

FIRST Robotics Competition
 Stop Build Day Survey Results
 Prepared by *FIRST* Research and Evaluation Team, 10/19/16

*Note: Respondents were asked to enter their Team Number. 2,196 unique Team Numbers were given in the survey.

All Respondents (n=9286)

Half of survey respondents (50.8%) were Mentors/Coaches, 36.7% were Student participants, 10.0% were alumni, and 2.6% said they were Event Volunteers.

27.2% of respondents have been involved in *FIRST* Robotics Competition for 1 to 2 years, 39.1% for 3 to 5 years, 22.1% for 5 to 10 years, and 11.6% for more than 10 years.

61.5% of all respondents said their team builds an additional robot or robots, in addition to the robot that gets bagged. 50.2% of teams said their team builds an additional robot or robots, in addition to the robot that gets bagged.

Respondents were asked to rate a number of items on a scale of 1 to 5, with 1 being a disadvantage and 5 being an advantage:

	n	Mean	Median	1 Disadvantage	2	3	4	5 Advantage
Balancing the time required to build the robot in 6 weeks and participate in other student activities	7649	2.91	3.0	18.0%	26.3%	19.6%	18.9%	17.2%
Making decisions about activities to participate in during the build season	7569	3.06	3.0	13.6%	25.0%	22.1%	20.7%	18.5%
Availability of parent/family to support the team	7401	3.39	3.0	10.0%	16.3%	24.8%	22.6%	26.3%
Availability of Mentors to volunteer on the team during the build season	7690	3.51	4.0	10.0%	15.7%	20.1%	21.4%	32.8%
Limitation of time to work on the robot after the stop build deadline	7470	2.90	3.0	24.6%	20.5%	17.4%	15.7%	21.8%
Managing unexpected events during the build season	7259	2.05	2.0	43.1%	28.8%	14.5%	7.2%	6.4%
Managing access to last minute needed parts	7453	2.13	2.0	37.9%	31.9%	15.5%	8.3%	6.3%
Managing the limited drive time with the robot	7509	2.25	2.0	38.6%	25.4%	17.4%	9.7%	8.9%
Managing time for the team to conduct outreach, demonstrations, training, and resource sharing	7057	2.67	3.0	23.2%	25.5%	24.9%	14.3%	12.2%

Maintaining the traditions of <i>FIRST</i> Robotics Competition	6830	3.95	4.0	5.8%	5.8%	20.2%	24.4%	43.9%
Providing a real world experience for the team	7363	4.23	5.0	4.4%	5.0%	12.0%	20.8%	57.8%

Respondents were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.35	
Median	4.0	
Rating	n	%
1-Eliminate Stop Build Day	1353	18.0%
2	1151	15.3%
3	1059	14.1%
4	1387	18.5%
5- Keep Stop Build Day	2557	34.1%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.20	
Median	3.0	
Rating	n	%
1-Eliminate Stop Build Day	1548	20.7%
2	1172	15.7%
3	1255	16.8%
4	1261	16.9%
5- Keep Stop Build Day	2234	29.9%

All Mentor/Coach Responses (n=4719)

13.4% of Mentors/Coaches have been involved in *FIRST* Robotics Competition for 1 to 2 years, 31.2% for 3 to 5 years, 34.9% for 5 to 10 years, and 20.6% for more than 10 years.

59.3% of Mentors/Coaches said their team builds an additional robot or robots, in addition to the robot that gets bagged.

Mentors/Coaches were asked to rate a number of items on a scale of 1 to 5, with 1 being a disadvantage and 5 being an advantage:

	n	Mean	Median	1 Disadvantage	2	3	4	5 Advantage
Balancing the time required to build the robot in 6 weeks and participate in other student activities	4096	2.78	3.0	21.8%	27.6%	17.3%	16.9%	16.4%
Making decisions about activities to participate in during the build season	4070	2.95	3.0	15.9%	26.6%	21.1%	19.3%	17.1%
Availability of parent/family to support the team	3993	3.23	3.0	11.9%	18.3%	26.7%	20.5%	22.5%
Availability of Mentors to volunteer on the team during the build season	4167	3.30	3.0	12.8%	18.1%	22.2%	20.2%	26.6%
Limitation of time to work on the robot after the stop build deadline	4091	2.86	3.0	26.8%	19.4%	16.8%	15.3%	21.6%
Managing unexpected events during the build season	3998	1.95	2.0	45.9%	29.0%	14.0%	6.1%	5.1%
Managing access to last minute needed parts	4097	1.98	2.0	42.8%	32.1%	14.2%	6.3%	4.6%
Managing the limited drive time with the robot	4105	2.06	2.0	44.4%	25.4%	15.9%	7.7%	6.5%
Managing time for the team to conduct outreach, demonstrations, training, and resource sharing	3922	2.44	2.0	28.1%	28.2%	24.2%	10.7%	8.8%
Maintaining the traditions of <i>FIRST</i> Robotics Competition	3756	3.81	4.0	7.0%	6.4%	24.1%	23.2%	39.4%
Providing a real world experience for the team	4063	4.08	5.0	5.8%	6.5%	13.9%	21.4%	52.4%

