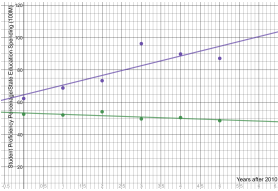


Group 1
The Relationship Between Math Proficiency and State Spending on Education
Hazel W. (66B), Aniyah H. (66B), MJ W. (66A), Will F. (66A)

April is a math hater. You'd think she'd been good at math from an early age, with a story that goes something along the lines of a math prodigy at a young age, she assisted all her friends with their math, leading her to eventually become a tutor. But that's not her story at all. Instead, it's a story of struggling with math to such a point that she was about to fail high school. When she told her story, she said about her math skills, "I was terrible, so terrible, in fact, that I was in danger of not graduating high school." With a lot of help and tutoring, she was able to pull through. But this needs to change.



With math proficiency at the level it is, there are more stories like April's than not. This means that there is a need for better education policies, because despite high government education spending, the math proficiency is going down. Based on expected growth levels, the data we found on math proficiency show a clear downward trend. In 2010, it was 62.1%, and the percentage of students at expected growth levels in math is going down. By 2015, it was 48.6%, and the percentage of students at expected growth levels in math is going down.

The expected growth levels, according to the Minnesota Management and Budget website, are determined based on assessment results. They are based on average student improvement for students with similar scores statewide. With this data and the other data collected, we know that the state spending is going up (adjusted for inflation in 2019 dollars), and the percentage of students at expected growth levels in math is going down.

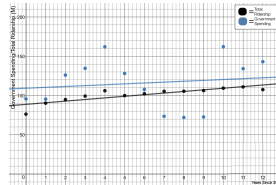
Right now, Governor Walz is making a lot of promises about education, the new budget, and what is going to be done. But although they are all worthy goals, a big priority should be ensuring that students are passing their classes and learning everything they need to be. We can't improve our schools if we are busy worrying about whether the students are passing and are going to continue to pass. We need to figure out how to fix this problem, so that instead of focusing on ensuring MN students are learning the things they need to, we can focus on ensuring that they are learning in schools that are the best that they can be.

| Year | Percent of Students at or Above Expected Growth Levels in Math | State Spending on Education (per student) (adjusted for inflation in 2019 dollars) |
|------|--|--|
| 2010 | 62.1% | \$6,228,798,821.66 |
| 2011 | 62.1% | \$6,890,063,812.07 |
| 2012 | 64.1% | \$7,331,719,095.68 |
| 2013 | 49.7% | \$8,622,872,022.00 |
| 2014 | 50.9% | \$8,980,442,203.85 |
| 2015 | 48.6% | \$8,712,094,038.91 |

"Spending is going up (adjusted for inflation in 2019 dollars), and the percentages of students at expected growth levels in math is going down."

Group 2
State Transportation Spending vs Public Transportation Ridership
Emilia (65B), Daniela (67A), and Jonas (65B)

In mid February, a female student at our school was riding a public bus alone. There were many people on the bus, and she was reading her business, when a group of two or three grown men started verbally harassing her. She put her earphones in to try and distract them, but they kept on yelling at her. They even went as far as to get off at her stop. No one helped her, even though she was 13 and they were grown men twice her age. Around 51 percent of women will experience sexual harassment in their lifetimes. Despite this, Sam still uses the public bus everyday. Why? Because she needs to.

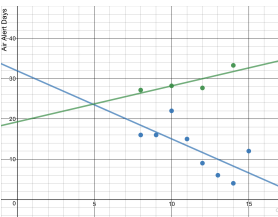


Many people have no choice about how they get around, and this is why we need to put much more effort into public transportation. According to the MN dashboard statistics about government spending, the total spending is always steadily increasing, while the spending is rocky at best.

| Year | Spending on public transportation (in billions) | Government spending on public transportation (in percent) |
|------|---|---|
| 2004 | 76.3 | 86.7 |
| 2005 | 90.3 | 85.4 |
| 2006 | 94.8 | 100.0 |
| 2007 | 90.3 | 124.6 |
| 2008 | 106.1 | 162.1 |
| 2009 | 99.9 | 108.1 |
| 2010 | 103.3 | 107.7 |
| 2011 | 105.4 | 73.5 |
| 2012 | 108.9 | 72.0 |
| 2013 | 108.9 | 73.7 |
| 2014 | 108.7 | 162.2 |
| 2015 | 111.0 | 134.2 |
| 2016 | 107.5 | 143.1 |

Group 3

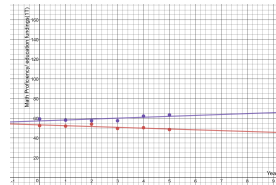
Outside on a hot summer day, you get a notification on your phone. "Air quality warning: rain today." You get home, but your asthma is acting up. You can't catch your breath and you start coughing. You reach for your inhaler, but it isn't doing anything. You have to go to the hospital. Imagine this happening to you. People with respiratory conditions are at an increased risk because of air pollution in Minnesota.



| Year | Air Quality Days | MNPCA Spending on Air (Adj) |
|---------|------------------|-----------------------------|
| 8 2008 | 16 | 27,155,432.11 |
| 9 2009 | 16 | |
| 10 2010 | 22 | 28,211,507.14 |
| 11 2011 | 15 | |
| 12 2012 | 9 | 27,679,512 |
| 13 2013 | 6 | |
| 14 2014 | 4 | 33,287,129 |
| 15 2015 | 12 | |

