



The
UNIVERSITY
of VERMONT

Vermont Legislative Research Service

<http://www.uvm.edu/~vlrs/>



Multipurpose Indoor Track Facility in Randolph, VT

This report examines the costs and benefits of constructing a multipurpose indoor track facility in Randolph, Vermont on the campus of Vermont Technical College (VTC). This facility would be open to VTC students, VTC student-athletes, Vermont high school athletes, and community members for events. This report examines the potential facility features and the costs of these features. Additionally, the report examines the potential benefits from constructing this space.

Location of the Facility

VTC's location in the town of Randolph is geographically central in the state and is one mile from Interstate 89. VTC is also approximately two-and-a-half hours from Boston, making the proposed facility accessible to out-of-state athletic teams in the northeast region.

Demand for Facility Space

Indoor Track Facility Space

As of the 2018-2019 year, there are three indoor track facilities located in the state: The University of Vermont's Gardner-Collins Indoor Track, Middlebury College's Virtue Field House, and Norwich University's Shapiro Field House. Middlebury College does not open its facility to the Vermont Indoor Track Association (VITA) for varsity high school athletic use. Bob Johnson, the Vermont Principals' Association Associate Executive Director, stated that Norwich has become too expensive for varsity track meets and is too small for high school meets to be administered efficiently. While UVM has kept Gardner-Collins open to the VITA, the University will be undertaking a \$95 million development and renovation project for its athletic facilities between 2019 and 2021, which may affect accessibility.¹ Moreover, Gardner-Collins has not been able to accommodate the amount of track meets needed for Vermont high school teams

¹ Josh Weinreb, "Trying to get on track: Vt. athletes may find themselves without an indoor facility," February 15, 2019, Accessed May 3, 2019, <https://www.vnews.com/Indoor-Track-Faces-Facility-Shortage-Next-Season-23465723>.

each winter, and many have been forced to go out-of-state to the facilities at Dartmouth College, Plymouth State University, and Williams College.²

There is evidence of an increase in demand for indoor track space for high school athletes. Participation in the sport of indoor track and field has continued to grow in the state of Vermont. In 2015, there were 23 varsity high school indoor track and field teams in Vermont which provided athletic opportunities for an average of 388 student-athletes per meet.³ As of 2019, there are 29 varsity teams in Vermont and indoor meets average participation of 430 student-athletes.⁴ This growth is not just limited to the high school athletic level; the number of private, club indoor track and field programs has grown from 12 in 2015 to 19 in 2019.⁵ Private club programs are not affiliated with schools, but offer a wide array of elite development, youth, adult, and specialized opportunities for track and field athletes.⁶ Figure 1 (below) exhibits the general increasing trend in demand in the state between the years 2007 and 2019.

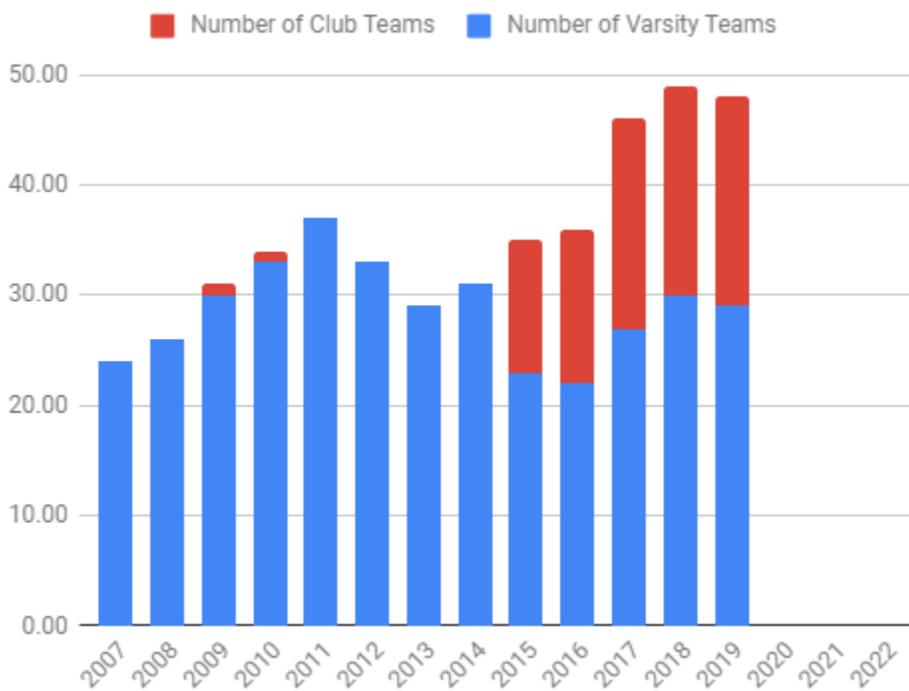


Figure 1. Indoor Track Teams in Vermont

Source: Travis KUPIAK, "VITA Demographic Analysis," (unpublished data, May 5, 2019), Google Sheet.

