



SAVE STANDARD TIME

The best clock for health, safety, education, economy, environment, civil liberties, and lasting public support.

2022 February 6

Virginia General Assembly
900 East Main Street
Richmond Virginia 23219

Re: HJ-6 (Daylight Saving Time Study) – Amendments Requested

Dear Honorable Delegates,

Thank you for hearing HJ-6. With all due respect to the bill author, our nonprofit would like to suggest the following two amendments.

1) Please consider amending this statement:

WHEREAS, researchers have determined that remaining in daylight saving time year-round will save significant amounts of energy in November and February and will lead to a decrease in childhood obesity by increasing the amount of sunlight after school hours;

To be more aligned with scientific consensus:

WHEREAS, researchers from Yale and elsewhere have determined that remaining in standard time year-round will save millions of dollars per year in energy, and researchers from the American Academy of Sleep Medicine, National Sleep Foundation, Society for Research on Biological Rhythms, and many medical societies have determined that remaining in standard time year-round will decrease obesity, diabetes, heart disease, cancer, depression, and many other chronic illnesses, in both children and adults, by increasing the amount of sleep and morning sunlight;

2) Please consider amending this line:

That the Secretary of Commerce and Trade be requested to study the effects of daylight saving time on the Commonwealth.

To be more applicable to the health and safety concerns cited throughout the resolution:

That the Secretary of Health and Human Services be requested to study the effects of daylight saving time on the Commonwealth.

Scores of organizations representing thousands of scientists and doctors, and millions of teachers and parents, oppose permanent DST and endorse longitudinally correct, permanent Standard Time. Among these are the Maryland Sleep Society, Kentucky Sleep Society,

Tennessee Sleep Society, Southern Sleep Society, National PTA, National Safety Council, American Academy of Sleep Medicine, American College of Chest Physicians, National Sleep Foundation, American College of Occupational & Environmental Medicine, Start School Later, Society for Research on Biological Rhythms, Canadian Sleep Society, and Association of Canadian Ergonomists.^{[AASM][CSS][NSF][SRBR]}

Sleep is essential to viral immunity,^{[Meira][Panda][Ray]} and for years the CDC has classified sleep deprivation as a nationwide epidemic.^[Jin] Springing clocks ahead to DST acutely deprives sleep. Leaving clocks ahead on DST chronically deprives sleep (estimated average 19 minutes nightly).^{[Giuntella][Roenneberg]} Continually maintained artificial delay of sunrise by one hour manifests as statistically significant increases in accidents, disease (certain cancers up 12–36%), and healthcare costs, and as statistically significant decreases in learning, productivity, and earnings (individual wages down 3–5%).^{[Gibson][Giuntella][Gu][Roenneberg]} It's not just clock change that harms, but also DST's forced early waking. Permanent Standard Time instead preserves morning sunlight and lets people sleep longer.^{[AASM][Juda][SRBR]}

Please hear the consensus of scientists and doctors in considering HJ-6.

Sincerely,



Jay Pea
Founder & President
jay@savestandardtime.com

American Academy of Sleep Medicine (2020). "Call for Elimination of Daylight Saving Time". *Journal of Clinical Sleep Medicine*. <https://aasm.org/american-academy-of-sleep-medicine-calls-for-elimination-of-daylight-saving-time/>

Canadian Sleep Society (2021). "Position Statement of the Canadian Sleep Society on the Practice of Daylight Saving Time". *Canadian Sleep Society News*. <https://css-scs.ca/position-statement-of-the-canadian-sleep-society-on-the-practice-of-daylight-saving-time-dst/>

Gibson & Shrader (2015). "Time Use and Productivity: The Wage Returns to Sleep". *Williams College Department of Economics Working Papers*. <https://econpapers.repec.org/paper/wilwileco/2015-17.htm>

Giuntella & Mazzonna (2017). "Sunset Time and the Economic Effects of Social Jetlag Evidence from US Time Zone Borders". *Journal of Health Economics*. <https://www.sciencedirect.com/science/article/abs/pii/S0167629618309718>

Gu et al (2017). "Longitude Position in a Time Zone and Cancer Risk in the United States". *Cancer Epidemiology, Biomarkers & Prevention*. <https://cebp.aacrjournals.org/content/26/8/1306>

