



**FIRST in Upper Midwest, Inc.**

**2020 Competitive Robotics  
Teams Grant Program**

**Final Report to Legislature**

**February 15, 2021**

## Grant Background and Overview

- a) As authorized in Laws of Minnesota 2019, 1st Special Session, Chapter 7, Article 1, section 2(f), \$100,000 was granted in Fiscal Year 2020 to FIRST in Upper Midwest, Inc. (FUM) to support competitive robotics teams.
- b) FUM is a Minnesota-based 501(c)(3) organization. Our mission is to catalyze the growth and success of FIRST Robotics Competition teams and students in the Upper Midwest by providing resources and knowledge, connecting existing efforts, enhancing community, and facilitating events. FUM endeavors to make FRC robotics programs more affordable, accessible, sustainable and ultimately more impactful.
- c) Minnesota has over 200 school and community-based FIRST Robotics Competition (FRC) teams located throughout the state. Multiple research studies strongly suggest that students involved in FRC, regardless of demographic, have greater interest and success in STEM, than students not involved in these youth robotics programs.
- d) One strategy to further deepen the positive impacts of youth-robotics, is to establish a community robotics hub (*like a community center for kids interested in STEM*), where students from many area schools can leverage facilities, tools, STEM professionals and a regulation robotics competition field that an individual school may not have access to. One such community robotics hub was established in 2017 at the unused Lincoln Middle school on the northside of Minneapolis. A key feature of this pilot program was the availability of a competition sized FRC practice field, constructed of wood, to help teams experiment and test their robots. Because students could better test and experiment and scrimmage with their 140 lbs. robots, this hub became a magnet for teams and students across the metro. This program's early success stimulated interest from communities and youth robotics leaders across the state.
- e) Based on the success of the hub in Minneapolis, we decided to prioritize extending the model statewide. We determined that what communities needed most to help establish a robotics hub is a regulation 56x24 FIRST Robotics Competition (FRC) competition field. We worked with DEED to leverage the state's grant to acquire discounted competition fields for 5 qualifying organizations across the state.
- f) A formal RFP process was conducted to identify potential grant awardees. Applicants described how they would put the field to use to maximize impact, promote community engagement, and include under-represented groups.
- g) Due to pandemic-related restrictions, subgrantees have been prevented from conducting community/school events with their state-subsidized FRC competition field.

## Timeline of Activities and Deliverables

September 2019	Began Meeting with DEED on the structure of the grant and their expectations
September 2019	FUM negotiated pricing and delivery terms with FRC competition field vendor
November 2019	FUM finalized contract with DEED
November 2019	FUM processed 1 <sup>st</sup> cash advance with DEED and ordered 5 FRC Robotics fields to be manufactured
November 2019	FUM issued RFP for organizations wishing to gain access to this state funding
December 2019	RFP response evaluation and Interviews
January 2020	Subgrant Award notifications to Becker Youth Sports Association, Byron Public Schools, Duluth Robotics, Inc., Minneapolis Public Schools, Hmong College Prep Academy
February 2020	Completed Subgrant agreements with each of the 5 awardees
February 2020	5 fields delivered to FUM warehouse
February/March 2020	FUM formally transferred ownership of grant subsidized fields to each of the 5 sub-grantees
February 22, 2020	Duluth Robotics/ Arrowhead Robotics Coalition begins operation for 11 days until COVID-19 shut-down. 120 hours of operation were available to 12 participating teams.
March, 2020	Due to the pandemic, by mid-March, authorities instructed organizers to cease all in-person activities associated with the schools – in effect shutting down FRC robotics
May 2020	FUM submits quarterly report to DEED documenting the fulfillment of grant match contribution requirement
February 2021	As of February 2020, none of the 5 subgrantees have been allowed to resume their robotics hub activities

# Legislative Grant Language

In this section we will walk through the specific requirements of the legislation.

