

The Unrecognized Culprit

Indiana's education systems are under attack. A significant culprit – Indiana's incorrect time zone - goes unrecognized while fingers are being pointed at teachers, initiatives are being legislated as cure-all solutions, groups are being formed to tell educators how to educate, and funding continues to be a major problem. Consider these factors that aren't being factored in:

- 1) **Morning darkness** - School buses begin picking up students all over Indiana as early as 6:30 am. Most school districts stagger start times to accommodate multiple bus routes. Generally most schools begin between 7:30 - 7:45. Sunrise in Indiana is as late as 8:20 with sunrise after 8 am on 52 days. Classes start while it is still dark outside.
 - **Safety** – For much of the year students are traveling to school in pitch black morning darkness – waiting at dark bus stops, walking along dark streets, inexperienced teen drivers driving on winter pavement in the dark. Since 2007, in morning darkness, fourteen students have been hit by vehicles with five of those killed and two left with permanent injuries. In morning darkness, five girls have been raped following abduction from their bus stops or walking to school. Another ten abductions were attempted. Eleven students have been robbed and attacked. According to law enforcement officials, these publicized events are but a small percentage of the actual incidents. Darkness is dangerous for everyone, but especially for this vulnerable sub-population of Indiana.
 - **Education** – Schools are acknowledging the link between poor classroom performance and incompatibility with student's biological clocks. They are also recognizing that teenagers have extra sleep requirements. Students aren't alert until their bodies tell them to wake up – and even the best teachers can't win in the battle against circadian rhythms. One hour earlier sunrise is a cost-free step that would place students' biological clocks one hour closer to being in sync with the school schedule. This would significantly improve students' readiness to perform in the classroom.
 - **Drop-outs** – Darkness scares children. Dark streets are not only scary, they are unsafe. Many parents can't/won't accompany their children to their bus stop or schools. Among these are the students that are most likely to become school drop-outs. While morning darkness reduces students' readiness to learn, it also means that every school day starts out as a frightening experience.
 - **Conclusion** – On Central Time, Indiana's latest sunrise of the year would be 7:15 am. The majority of travel to and from school would occur in daylight and students would be awake and ready to learn when they arrive at school.
- 2) **School Delays** -
 - **Education** – Most teachers consider school delays as lost education days. Delays are usually for 2 hours. Typically, each class period is reduced by 20 minutes. Those 20 minutes are taken from the most important “on-task” time – not from the “changing class” time or the “settling-in” time, or lunch time. Students are distracted because they barely get settled and it's time to change classes. Plans requiring a block of time can't be conducted – tests, labs, physical education, etc. The day is wasted educationally.
 - **Wasted spending** – The expense meter is running while classrooms stand empty and students wait at home for the roads to become safe. In 2008-09 there were 859 delay days called by Indiana's Eastern Time school districts. In 2009-10 delays increased by 23% (1,059 delays). In 2010-11 delays rose another 33% (1,413 delays) or a total of 64% in just 3 years. The amount of money wasted by school delays can be calculated at a

conservative rate of \$7 per student per hour. This totaled \$59 million in the 2010-2011 school year for school districts located in Indiana's Eastern Time Zone.

- **Conclusion** – On Central Time school delays could be limited to one hour. This would automatically cut delay hours in half and would automatically cut the amount of money wasted during school delays in half. One-hour delays would mean that each class period would be reduced by only 10 minutes and greatly reduce the negative impact on education.
- 3) **Evening Sunlight** – Eastern Daylight Time for 8 months each year means that 2 hours of morning sunlight has been shifted to the evening = dark mornings and light evenings. In mid-August, when the school year starts, it gets dark around 9 pm. Darkness at 8 pm doesn't occur until the end of September and starts again in early March. In late April when the ISTEP tests are given, darkness occurred at 9 pm. By the time the school year ends, it doesn't get dark until around 9:30 pm.
- **Adequate sleep** - Darkness triggers the body to wind down in preparation for sleep. Bedtime is very difficult when the sun is still shining. While teens actually need more sleep than at other times in their lives, they have trouble getting to sleep until later in the evening. This leads to chronic sleep deprivation.
- **Education** – Preparing for tests, special projects, homework – all require concentration. Evening darkness removes outdoor distractions and enables focusing on school work. While physical activity is beneficial, youth sports tend to continue until darkness forces competitions to cease – which in spring and fall is after 9 pm.
- **Conclusion** – Tired students often come to school poorly prepared and can't perform to their potential in the classroom. One hour earlier sunset provides a sunlight/darkness environment that is much more conducive to educational performance.

In “*Detrimental Effects of Daylight-Saving Time on SAT Scores*” (Journal of Neuroscience, Psychology, and Economics, Nov. 2010) John F. Gaski, Ph.D, Associate Professor of Marketing at the University of Notre Dame, compares SAT scores of Indiana students prior to the adoption of Eastern Daylight Time in 2006 with those the following year. This study shows a “16-point decrement in SAT scores associated with Eastern Daylight Time at Indiana longitude, even controlling for socioeconomic status.” Professor Gaski refers to the “dumbing-down” effect of Eastern Daylight Time on Indiana’s students and predicts further decrement of students’ scores will occur as the cumulative effect of EDT on education is realized. Source: “*Indiana Policy Review*”, Summer 2011

Childhood cultural experiences – Summer is the time for many childhood experiences that are darkness dependent. Campfire programs are an important part of youth camping (Scouts, church camps, etc.) as well as family camping. The magic of campfires is missing when the sun is still up. Observing the evening sky, catching lightning bugs, playing flashlight tag, July 4th fireworks – all require darkness.

Indiana’s 1.35 million students comprise 21% of its population. Our obsolete time zone designation is jeopardizing their future. Please join the Central Time Coalition in supporting restoring Indiana to the Central Time Zone (Central Standard Time in winter and Central Daylight Time during the remaining months).

Central Time Coalition
www.hoosiersforcentraltime.com