Mentors/Coaches were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.27	
Median	4.0	
Rating	n	%
1-Eliminate Stop Build Day	899	21.8%
2	643	15.6%
3	468	11.3%
4	693	16.8%
5- Keep Stop Build Day	1427	34.6%

Mentors/Coaches were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.13	
Median	3.0	
Rating	n	%
1-Eliminate Stop Build Day	1013	24.6%
2	607	14.7%
3	581	14.1%
4	666	16.2%
5- Keep Stop Build Day	1254	30.4%

Student Team Member Responses (n=3406)

51.2% of Student Team Members have been involved in *FIRST* Robotics Competition for 1 to 2 years, 45.6% for 3 to 5 years, 2.9% for 5 to 10 years, and 0.3% for more than 10 years.

64.2% of Student Team Members said their team builds an additional robot or robots, in addition to the robot that gets bagged.

Student Team Members were asked to rate a number of items on a scale of 1 to 5, with 1 being a disadvantage and 5 being an advantage:

	n	Mean	Median	1 Disadvantage	2	3	4	5 Advantage
Balancing the time required to build the robot in 6 weeks and participate in other student activities	2654	3.03	3.0	13.3%	24.8%	23.9%	21.7%	16.4%
Making decisions about activities to participate in during the build season	2616	3.17	3.0	10.8%	23.0%	24.2%	22.8%	19.2%
Availability of parent/family to support the team	2547	3.60	4.0	7.3%	13.5%	22.3%	25.8%	31.1%
Availability of Mentors to volunteer on the team during the build season	2644	3.86	4.0	5.6%	11.0%	17.7%	23.3%	42.4%
Limitation of time to work on the robot after the stop build deadline	2535	2.87	3.0	22.3%	23.0%	19.3%	16.0%	19.4%
Managing unexpected events during the build season	2428	2.19	2.0	37.7%	29.4%	16.3%	9.2%	7.4%
Managing access to last minute needed parts	2509	2.31	2.0	31.5%	32.3%	17.2%	10.6%	8.3%
Managing the limited drive time with the robot	2543	2.48	2.0	30.1%	26.4%	20.0%	12.5%	10.9%
Managing time for the team to conduct outreach, demonstrations, training, and resource sharing	2359	2.97	3.0	16.4%	21.4%	26.6%	19.8%	15.9%
Maintaining the traditions of <i>FIRST</i> Robotics Competition	2314	4.11	4.0	4.0%	4.9%	15.8%	27.0%	48.4%
Providing a real world experience for the team	2486	4.42	5.0	2.3%	2.9%	9.4%	21.2%	64.3%

Student Team Members were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.41	
Median	4.0	
Rating	n	%
1-Eliminate Stop Build Day	339	13.3%
2	399	15.6%
3	487	19.1%
4	522	20.4%
5- Keep Stop Build Day	807	31.6%

Student Team Members were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.27	
Median	3.0	
Rating	n	%
1-Eliminate Stop Build Day	393	15.5%
2	428	16.9%
3	544	21.5%
4	466	18.4%
5- Keep Stop Build Day	699	27.6%

Respondents who only build one robot

Respondents who only build one robot were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.30	
Median	4.0	
Rating	n	%
1-Eliminate Stop Build Day	505	18.2%
2	458	16.5%
3	412	14.9%
4	505	18.2%
5- Keep Stop Build Day	892	32.2%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.18	
Median	3.0	
Rating	n	%
1-Eliminate Stop Build Day	552	20.0%
2	466	16.9%
3	477	17.3%
4	447	16.2%
5- Keep Stop Build Day	816	29.6%

Respondents who build more than one robot

Respondents who build more than one robot were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.39	
Median	4.0	
Rating	n	%
1-Eliminate Stop Build Day	775	17.8%
2	652	15.0%
3	551	12.7%
4	821	18.9%
5- Keep Stop Build Day	1544	35.6%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.20	
Median	3.0	
Rating	n	%
1-Eliminate Stop Build Day	930	21.5%
2	646	14.9%
3	685	15.8%
4	747	17.3%
5- Keep Stop Build Day	1318	30.5%