² Josh Weinreb, "Trying to get on track."

³ Travis KUPIAK, "VITA Demographic Analysis," (unpublished data, May 5, 2019), Google Sheet.

⁴ Travis KUPIAK, "VITA Demographic Analysis," (unpublished data, May 5, 2019), Google Sheet.

⁵ Travis KUPIAK, "VITA Demographic Analysis," (unpublished data, May 5, 2019), Google Sheet.

⁶ "Clubs," USA Track & Field, Accessed May 13, 2019, <http://www.usatf.org/Resources-for---/Clubs.aspx>.

Despite increasing demand for indoor track and field opportunities, the lack of indoor competition space has limited the indoor track and field athletic season. Since Norwich University's facility has become unavailable for VITA use, the number of indoor meets per season has dropped from 8 in 2015 to 4 in 2019.

Other Uses of Facility Space

VTC President Patricia Moulton has expressed interest in a facility that is multipurpose, citing VTC's existing need for a larger convention space to hold events.⁷ This multipurpose usability would mirror Norwich University, whose indoor athletic facility provides other uses such as space to train the university's cadets, host commencements and concerts, and conduct other university functions that require weatherproof space.⁸ In addition to internal use, President Moulton has stated that she would be supportive of renting this space to outside organizations such as high schools as well.⁹

One additional use of the space would be as an indoor turf facility. Indoor turf facilities are facilities that house artificial grass fields, closed off from external weather conditions. Indoor turf facilities can be accessible year-round and provide a safe and performing venue for athletes.¹⁰ Just about any sport that is played on grass can be played or practiced on turf, including baseball, soccer, rugby, football, lacrosse, and field hockey.¹¹ Based on a comprehensive internet search, there are at least seven indoor turf facilities in Vermont; however, not all are available year-round. Several of spaces used for the turf fields are also used as ice hockey rinks and/or tennis courts depending upon the time of year.¹²

Indoor Track Case Study from Middlebury College

Building Costs of the Facility

The Virtue Field House at Middlebury College, which was dedicated in January 2015, is the most recent indoor track facility to have been built in the state.¹³ Middlebury's New Balance

⁷ Patricia L. Moulton (Vermont Technical College President), telephone conversation with the authors, May 1, 2019.

⁸ "Shapiro Field House," Norwich University Department of Athletics, Accessed May 9, 2019, https://www.norwichathletics.com/facilities/shapiro_fieldhouse.

⁹ Patricia L. Moulton (Vermont Technical College President), telephone conversation with the authors, May 1, 2019.

¹⁰ "Indoor facility," FieldTurf: A Tarkett Sports Company, Accessed May 9, 2019, <https://fieldturf.com/en/sports/indoor-facility/>.

¹¹ "11 Sports You Can Play on Artificial Turf," Accurate Fieldhouse, August 18, 2018, Accessed May 9, 2019, <https://accuratefieldhouse.com/11-sports-you-can-play-on-artificial-turf/>.

¹² Stowe: Parks and Recreation, , "About Stowe arena," Accessed May 8, 2019, <https://www.stowerec.org/about-stowe-arena/>; University of Vermont Campus Recreation , "Multipurpose tennis/turf," Accessed May 7, 2019, <https://uvmcampusrec.com/sports/2017/11/16/multipurpose-tennis-turf.aspx?id=95>.

¹³ Middlebury College, "Athletics expansion - Virtue Field House," , Accessed May 1, 2019, <http://www.middlebury.edu/system/files/media/Field%20House%20Web%20Page%20rev2.pdf>.