Jin & Ziebarth (2019). "Sleep, Health, and Human Capital: Evidence from Daylight Saving Time". *The National Bureau of Economic Research*. <https://ideas.repec.org/p/yor/hectdg/15-27.html>

Juda et al (2019). "An Open Letter to the BC Government in Support of Permanent Standard Time". *Simon Fraser University*. <https://vault.sfu.ca/index.php/s/sAnv3Z4bcSwY4Gm>

Meira e Cruz et al (2020). "Putative contributions of circadian clock and sleep in the context of SARS-CoV-2 infection". *European Respiratory Journal*. <https://erj.ersjournals.com/content/55/6/2001023>

National Sleep Foundation (2021). "Permanent Standard Time: A Position Statement from the National Sleep Foundation". *NSF Issues*. <https://www.thensf.org/wp-content/uploads/2021/03/NSF-Position-on-Permanent-Standard-Time.pdf>

Panda (2020). "Beyond Sanitizing and Social Distancing—A Healthy Circadian Rhythm May Keep You Sane and Increase Resilience to Fight COVID-19". *The Conversation*. <https://theconversation.com/beyond-sanitizing-and-social-distancing-a-healthy-circadian-rhythm-may-keep-you-sane-and-increase-resilience-to-fight-covid-19-135535>

Ray & Reddy (2020). "COVID-19 Management in Light of the Circadian Clock". *Nature Reviews*. <https://www.nature.com/articles/s41580-020-0275-3>

Roenneberg et al (2019). "Daylight Saving Time and Artificial Time Zones – A Battle Between Biological and Social Times". *Frontiers in Physiology*. <https://www.frontiersin.org/articles/10.3389/fphys.2019.00944/full>

Society for Research on Biological Rhythms (2019). "Why Should We Abolish Daylight Saving Time?". *Journal of Biological Rhythms*. <https://srbbr.org/advocacy/daylight-saving-time-presskit/>

REJECT PERMANENT DAYLIGHT SAVING TIME

Forces early waking. Decreases immunity and alertness. Repeat failure.

Most work/school starts at 8am.
How would you rather start your day half the year?



Permanent Standard Time is the safest, healthiest, quickest end to clock change.



SAVE STANDARD TIME

8:03am average school start in the US. CDC, US ED, SASS, 2015. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a1.htm>
7:55am median work arrival in the US. 538, ACS, USCB, 2014. <https://fivethirtyeight.com/features/which-cities-sleep-in-and-which-get-to-work-early/>

The US tried permanent DST in 1974.

Several children's lives were taken by sleep-deprived drivers.

<https://www.nytimes.com/1974/01/31/archives/schools-ask-end-to-daylight-time-pressure-follows-success-in-easing.html>



7:35am Daylight Saving Time, New York City
Photographer Unknown

Why repeat bad history? Permanent Standard Time is the safest and quickest way to end clock changes.



SAVE STANDARD TIME

RESTORE PERMANENT STANDARD TIME

Improves sleep. Best for health, safety, education. Federally pre-approved.

"Permanent Standard Time is the only fair, viable option.

"...Permanent Daylight Saving could create real health/safety issues.

Humans require adequate morning light so that our internal biological rhythms synchronize properly to local time. Lack leads to metabolic disorders, depression, cardiovascular disease..."

Chancellor Gene Block PhD, UCLA
Prof Johanna Meijer PhD, Leiden University

<https://newsroom.ucla.edu/stories/who-wants-to-go-to-work-in-the-dark>



SAVE STANDARD TIME

"Permanent Standard Time is the best choice to match our sleep-wake cycle.

Daylight Saving Time results in more darkness in the morning and more light in the evening, disrupting the body's natural rhythm."

Muhammad Adeel Rishi MD
Mayo Clinic & American Academy of Sleep Medicine

<https://aasm.org/american-academy-of-sleep-medicine-calls-for-elimination-of-daylight-saving-time/>



SAVE STANDARD TIME

"The human circadian system does not adjust to Daylight Saving Time.

Sleep becomes disrupted, less efficient, and shortened... Permanent Standard Time is the healthier, more natural choice."

Nathaniel F Watson MD MSc
Neurology Professor, University of Washington, Seattle

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6557642/>



SAVE STANDARD TIME

"Permanent Daylight Saving will undermine any benefits of shifting school start time later.

"...A required wake time of 7am during Daylight Saving leads to the same degree of misalignment as a required wake time of 6am during Standard Time. With permanent Daylight Saving, schools would need to delay start times by one hour during winter just to maintain the status quo!"

