



ECO₂school Program Impact, 2014-2015

About ECO₂school:

The Center for Climate Protection's Youth Leadership program inspires young people to take action for immediate greenhouse gas emissions reductions while promoting long-term personal and community environmental action.

ECO₂school has been working in high schools across Sonoma County since 2006 encouraging students to take "greenways" to school using low carbon commute options. We use a service-learning model working with student leaders in high schools across the county to bring real life learning applications to schools that support healthy living, safe low carbon commutes, traffic decongestion, and improved air quality for the entire community.

2014-2015 Program Results

Throughout the 2014-2015 school year, ECO₂school leaders encouraged peers to use active and alternative modes of transportation for their school commutes. ECO₂school worked with 13 schools and reached 12,044 students, of which 7,507 participated in at least one behavior change action. County-wide, 81 students volunteered to lead activities on their high school campuses that encourage their peers to take action to reduce transportation -related greenhouse gas emissions.

The following data reports the impact of ECO₂school's single-day events and the multi-week ECO₂school Challenge:

Overall Impact

- 40,763 fewer pounds of CO₂ were emitted

Single Day Events

- 12,613 fewer pounds of CO₂ were emitted

The ECO₂school Challenge

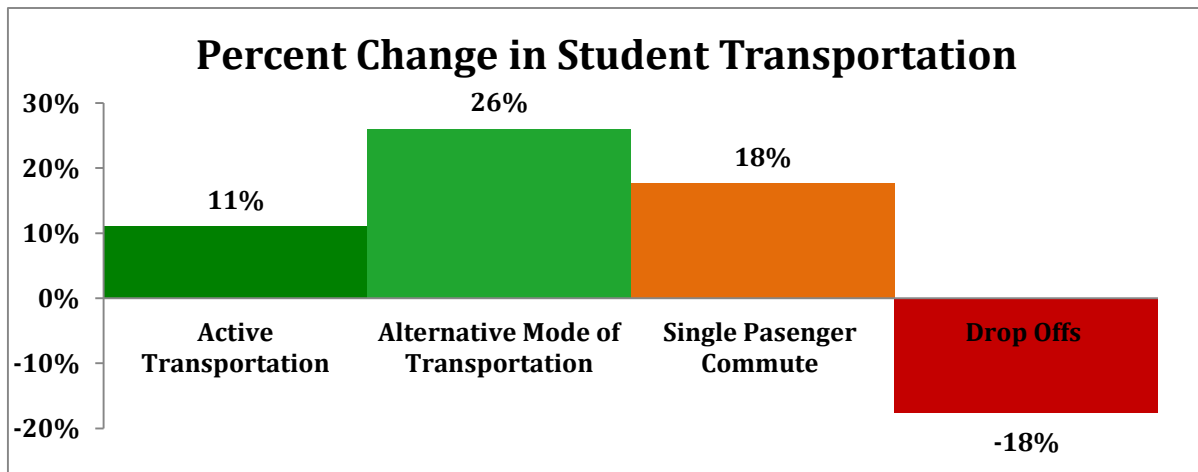
- 28,150 fewer pounds of CO₂ were emitted
- 33,577 fewer miles were driven
- 1,520 fewer gallons of gas were consumed, thus saving \$3,771



