

# Promising Practices to Support the Development of K–12 Manufacturing Programs: Spotlight on Tourtellotte Memorial High School's Data

## Background

The Manufacturing Skills for Connecticut (MSforCT) project, funded by the U.S. Department of Commerce National Institute for Standards and Technology, aimed to establish a menu of effective educational best practices that Manufacturing Extension Partnerships (MEPs) throughout the country, and manufacturers and school systems across CT and beyond, can use to establish and advance effective career pathways. [CONNSTEP](#), CT's MEP representative, was the lead organization partnering with [ReadyCT](#), a statewide nonprofit focused on K–12 education and career-connected learning; [CBIA](#), CT's largest business organization; the Connecticut Manufacturers' Collaborative, a statewide, policy-focused collective composed of the nine major manufacturing associations within CT; and [WestEd](#), a non-partisan research, development, and service agency.

As part of the MSforCT project, WestEd executed a multistep process to identify 13 manufacturing programs with evidence of using promising practices intended to support high-quality programming. This process included developing a statewide survey; identifying all existing manufacturing programs across CT for survey administration; developing and using a rubric to rank manufacturing programs on their use of high-quality, high-impact practices; and considering site demographics and industry recommendations to choose the final 13 program sites. WestEd then conducted 13 program reviews which included interviews/focus groups with key program stakeholders and a review of student administrative data. Ultimately, the MSforCT project created numerous resources including [The MFG Skills-CT](#) website, a [Promising Practices guide](#), and [13 program-specific reports](#), including [Tourtolette Memorial High School's manufacturing program](#).

## Tourtellotte Memorial High School Manufacturing Program Data

The current summary of Tourtellotte Memorial High School's manufacturing program data supplements the site-specific report. This document summarizes data from CT's Statewide Longitudinal Data System (SLDS): the Preschool Through 20 Workforce Information Network (P20 WIN). The data included all students enrolled in the high school from 2017-2018 through 2020-21 academic years. Manufacturing program students are defined as students who finished all three manufacturing program courses. Manufacturing students are included in the overall school population.

During the data-cleaning process, there was 1 student identified from Tourtellotte Memorial High School who prior to the 2020-21 academic year was listed as a manufacturing cohort student, but whose status was reversed to non-manufacturing cohort members in 2020-21. The research team was unable to identify a clear reason for the status reversal. Table 1 below shows alternative demographic data including the mentioned student in the manufacturing cohort. In the rest of the summary tables, the data is a combination of all available academic years, which means that all manufacturing cohort members are included in calculations despite the status reversal.

**Table 1: Student Demographics, Academic Year 2020-2021**

Student Characteristics	Manufacturing Program Students (n = 7)		Manufacturing Program Students Alternative Count (n = 8)		Overall School Population (n = 232)	
	n	%	n	%	n	%
American Indian or Alaska Native	*	*	*	*	*	*
Asian	*	*	*	*	*	*
Black or African American	*	*	*	*	*	*
Hispanic/Latino of any race	*	*	*	*	20	9%
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Two or More Races	*	*	*	*	9	4%
White	7	100%	8	100%	199	86%
Female	*	*	*	*	110	47%
English Language Learners	*	*	*	*	*	*
Students with Disabilities	*	*	*	*	39	17%
Free/Reduced Lunch Eligible	*	*	*	*	93	40%

Note: Cells with five or fewer students are noted with an asterisk and are restricted from reporting.

In the academic year 2020-2021 the manufacturing program enrolled 7 students at Tourtellotte Memorial High School. All the cohort members in that year were White. As for the overall school population, White students made up 86%, with 9% Hispanic/Latino representatives of any race and. Female students represented 47% of the school population, while students with disabilities made up 17%.

**Table 2: Student Demographics, Academic Years 2017-2018 through 2020-2021**

Student Characteristics	Manufacturing Program Students (n = 15)		Overall School Population (n = 448)	
	n	%	n	%
American Indian or Alaska Native	*	*	*	*
Asian	*	*	*	*
Black or African American	*	*	5	1%
Hispanic/Latino of any race	*	*	34	8%
Native Hawaiian or Other Pacific Islander	*	*	*	*
Two or More Races	*	*	22	5%
White	14	93%	383	85%
Female	*	*	219	49%
English Language Learners	*	*	*	*
Students with Disabilities	*	*	56	12%
Free/Reduced Lunch Eligible	5	33%	184	41%

Note: Cells with five or fewer students are and are restricted from reporting and noted with an asterisk.