Foundation Track has six full lanes and nine 60 meter sprint lanes and is approximately 60,000 square feet.¹⁴ To accommodate a 21,000 square-foot turf inside the track oval, field events such as pole vaulting and long jump are located adjacent to the track, adding 10,000 square feet to the footprint.¹⁵ The Virtue Field House covers 110,000 square feet overall, which includes locker rooms, public restrooms, bleacher seating for 826 spectators, and added offices for athletic staff and sports medicine.¹⁶ Sasaki Associates, an architecture firm in Massachusetts, designed the facility. PC Construction, located in South Burlington, Vermont, built it. Construction costs amounted to \$29.5 million.¹⁷ Soft costs, which include architect fees, legal fees, and other pre- and post-construction costs, amounted to around \$7.5 million.¹⁸

Energy Costs of the Facility

Between July 26, 2017 and July 26, 2018, Middlebury's Virtue Field House averaged 64,952 kWh of energy use per month.¹⁹ Additionally, Middlebury uses steam to heat the facility, which averaged 110,613 KBTU monthly during the same time period. The greatest monthly steam use occurred between November 29, 2017 and January 2, 2018, in which the Virtue Field House required 336,471 KBTU. The proposed location of the new athletic facility is in Randolph, Vermont, which has an energy grid serviced by Green Mountain Power (GMP).²⁰ An indoor track facility would qualify as a commercial or industrial facility, for which GMP has Rate 6. Rate 6, the General Service Fee for these kinds of facilities, is \$0.16178 per kWh.²¹ Using the Virtue Field House's kWh and this rate from Green Mountain Power, the price of monthly energy use is calculated to be \$10,507.93. Energy measured in BTU, units for thermal energy, can be generated through fossil fuels, natural gas, or wood pellets, making the cost of heat more variable; Vermont incentives are available to institutions to promote sustainable thermal energy use.²²

¹⁴ Mark Gleason (Middlebury College Safety and Regulatory Manager), telephone conversation with the authors, April 30, 2019; Middlebury College, "Virtue Field House," Accessed May 4, 2019, <https://athletics.middlebury.edu/facilities/virtuefieldhouse>.

¹⁵ Mark Gleason (Middlebury College Safety and Regulatory Manager), telephone conversation with the authors, April 30, 2019.

¹⁶ Mark Gleason (Middlebury College Safety and Regulatory Manager), telephone conversation with the authors, April 30, 2019.

¹⁷ "Athletics expansion - Virtue Field House," Middlebury College, Accessed May 1, 2019, <http://www.middlebury.edu/system/files/media/Field%20House%20Web%20Page%20rev2.pdf>.

¹⁸ Mark Gleason (Middlebury College Safety and Regulatory Manager), telephone conversation with the authors, April 30, 2019; "Soft costs," Business Dictionary, Accessed May 5, 2019, <http://www.businessdictionary.com/definition/soft-cost.html>.

¹⁹ Mark Gleason, "Field house monitoring data," (unpublished data, May 4, 2019), Microsoft Excel.

²⁰ State of Vermont Department of Public Service, "Electric utility service territory map," Accessed May 6, 2019, https://publicservice.vermont.gov/electric/electric_service_territory_map.

²¹ "Rates," Green Mountain Power, accessed May 7, 2019, <https://greenmountainpower.com/rates/>.

²² State of Vermont Department of Public Service, "2019 annual energy report," Accessed May 8, 2019, <https://legislature.vermont.gov/assets/Legislative-Reports/Annual-202be-report-final.pdf>; U.S. Energy Information Administration, "Vermont state energy profile," Accessed May 8, 2019, <https://www.eia.gov/state/print.php?sid=VT>.

Potential Facility Features

For the facility to meet the needs of the community, it would need to have the capacity to house track meets, large events, and other sports practices. The track itself would need to be up to National Collegiate Athletic Association (NCAA) standards in order for VTC to host collegiate-level meets.²³ Standard indoor tracks are 200 meters; however, by NCAA regulations, it may be any length less than 300 meters.²⁴ The track would need to include at least six full lanes that are 0.914 meters each.