Changes in Student Transportation Behavior

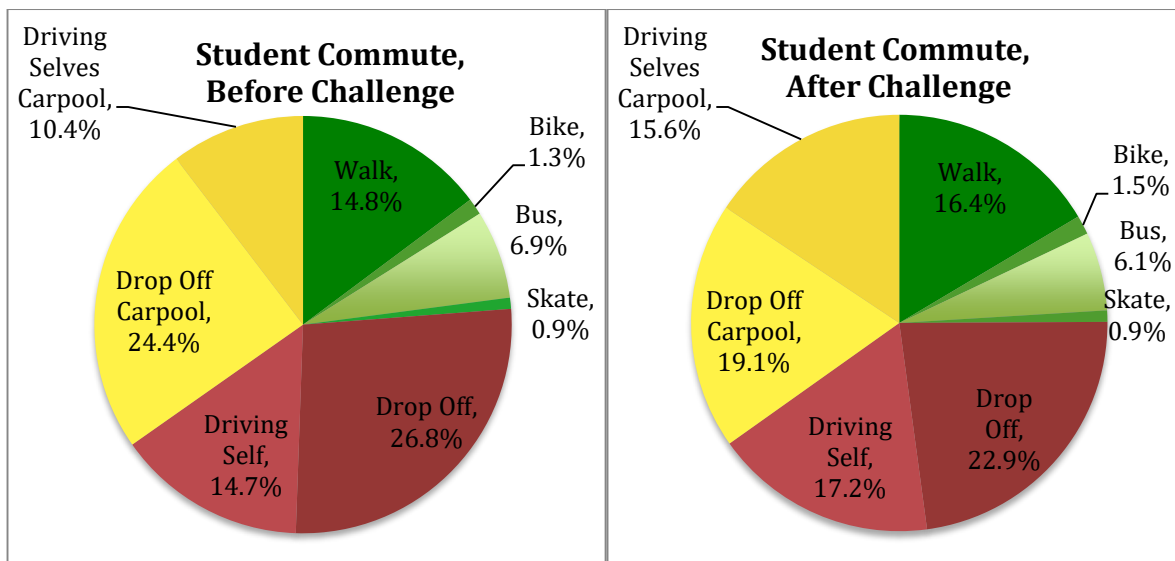
During the Challenge, 21 percent of students surveyed indicated that they tried a low-carbon commute option, and 32 percent of those students said they would continue utilizing an active or alternative mode of transportation. When adjusted data from the fall and spring are compared, it shows students increased their use of active and alternative modes of transportation, resulting in a 7 percent reduction in vehicles miles traveled (VMT), carbon dioxide emissions, and gas consumption.

Students' use of active and alternative modes of transportation to get to and from school increased by 11 percent and 26 percent respectively throughout the school year. The chart, below, depicts the percent change in students' transportation modes between fall and spring.



Though we saw an 18 percent increase in students' single passenger commutes, we also saw an 18 percent decrease in student drop offs. This mirrored divergence is likely due to the number of students acquiring their driver's license. The increase in alternative modes of transportation, which include carpools, could be influenced by students gaining permission to drive their peers, something not permitted with a provisional license.

The graphs below compare student commutes before and after the ECO₂school program.



Students' participation in and exposure to the ECO₂school program positively impacted students' transportation choices, and the resulting emission reductions in Sonoma County.

Evaluating the ECO₂school Program

**The following actions were rated by students on a 1-4 scale.*

Participation

Surveys rated the events aimed to promote participation in low carbon commutes. *Cocoa 4 Carpools*, a single day event that rewards student carpooling, received the highest rating with a score of 2.9. The *Challenge* followed closely with a score of 2.8 and *Walk and Roll/Go Green Days* scored a 2.6. Overall a 42 percent increase in participation was seen during the *Challenge* from spring 2014 to spring 2015.

Engagement Strategies

We asked students to rate their experience with ECO₂school's engagement activities, which fall into two categories: activities and incentives. In the former category, the *bike blender* activity rated 2.7, the most popular, followed by *slow races* and *guest speakers*, which both rated 2.3. As expected, students respond positively to incentives like food and other prizes. Pizza and ice cream class parties were the leading incentive for the third consecutive year, with a score of 3. Raffles for individual prizes and bicycles followed with a score of 2.7. Teacher encouragement of participation rated 2.3, while having a visible commute tracking challenge poster rated 2.2. In 2015, the trip tracking system was changed from an online portal to a classroom poster system. Despite poster visibility receiving the lowest score, we attribute the increase in participation to the poster's visibility and accessibility.