There were 15 manufacturing cohort students in the academic years 2017-18 through 2020-21, at Tourtelotte Memorial High School. 93% of those students were White, which meant higher participation rate in the program based on their overall enrollment (85%). Other race/ethnic subgroups in the cohort were too small to report.

**Table 3: Academic Characteristics, Academic Years 2017-2018 through 2020-2021**

Metric	Manufacturing Program Students (n = 17)					Overall School Population (n = 921)				
	Mean	Median	SD	High	Low	Mean	Median	SD	High	Low
Attendance	142.2	147	25	178	105	149.4	167	33.1	180	0

Note: Attendance is defined as the total number of days attended in a given school year.

Manufacturing students across cohorts (2017-18 through 2020-21) attended school on average 142.2 days (SD 25). This figure is lower than the average overall school attendance, which was 149.4 days (SD 33.1).

**Table 4: Standardized Assessment, Academic Years 2017-2018 through 2020-2021**

Metric	Manufacturing Program Students (n = 7)					Overall School Population (n = 429)				
	Mean	Median	SD	High	Low	Mean	Median	SD	High	Low
English SAT	485.7	460	71.1	600	410	491.9	490	87.7	710	290
Math SAT	475.7	500	72.5	580	390	469.7	470	83.9	680	250

Across 7 manufacturing program students who took the SAT tests, the average scores were 485.7 (SD 87.7) on the English section and 475.7 (SD 72.5) on the math section. The sample size for manufacturing program students' English and math scores was too small to compare with the overall school population averages.

**Table 5: Secondary Graduation Rate, Academic Years 2017-2018 through 2020-2021**

Metric	Manufacturing Program Students		Overall School Population	
	n=17	%	n=617	%
Graduated	16	94%	477	77%

Across the manufacturing cohort in all four academic years, 94% of students eligible for graduation graduated from Tourtelotte Memorial High School. The overall graduation rate for given academic years was 77%.

**Table 6: Postsecondary Enrollment, Academic Years 2017-2018 through 2020-2021**

	Manufacturing Students		Overall School Population	
	n=16	%	n	%
Enrolled in CT Postsecondary Program	*	25%	115	24%
Enrolled in Out of State Postsecondary Program	*	*	92	19%
No Record of Postsecondary Enrollment	12	75%	270	57%

For the overall school student population, 24% of the students who graduated from high school in the given academic years entered postsecondary programs in Connecticut, and another 19% in out-of-state institutions. The numbers for manufacturing cohort students were too small to report.

**Table 7: Postsecondary Enrollment, By Institution Type, Academic Years 2017-2018 through 2020-2021**

Institution Type	Overall School Population	
	n	%
4-Year Institution	116	56%
2-Year Institution	91	44%
<2-Year Institution	0	0%

Note: There was not enough data to report postsecondary enrollment for manufacturing cohort students.

In the overall school population, 56% of the individuals enrolled in postsecondary institutions studied in 4-year programs and 44% studied in 2-year colleges. The numbers for manufacturing cohort students were too small to report.

**Table 8: Postsecondary Persistence – Y1 – Y2, Academic Year 2017-2018 through 2019-2020**

	School Population	
	n=115	%
Persistence	62	53.9%

Note: There was not enough data to calculate and report postsecondary persistence for manufacturing cohort students.

Persistence in postsecondary education was defined as an individual being enrolled in a postsecondary institution in the same year they graduated from high school and being enrolled in two consecutive fall terms in the institution. The persistence rate for the overall school population was 54%.

**Table 9: Postsecondary Graduation Rate, Measured from Time of Enrollment, Academic Years 2017-2018 through 2020-2021**

Graduation Rate	School Population	
	n	%
4-Year Institution	*	*
2-Year Institution	5	5%
<2-Year Institution	*	*

Note: There was not enough data to report postsecondary graduation rates for manufacturing cohort students.

There were 5 postsecondary graduation records of the students from the overall school population at the time of the data collection. All of these of students were enrolled in 2-year programs.