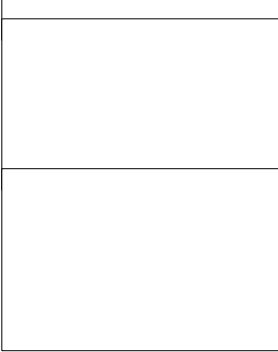
Source: Minnesota Pollution Control Agency

Group 4
Math Proficiency in 8th Grade vs State Education Spending
Maeah Y (66B), Jade W (66B), Carolee O (67B), and Gabby H (67A)



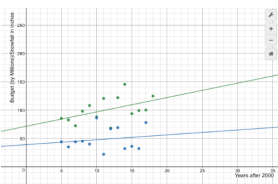
| Year | Spending on Education (per student) (adjusted for inflation in 2019 dollars) | % Proficient in Math (Adj 2019 PPA) |
|------|--|-------------------------------------|
| 2010 | \$6,228,798,821.66 | 52.60% |
| 2011 | \$6,890,063,812.07 | 55,814.30 |
| 2012 | \$7,331,719,095.68 | 54.10% |
| 2013 | \$8,622,872,022.00 | 49.70% |
| 2014 | \$8,980,442,203.85 | 50.50% |
| 2015 | \$8,712,094,038.91 | 48.60% |

Group 5



Group 7
State Transportation Spending vs Snowfall:
a Story of Poor Snow & Ice Removal
El B (64B), Chae P (64A), Leo G (67A), and William P (67A)

Have you ever been driving in the winter desperate to get home? It is a complete workout, and the roads are covered in snow. Even though it has been snowing for a while, you can see that the response time of the plows was slow. Also, there's a lack of quality plowing because the snow that should have been scraped off by the previously passing plows has been packed down by passing cars. Your scared because you are afraid to wait the storm out but because the roads are so snowy that if your driving you will slide off the road. Well that should not be an issue and our group wants to help fix.

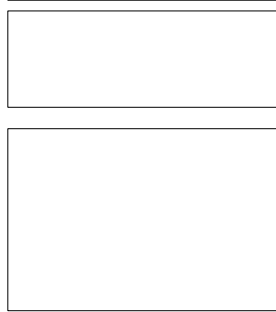


| Year | % with high housing burden | Adjusted to 2019 Dollars |
|------|----------------------------|--------------------------|
| 2005 | 31% | 61,138,089.43 |
| 2006 | 33% | 72,845,075.22 |
| 2007 | 33% | 42,865,900.69 |
| 2008 | 34% | 105,067,762.45 |
| 2009 | 33% | 59,994,092.28 |
| 2010 | 33% | 62,976,538.28 |
| 2011 | 33% | 53,548,328.96 |
| 2012 | 30% | 48,215,496.47 |
| 2013 | 28% | 52,297,893.76 |
| 2014 | 28% | 84,557,900.34 |

As climate changes becomes an increasingly larger problem, there will be more snow, and road conditions will get harder to combat and it will cause more insurance. As shown on our graph, the budget is ahead but as climate change gets worse the graph will go up more dramatically and as graph shows on winter with the more snow the budget does not go up fast enough and gets close to the amount of snow. So as climate change progresses we will have winters with more snow.

As climate change continues in Minnesota will see more snow. Having faster response times (getting plows and salt trucks out to snow on highways) will help keep the snow at bay while drivers have time to get home and off the roads. It will also decrease the number of injuries related to poor snow and ice removal. We could also strategically place heating elements in roads that already need repairs we could also make drains that connect to storm drains directly at bottom of hill so the water from the snow that melted doesn't turn in to ice at the bottoms of hills. These drain would be a bit like cattle catchers. But to do all this the transportation department will need extra funding to complete these tasks but it will be worth it in the end. In conclusion we think it is smart to invest in the future, what about you?

Group 6
Violent Crime Rate in MN vs Spending on Public Safety and Corrections
Demare G (67A), Cyana R-S (67A), Dani B (65B), and Sami O. ()



| Year | Year Adj | Violent Crime | Public Safety/Correction Adj 2019 |
|------|----------|---------------|-----------------------------------|
| 2000 | 0 | 281 | 676,487.06 |
| 2001 | 1 | 264 | 684,173.91 |
| 2002 | 2 | 267 | 616,205.51 |
| 2003 | 3 | 263 | 632,442.99 |
| 2004 | 4 | 270 | 586,222.90 |
| 2005 | 5 | 293 | 632,017.67 |
| 2006 | 6 | 312 | 613,990.81 |
| 2007 | 7 | 289 | 681,075.80 |
| 2008 | 8 | 262 | 674,932.92 |
| 2009 | 9 | 245 | 716,425.14 |
| 2010 | 10 | 236 | 716,425.14 |
| 2011 | 11 | 231 | 671,263.97 |
| 2012 | 12 | 231 | 606,840.10 |
| 2013 | 13 | 232 | 636,116.52 |
| 2014 | 14 | 229 | 623,228.34 |
| 2015 | 15 | 243 | 680,410.26 |

Group 8
Homelessness in Minnesota
Sebastian, Lee Don, Gabie