Anne Skeldon PhD
Professor of Biology, University of Surrey

<https://www.eurekalert.org/news-releases/771715>



SAVE STANDARD TIME



SAVE STANDARD TIME

The best clock for health, safety, education, economy, environment, civil liberties, and lasting public support.

Endorsements of Permanent Standard Time as the Better Year-Round Clock

The following parties reject permanent Daylight Saving Time and endorse permanent Standard Time as the better year-round clock. These are not implied to be endorsements of the Save Standard Time entity.

Organizations (non-comprehensive list)

American College of Chest Physicians	National Safety Council
American Academy of Sleep Medicine	National Sleep Foundation
National PTA	American College of Occupational Medicine
American Academy of Dental Sleep Medicine	Start School Later
American Academy of Cardiovascular Sleep Med	National Education Association
American Federation of Teachers	National School Boards Association
Rabbinical Council of America	Agudath Israel of America
Florida PTA	Northwest Noggin Neuroscience
California Sleep Society	Wisconsin Sleep Society
Kentucky Sleep Society	Missouri Sleep Society
Tennessee Sleep Society	Maryland Sleep Society
Regional Adolescent Sleep Needs Coalition	Southern Sleep Society
Capitol Neurology	Michigan Academy of Sleep Medicine
Dakota Sleep Society	Rabbinical Council of California
Agudath Israel of California	California Islamic University
Agudath Israel of Florida	Cuyahoga Astronomical Association
Ohio Bicycle Federation	Adath Israel San Francisco
Stephens Memorial Observatory	Campaign to Opt Out of DST in Texas
Agudath Israel of Chicago	Canadian Sleep Society
Association of Canadian Ergonomists	Canadian Society for Chronobiology
Solaris Fatigue Management	World Sleep Society
Society for Research on Biological Rhythms	Society of Anesthesia & Sleep Medicine
Society of Behavioral Sleep Medicine	Society for Light Treatment & Biological Rhythms
Daylight Academy	B-Society
Good Light Group	International Alliance for Natural Time
European Biological Rhythms Society	European Sleep Research Society
Australasian Chronobiology Society	

Individuals (non-comprehensive list)

Elizabeth B Klerman MD PhD, Associate Professor, Harvard Medical School, Boston, Massachusetts
Michael T Lam MD PhD, San Diego, California
Michael McCarthy MD PhD, Center for Circadian Biology, University of California, San Diego
Thomas E Nordahl MD PhD, Professor Emeritus, University of California, Davis
David K Welsh MD PhD, Professor Emeritus, University of California, San Diego
Amir Zarrinpar MD PhD, Assistant Professor, San Diego, California
Salman Ahsan PhD, San Jose, California
Shimon Amir PhD, Professor, Concordia University, Montreal, Quebec
Sonia Ancoli Israel PhD, Professor Emeritus, University of California, San Diego
Michael Antle PhD, Professor, Hotchkiss Brain Institute & University of Calgary, Alberta
Susanna Barry PhD, College Mental Health Counselor & Sleep Coach, Cambridge, Massachusetts

