. I have conveyed the message to USA Triathlon that the organization should create a sustainability role to manage the pursuit of sustainability. With or without the creation of a position, I envision an opportunity for future MSUS students to work with USA Triathlon. Future student involvement could help evaluate the effectiveness of the guidebook. Furthermore, event data will need to be compiled and analyzed to set initial baselines. A student could conduct this research and assist the organization in implementing a carbon offsetting procedure or pursuing event certifications. Additionally, there are plenty of race organizations that exist and need assistance. A student could test the viability of my guidebook for a different organization or create their own guidebook. The niche field of sports and sustainability continues to grow, as will the demand and welcoming of student work.

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Finally, I would like to express my thanks and gratitude to Paul Prosser, Katja Brundiers, and George Basile for providing valuable feedback and to Colin Tetreault for the continued support.
Appendix

USAT Sustainable Event Guidebook Outline by Section

Introduction
1. Background – Sustainability Problem
   a. Mission of Guidebook
2. Why do we need sustainability in our events?
   a. Value of Sustainability
3. Events as a System
   a. Event Components
4. Process
   a. Visioning
   b. Principles of Sustainability
5. Goal Setting

Operations
6. Energy
7. Transportation
   a. Offsets
8. Waste
9. Water
10. Procurement and Production
11. Communications – Attendee Engagement
12. Climate Change & Sport
13. Access & Equity

Information Sharing
14. Marketing
   a. Reporting
   b. Data Collection
15. Collaborations
16. Next Steps
17. Closing
References