What Motivates Behavior Change?

Students who reduced the number of times that they drove to school were asked what influenced their behavior. The leading motivation for changing student views on transportation was education. More specifically, students said that they chose alternative transportation methods because they were more aware of climate change/wanted to make greener choices/and were more aware of the health benefits of walking and biking (received a score of 2.7). Being more confident about walking and biking scored 2.5, while competing for prizes received the lowest rating, at 2.3. These results underscore the importance of classroom education as a key component of the long-term program success and the lifelong commitment of these young people to change behavior that reduces their impact on the climate.

"The ECO₂school program is a great way to connect with other young people who share a passion for environmental sustainability." David Eik MCHS

Climate literacy provides context for behavior change while safety education increases confidence and ability. Increased understanding of the impact of personal behavior positively effects transportation mode shift among students.

**Students where asked to rate each action individually on a scale from 1-4, 1 being the least favored to 4 being the most favored. Some students surveyed rated actions comparatively rather than individually. This may have impacted the results.*

Program Recognition

The ECO₂school program was the proud recipient of the 2015 Clean Air Award for Education from Breath California for its innovation and leadership.



Student Leadership

ECO₂school works with student leaders to equip them with the tools and confidence to coordinate campus transportation projects. In the process, these students are supported and empowered to be effective climate leaders. The ECO₂school program connects these students with leadership opportunities that allow them to grow and positively influence their communities. In response, student leaders are winning awards and scholarships for their work and embarking on educational and professional careers with an environmental focus.

The Youth Advisory Board

The Youth Advisory Board (YAB) is comprised of student leaders who want to engage in the larger community. The YAB helps inform the program, organizes community events, speaks out at local political and community venues, and provides a youth perspective to the larger community of climate activists. Over the course of the 2014-15 school year the YAB organized the following actions:

- Green Teen Gathering, 38 teens plus teachers and community leaders gathered to network and learn how to improve sustainability on their school campus.
- Advocacy Day, YAB members partnered with Transform to meet legislators in Sacramento and lobby for bills SB32 and AB1335.
- Green Careers Mixer, students gathered with young adults to hear about career pathways in sustainability.
- Scavenger Hunt, YAB members explored downtown Santa Rosa on foot in this transportation-focused activity that brought outgoing and incoming YAB members together.

Throughout the year, student leaders have been recognized in the following ways:

Awards

- Press Democrat Youth Environmental Science Scholarship Award Recipient
- Environmental Education Trip to China through the U.S Dept. of Education and Cultural Affairs, two students

Presentations

- Youth Keynote Speaker, Youth for Environment and Sustainability Conference
- Youth Presenters, Youth for Environment and Sustainability Conference

Press Democrat Teen Life Features

- [Teen Face: Nature lover bent on spreading the word \(Sep. 2014\)](#)

- [Teen Face: Monty's green team leader doing her part to protect the planet](#) (Oct. 2014)
- [Teen Face: Passion for marine life inspires activism](#) (Jan. 2015)
- [Teen Face: Windsor High Senior a steward of planet, those in need](#) (Feb. 2015)

Survey methodology

For single-day events, teachers collect transportation tallies. The carbon savings were calculated based on these tallies, in conjunction with school transportation data. Posters were used to calculate Challenge participation while surveys collected additional information.

Student leaders at six schools surveyed peers about their school commute behavior at the beginning and end of the school year and collected general feedback regarding education and encouragement programs. Of a total student population of 7,037 in the six schools, a random sample of 764 students were surveyed in the fall, and 793 students were surveyed in the spring, for a combined 10% representative sample.

Students provided their home address to determine the vehicle miles traveled (VMT) during their school commute. They also reported the transportation mode(s) they used for the five-day school week, or 10 one-way trips to and from school. From this information, the estimated pounds of CO₂ emitted for each surveyed student were calculated. The representative samples of student responses from each school were then extrapolated to reflect the entire student body at each individual school.