The infield of an indoor track oval presents an opportunity for customization. To minimize the overall square footage of the facility, field events such as pole vault, jumping, and throwing could be located inside the track oval.²⁵ However, as seen at Middlebury College and UVM, including these events outside the track oval presents the opportunity for multi-sport use. One option is to cover the infield with wood, vinyl tile, or synthetic surface that could be used for court sport such as volleyball or basketball. A retractable turf can be placed over these surfaces as well. The turf at the Wesley Brown Field House at the United States Naval Academy, one of the most expensive in the country, is floated over a wood flooring by nine winches and an 18-port distributed air blower system.²⁶ Sam Boyd Stadium at the University of Nevada-Las Vegas installed a similar turf in 1985 for \$1.2 million.²⁷ Adjusting for inflation, the same installation of a retractable turf field would cost approximately \$2.8 million in 2019. Another option, which is used in another section of UVM's facilities, is to have artificial turf which is laid in panels and can be removed partially.²⁸ For six months of the year, UVM's turf covers the 36,778 square-foot of flooring, and for the other half six months, UVM Campus Recreation removes half of the turf to rent out tennis courts.²⁹ To install panels of removable turf similar to UVM's on the infield of the track would cost about \$3 per square foot, depending on the type of turf chosen.³⁰

Patricia Moulton has also expressed desire for bleacher space within the facility.³¹ In 2019, there were only 627 total spectators at Vermont indoor track meets, but this may be because

²³ Bob Podkamine, "NCAA Cross Country/Track and Field 2015 & 2016 Rules," Accessed May 5, 2019.

<http://www.usatf.org/usatf/files/6a/6ad0ff6c-b9b8-458d-9dd7-1fd508a6f335.pdf>

²⁴ Podkamine, "NCAA Cross Country/Track and Field 2015 & 2016 Rules."

²⁵ Mark Gleason (Middlebury College Safety and Regulatory Manager), telephone conversation with the authors, April 30, 2019.

²⁶ "Wesley A. Brown Field House – track, volleyball, & wrestling," Navy Sports, Accessed May 9, 2019,

<https://navysports.com/sports/2018/5/23/facilities-wbfh-html.aspx>.

²⁷ Ritchie, Daniel, Dickson McCannell, Kyle Allen, and James Melvin, *Sustainability of a Worcester Indoor Track*, Report, Worcester Polytechnic Institute, Worcester, MA, 2010, 1-30, https://web.wpi.edu/Pubs/E-project/Available/E-project-031510-134141/unrestricted/FINAL_FINAL.pdf.

²⁸ University of Vermont Campus Recreation, "Multipurpose tennis/turf."

²⁹ University of Vermont Campus Recreation, "Multipurpose tennis/turf; Blake Simpfenderfer (UVM Campus Recreation Associate Director, Operations), telephone conversation with the authors, May 7, 2019.

³⁰ On Deck Sports, "Artificial Turf for Indoor Facilities," Accessed May 9, 2019,

<https://www.ondecksports.com/artificial-turf/indoor-facility-turf>.

³¹ Patricia L. Moulton (Vermont Technical College President), telephone conversation with the authors, May 1, 2019.

UVM's Gardener Collins facility lacks bleacher seating.³² If the 2019 average of 430 student-athletes per meet were to each bring two parents to a meet, the facility would need a spectator capacity of approximately 860.³³ Dant Clayton, a stadium and bleacher architecture and construction firm based out of Louisville, Kentucky, estimates per seat costs of \$100 to \$500 for steel and aluminum designs; concrete stadium risers are typically much more expensive.³⁴ Based on this estimate, the total bleacher cost for a facility with 860 seats would be between \$86,000 and \$430,000.

Economic Benefits

A complete accounting of the economic benefits of a multipurpose indoor track facility at VTC could be quantified by an outside real-estate consulting firm. Feasibility studies of similar multipurpose sports facilities have shown that they are a possible source for economic growth. Multipurpose sports facilities can generate income through attracting people to the area for events. A 2018 study conducted by WinterGreen Research found that the youth sports market is worth \$17 billion dollars in the U.S.³⁵ Having a facility with both an indoor track and an indoor turf would allow Randolph and Vermont to further access this market, generating revenue for the Vermont economy. A report prepared by Highland Economics in 2015 for the Helena (MT) Regional Sports Association found that potential economic growth would come from the facility's attraction of visitors to the area for sporting and other events, as well as creating jobs in the local economy.³⁶ The Helena Regional Sports Association is an interest group aimed at constructing a multisport facility in Helena, Montana. Highland Economics, however, is a reputable consulting firm with experience working for both public agencies and private organizations.³⁷

A multipurpose indoor track facility would also have the potential to generate direct rental income. At UVM, the Patrick-Forbush-Gutterson Athletic Complex (PFG) has an indoor track and an indoor turf field in different areas of the facility. From January 1, 2018, to December 31, 2018, the indoor track facility brought in \$14,640.76 of rental revenue.³⁸ UVM's indoor turf is retractable, and only utilized during the winter months; during the spring, summer, and fall, the same 36,778 square feet comprise tennis courts.³⁹ The turf is divided into three fields, which are separated by dividers. According to rental data from Blake Simpfenderfer, Associate

³² Travis Kupiak, "VITA Demographic Analysis," Accessed May 5, 2019.