William Bechtel PhD, Distinguished Professor, University of California, San Diego
 Joseph Boyd PhD, Research Scientist, MilliporeSigma, Temecula, California
 Hugo Calligaro PhD, San Diego, California
 Oscar Castanon-Cervantes PhD, Assistant Professor, Morehouse School of Medicine, Atlanta, Georgia
 Joanna C Chiu PhD, Vice Chair, Department of Entomology & Nematology, University of California, Davis
 Scott Cookson PhD, Quantitative BioSciences, San Diego, California
 Jason DeBruyne, PhD, Associate Professor, Morehouse School of Medicine, Atlanta, Georgia
 Grant Denn PhD, Physics Department Chair, Metropolitan State University of Denver, Colorado
 Heinz Freisling MSc PhD, Epidemiologist, International Agency for Research on Cancer, Lyon, France
 Frederic Gachon PhD, Group Leader, Physiology of Circadian Rhythms, Institute for Molecular Bioscience
 Susan S Golden PhD, Director, Center for Circadian Biology, University of California, San Diego
 Marijke CM Gordijn MS PhD, Chrono@Work, University of Groningen, Netherlands
 Bill Griesar PhD, Northwest Noggin Neuroscience Outreach Group, Portland, Oregon
 Liz Harrison PhD, Center for Circadian Biology, University of California, San Diego
 Dietrich Henckel PhD, Professor, Technical University of Berlin, Germany
 Erik Herzog PhD, Professor of Biology, Washington University, St Louis, Missouri
 Myriam Juda PhD, Researcher, Simon Fraser University, Vancouver, British Columbia
 Achim Kramer PhD, Professor of Chronobiology, Charité – Universitätsmedizin Berlin, Germany
 Camilla Kring PhD, Speaker, Author, & Entrepreneur, Copenhagen, Denmark
 Katja Lamia PhD, Associate Professor of Molecular Medicine, Center for Circadian Biology, UC San Diego
 Andy LiWang PhD, University of California, Merced
 Travis Longcore PhD, Institute of the Environment & Sustainability, University of California, Los Angeles
 Emily Manoogian PhD, Postdoctoral Fellow, San Diego, California
 Peter Mansbach PhD, Bethesda, Maryland
 Erik Maronde PhD, Scientist, Frankfurt, Germany
 Girish Melkani MS PhD, Associated Research Professor, San Diego, California
 Martha Merrow PhD, Professor of Chronobiology, Ludwig Maximilian University of Munich, Germany
 Matt Metzgar PhD, Clinical Professor of Economics, University of North Carolina, Charlotte
 Ralph Mistlberger PhD, Professor, Simon Fraser University, Vancouver, British Columbia
 João Nunes PhD, Biochemistry Researcher, Dresden, Germany
 Marie Pariollaud PhD, Postdoctoral Associate, Scripps Research, La Jolla, California
 Ketema Paul, PhD, University of California, Los Angeles
 Linda Petzold PhD, Professor, University of California, Santa Barbara
 Frank Powell PhD, Professor of Medicine, University of California, San Diego
 Kendall Satterfield PhD, San Diego, California
 Dorothy D Sears PhD, San Diego, California
 Lori L Shemek PhD, Health Expert & Bestselling Author, Dallas–Fort Worth, Texas
 Benjamin Smarr PhD, Professor of Bioengineering & Data Science, University of California, San Diego
 Andrea Smit PhD, Researcher, Simon Fraser University, Vancouver, British Columbia
 Barbara Sorg PhD, Legacy Research Institute, Portland, Oregon
 Melissa A St Hilaire PhD, Instructor, Harvard Medical School, Boston, Massachusetts
 Andrew Steele PhD, Associate Professor of Biological Sciences, California State Polytechnic University
 Jennifer Thomas PhD, Professor, San Diego, California
 Gianluca Tosini PhD, Chief Scientific Research Officer, Morehouse School of Medicine, Atlanta, Georgia
 Roger Tseng PhD, Biological Scientist, USDA, Ames, Iowa
 Judy Village PhD CCCPE, President, Association of Canadian Ergonomists, British Columbia
 Daniel S Whittaker PhD, Los Angeles, California
 Anna Wirz-Justice PhD, Professor Emeritus, Centre for Chronobiology, University of Basel, Switzerland
 Irving Zucker PhD, University of California, Berkeley
 Mariah Baughn MD, San Diego, California
 Steven M Croft MD FAAN, Neurologist, Houston, Texas
 Richard E Cytowic MD, Washington, DC
 Mona Ezzat MD, San Diego, California
 John F Gottlieb MD, Clinical Assistant Professor of Psychiatry & Behavioral Sciences, Chicago, Illinois
 Royan Kamyar MD, Physician, La Mesa, California
 Jack Kruse DMD MD, Neurosurgeon, New Orleans, Louisiana
 Beth Malow MD MS, Medical Doctor & Researcher, Brentwood, Tennessee
 Melody T McCloud MD, Obstetrician-Gynecologist, Atlanta, Georgia
 Tessa Sugarbaker MD MFT, San Francisco, California
 Nathaniel F Watson MD MSc, Bainbridge Island, Washington
 Dr Archana G Chavan, University of California, Merced
 Dr Chelsea Gustafson, Assistant Professor, Portland, Oregon
 Dr Paul Kelley, Milton Keynes, United Kingdom
 Dr Irving Lebovics, Los Angeles, California
 Lisa Alexia PA-C, Physician Assistant, Alaska
 Prof Stacey Harmer, University of California, Davis
 Betty C Jung MPH RN MCHES, New Haven, Connecticut