## Minnesota Session Laws - 2019, 1st Special Session

### CHAPTER 7--H.F.No. 2

[https://www.revisor.mn.gov/bills/text.php?number=HF2&type=bill&version=0&session=ls91&session\\_year=2019&session\\_number=1](https://www.revisor.mn.gov/bills/text.php?number=HF2&type=bill&version=0&session=ls91&session_year=2019&session_number=1)

Sec. 2.

DEPARTMENT OF EMPLOYMENT AND ECONOMIC DEVELOPMENT

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Subd. 2. Business and Community Development

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\$100,000 in fiscal year 2020 is for a grant to FIRST in Upper Midwest to support competitive robotics teams. Funds must be used to make up to five awards of no more than \$20,000 each to Minnesota-based public entities or private nonprofit organizations for the creation of competitive robotics hubs. Awards may be used for tools, equipment, and physical space to be utilized by robotics teams. At least 50 percent of grant funds must be used outside of the seven-county metropolitan area, as defined under Minnesota Statutes, section 473.121, subdivision 2. The grant recipient shall report to the chairs and ranking minority members of the legislative committees with jurisdiction over jobs and economic growth by February 1, 2021, on the status of awards and include information on the number and amount of awards made, the number of customers served, and any outcomes resulting from the grant. The grant requires a 50 percent match from nonstate sources.

- 1) **\$100,000 in fiscal year 2020 is for a grant to FIRST in Upper Midwest to support competitive robotics teams.**
  - FUM contracted with DEED to distribute \$95,000. Note: DEED requires \$5,000, for administrative expenses.
- 2) **Funds must be used to make up to five awards of no more than \$20,000 each to Minnesota-based public entities or private nonprofit organizations for the creation of competitive robotics hubs.**
  - As a result of a formal Request for Proposal process, 5 qualified Minnesota entities were each awarded specialized FRC robotics equipment valued at \$19,000 to help establish a community-based youth competitive robotics hub.
- 3) **Awards may be used for tools, equipment, and physical space to be utilized by robotics teams.**
  - FUM determined that one of the most needed pieces of equipment a community-based robotics hub needed to attract area robotics teams was the year-round availability of a regulation FRC competition field. Prior to this program, no school in the state owned a competition field. FUM negotiated a bulk discount for 5 regulation FRC competition fields with the only vendor authorized to distribute such equipment. The total cost for the 5 fields (including shipping) was \$109,000. The state grant funded \$95,000, and each of the sub-grantees provided \$2,900. FUM received the robotics fields from the vendor and (after inspection) formally transferred ownership to each of the 5 sub-grantees by mid-March 2020.

- 4) **At least 50 percent of grant funds must be used outside of the seven-county metropolitan area, as defined under Minnesota Statutes, section 473.121, subdivision 2.**
- o Grant awards (in the form of \$19,000 funding for regulation FRC robotics fields) were awarded to 3 organizations outside of the seven-county metropolitan area (Becker Youth Sports Association, Byron Public Schools, Duluth Robotics, Inc), and 2 organizations in the seven-county metropolitan area (Minneapolis Public Schools, Hmong College Prep Academy).
- 5) **The grant recipient shall report to the chairs and ranking minority members of the legislative committees with jurisdiction over jobs and economic growth by February 1, 2021, on the status of awards and include information on the number and amount of awards made, the number of customers served, and any outcomes resulting from the grant.**
- o As discussed earlier in this report, the grant process completed just as pandemic restrictions on in-person gatherings went into effect. This table provides detail on the planned impact of each of the sub-grantees.

HUB Organization	Location	Potential Number of teams participating	Potential Student Impact
Becker Youth Sports Association	Becker	40	600
Byron Public Schools	Byron	20	300
Duluth Robotics	Duluth	19	285
HMONG College Prep Academy	St. Paul	31	465
Minneapolis Public Schools	North Minneapolis	24	360
		<b>134</b>	<b>2,010</b>

- 6) **The grant requires a 50 percent match from non-state sources.**
- o To fulfill this requirement, FUM and the sub-grantees provided \$79,140 matching contributions from non-state resources.