³³ Travis Kupiak, "VITA Demographic Analysis," Accessed May 5, 2019.

³⁴ Dant Clayton, "Stadium Bleacher FAQ," Accessed May 2, 2019, <https://www.stadiumbleachers.com/stadium-owners/FAQ>.

³⁵ WinterGreen Research, "Youth Sports Market," Accessed May 9, 2019,

<http://www.wintergreenresearch.com/youth-sports>.

³⁶ Highland Economics, "Economic Benefits of Proposed Multi-Sport Complex in Helena, Montana," accessed May 6, 2019; <http://helenasports.org/wp-content/uploads/2017/08/hrsa-facility-econ-impact-full.pdf>.

³⁷ "Clients and Sectors," Highland Economics, Accessed May 13, 2019,

<https://www.highlandeconomics.com/clients>.

³⁸ Blake Simpfenderfer, "Indoor turf rental raw data," (unpublished data, May 7, 2019), Microsoft Excel.

³⁹ "Multipurpose tennis/turf," University of Vermont Campus Recreation, Accessed May 7, 2019, <https://uvmcampusrec.com/sports/2017/11/16/multipurpose-tennis-turf.aspx?id=95>.

Director of UVM Campus Recreation, the three turf fields had a total of 109 rental uses between January 1, 2018, and December 31, 2018.⁴⁰ The space, known as PFG M101, can also be rented to outside organizations as a large multipurpose room or three tennis courts. UVM rented out this multipurpose space 45 times and the tennis courts 48 times in 2018.⁴¹ In 2018, net rental sales for PFG M101 totaled \$35,793.90.⁴² Utilizing PFG M101 as a multipurpose room generated UVM Campus Recreation \$23,273.40 in revenue, and the 109 rental uses of the three turf fields amounted to \$9,505 in 2018.⁴³ Simpfenderfer stated that these revenue numbers do not reflect the full potential of UVM's rental income because UVM Campus Recreation is selective in outside organizations they allow to rent the spaces, choosing to keep athletic facilities available to internal UVM organizations and students most of the time.⁴⁴

Conclusion

Stakeholders in Vermont state athletics, such as Vermont high school administrations, Vermont Technical College, and athletics coaches, have identified a need and demand for a multipurpose indoor track facility that could accommodate both sporting and community events. Building a multipurpose indoor track facility on VTC's campus in Randolph would address the growing demand for a weatherproof space. Including a retractable or removable turf, or other possible surfaces, in the infield of the track oval could maximize the facility's space, making it accessible and useful for athletes and community members alike. As expressed in the case of Middlebury College's Virtue Field House, a similar facility would cost over \$30 million, accounting for both construction costs and soft costs. If made available for rental, the multipurpose indoor track facility would have the capability of bringing in direct rental income to Vermont Technical College. The facility would also have the potential to stimulate the local economy, allowing for an overall increase in the number of athletic events in, and therefore increased visitation to, central Vermont.

This report was completed on May 16, 2019, by Andrew Ehler, Gillian Natanagara, and Kaity Tuohy under the supervision of VLRS Research Assistant Emily Klofft and VLRS Director, Professor Anthony "Jack" Gierzynski in response to a request from Representative Jay Hooper.

Contact: Professor Anthony "Jack" Gierzynski, 534 Old Mill, The University of Vermont, Burlington, VT 05405, phone 802-656-7973, email agierzyn@uvm.edu.

Disclaimer: The material contained in the report does not reflect the official policy of the University of Vermont.

⁴⁰ Blake Simpfenderfer, "Indoor turf rental raw data," (unpublished data, May 7, 2019), Microsoft Excel.

⁴¹ Blake Simpfenderfer, "Indoor turf rental raw data," (unpublished data, May 7, 2019), Microsoft Excel.

⁴² UVM Campus Recreation, "Indoor Turf Net Sales by Venue, Reporting Period 1/1/2018 thru 12/31/2018," Accessed May 7, 2019.

⁴³ UVM Campus Recreation, "Indoor Turf Net Sales by Venue."

⁴⁴ Blake Simpfenderfer (UVM Campus Recreation Associate Director, Operations), telephone conversation with the authors, May 7, 2019.