Regional Teams (n=5200- number of respondents who entered a team number for a regional team)

Respondents from regional teams were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.40	
Median	4.0	
Rating	n	%
1-Eliminate Stop Build Day	729	17.1%
2	633	14.9%
3	606	14.2%
4	789	18.5%
5- Keep Stop Build Day	1504	35.3%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.23	
Median	3.0	
Rating	n	%
1-Eliminate Stop Build Day	848	20.0%
2	641	15.1%
3	729	17.2%
4	711	16.8%
5- Keep Stop Build Day	1309	30.9%

District Teams (n=3684- number of respondents who entered a team number for a district team)

Respondents from district teams were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.31	
Median	4.0	
Rating	n	%
1-Eliminate Stop Build Day	554	18.6%
2	474	15.9%
3	420	14.1%
4	561	18.9%
5- Keep Stop Build Day	967	32.5%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.16	
Median	3.0	
Rating	n	%
1-Eliminate Stop Build Day	624	21.0%
2	490	16.5%
3	493	16.6%
4	505	17.0%
5- Keep Stop Build Day	854	28.8%

Averaging Responses Per Team

The following data first averages each team's response to the survey question. The rating scale is reported differently for this analysis due to fractions from averaging the data.

Respondents were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.31	
Median	3.5	
Rating	n	%
1.0 – 1.5	220	11.3%
1.6 – 2.0	206	10.6%
2.1 – 2.5	114	5.8%
2.6 – 3.0	290	14.9%
3.1 – 3.5	216	11.1%
3.6 – 4.0	385	19.7%
4.1 – 4.5	168	8.6%
4.6 – 5.0	353	18.1%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.18	
Median	3.2	
Rating	n	%
1.0 – 1.5	249	12.8%
1.6 – 2.0	220	11.3%
2.1 – 2.5	124	6.4%
2.6 – 3.0	338	17.4%
3.1 – 3.5	225	11.6%
3.6 – 4.0	373	19.2%
4.1 – 4.5	126	6.5%
4.6 – 5.0	291	15.0%

Teams by Rookie Year: Through 2004

Respondents were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.31	
Median	4.0	
Rating	n	%
1	433	19.7%
2	333	15.2%
3	290	13.2%
4	390	17.8%
5	749	34.1%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.13	
Median	3.0	
Rating	n	%
1	508	23.3%
2	330	15.1%
3	362	16.6%
4	338	15.5%
5	646	29.6%

Teams by Rookie Year: 2005-2007

Respondents were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.46	
Median	4.0	
Rating	n	%
1	168	15.6%
2	159	14.8%
3	143	13.3%
4	215	20.0%
5	389	36.2%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.31	
Median	3.0	
Rating	n	%
1	188	17.7%
2	166	15.6%
3	191	18.0%
4	164	15.4%
5	355	33.4%

Teams by Rookie Year: 2008-2010

Respondents were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.45	
Median	4.0	
Rating	n	%
1	200	14.6%
2	227	16.5%
3	195	14.2%
4	249	18.1%
5	501	36.5%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.27	
Median	3.0	
Rating	n	%
1	252	18.4%
2	231	16.9%
3	210	15.4%
4	244	17.9%
5	429	31.4%

Teams by Rookie Year: 2011-2013

Respondents were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.35	
Median	4.0	
Rating	n	%
1	277	18.3%
2	233	15.4%
3	209	13.8%
4	270	17.9%
5	522	34.5%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.24	
Median	3.0	
Rating	n	%
1	298	19.8%
2	233	15.5%
3	249	16.5%
4	262	17.4%
5	466	30.9%

Teams by Rookie Year: 2014 +

Respondents were asked if they thought it would be best for the *FIRST* Robotics Competition program to keep or eliminate Stop Build Day. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day. The following table details the overall survey responses:

Best for the <i>FIRST</i> Robotics Competition program		
Mean	3.23	
Median	3.0	
Rating	n	%
1	236	19.9%
2	174	14.6%
3	198	16.7%
4	240	20.2%
5	340	28.6%

Respondents were also asked to rate their opinion on keeping or eliminating Stop Build Day in terms of what was best for ensuring equity and inclusion of students and schools in the *FIRST* Robotics Competition program. Respondents rated their opinion on a scale of 1 to 5, with 1 being eliminate Stop Build Day and 5 being keep Stop Build Day.

Best for ensuring equity and inclusion in the program		
Mean	3.08	
Median	3.0	
Rating	n	%
1	259	21.9%
2	190	16.1%
3	221	18.7%
4	224	18.9%
5	289	24.4%