2021 February 28

Political Subdivisions Committee North Dakota House of Representatives Bismarck, North Dakota 58505

Re: SB-2201—Oppose (Amend to Standard Time)

Dear Honorable Representatives,

Please oppose SB-2201, refer it to your committees on health, safety, and education, and recommend its amendment to permanent Standard Time (draft attached).

SB-2201 seeks permanent Daylight Saving Time (DST), which science and history show is more harmful than clock change. Permanent Standard Time instead can improve viral immunity with better sleep, it will protect start times with morning sunlight, and it is federally pre-approved.

Scores of organizations representing thousands of scientists/doctors and millions of teachers/parents oppose permanent DST and endorse permanent Standard Time. Among these are the Dakotas Sleep Society, National PTA, National Safety Council, American Academy of Sleep Medicine, American College of Chest Physicians, American College of Occupational & Environmental Medicine, Start School Later, and Society for Research on Biological Rhythms. [AASM] [CSC][ESRS][RIVM][SRBR]

Healthy sleep is essential to viral immunity (including COVID), [Meira][Panda][Ray] and for years the CDC has classified sleep deprivation as a nationwide epidemic. [Jin] Springing clocks forward to DST acutely deprives sleep. Leaving clocks forward on DST chronically deprives sleep (estimated average 19 minutes nightly). An hour delay of sunrise each day (such as by DST) manifests as statistically significant increases in accidents, in illness and disease (certain cancers up 12–36%), and in healthcare costs, and as statistically significant decreases in education, in productivity, and in wages (down 3–5%). It's not just clock change that harms. Sun-based, longitudinally correct Standard Time preserves morning sunlight, when human biology needs it most. [AASM][Borisenkov][CSC][Curtis][ESRS][Gibson][Giuntella][Gu][Juda][RIVM][Roenneberg][SRBR]

Standard Time is the quickest way to end clock change, in that the US Uniform Time Act of 1966 permits permanent Standard Time and forbids permanent DST. Scientific polling shows strong public support to end clock change, with slight preference for Standard Time. [AP] History shows support for permanent DST reverses to opposition once its dark mornings are experienced. [BBC][Ripley][Yorkshire] Permanent DST would delay North Dakota's sunrises to 9:48am, and past 8am for up to 5.5 months (photo attached). It would undo the benefits of starting school later, and it would disrupt parents' work hours. [Cell][Skeldon] Standard Time keeps most sunrises

before 8am, when most work/school starts, [CDC][Silver] for healthier sleep, alertness, immunity, and productivity.

Please oppose permanent DST and support permanent Standard Time—as is federally preapproved and best for health, safety, education, and economy. I would be glad to provide committee testimonies and expert statements on this issue.

Sincerely,

Jay Pea

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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/

AP-NORC (2019). "DST vs Standard Time". Center for Public Affairs Research. https://apnorc.org/projects/daylight-saving-time-vs-standard-time/
BBC (2014). "Russia: Putin Abolishes 'Daylight Savings' Time Change". BBC News. https://www.bbc.com/news/blogs-news-from-elsewhere-28423647
Borisenkov et al (2016). "Seven-Year Survey of Sleep Timing in Russian Children and Adolescents". Biological Rhythm Research. https://www.researchgate.net/publication/307547013 Seven-year survey of sleep timing in Russian children and adolescents chronic 1-h forward transition of social clock is associated with increased social ietlag and winter pattern of mood seasonality

tion of social clock is associated with increased social jetlag and winter pattern of mood seasonality

Canadian Society for Chronobiology (2019). "Turn Back the Clock on Daylight Savings: Why Standard Time All Year Round Is the Healthy Choice". The Globe and Mail. https://www.theglobeandmail.com/opinion/article-turn-back-the-clock-on-daylight-savings-why-standard-time-all-year/

Cell Press Staff (2019). "Permanent Daylight Savings May Cancel Out Changes to School Start Times". EurekAlert!. https://www.eurekalert.org/pub_re-leases/2019-04/cp-pds041819.php

Centers for Disease Control and Prevention (2015). "School Start Times for Middle School and High School Students – United States, 2011–12 School Year". Morbidity and Mortality Weekly Report. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a1.htm

Curtis (2019). "Daylight Saving Time: Harmed by Hands of the Clock". The Irish Times. https://www.irishtimes.com/opinion/daylight-saving-time-harmed-by-hands-of-the-clock-1.4064179

European Sleep Research Society (2018). "Joint Statement". EU Commission on DST. https://esrs.eu/joint-statement-to-the-eu-commission/ 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. The Wage Returns to Sleep". Williams College Department of Economics Working Papers.

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/in-dex.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://eri.ersjournals.com/content/55/6/2001023

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-in-crease-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
Ripley (1974). "Senate Votes Return to Standard Time for Four Months and Sends Bill to Ford". The New York Times. https://www.nytimes.com/1974/10/01/archives/senate-votes-return-to-standard-time-for-four-months-and-sends-bill.html

RIVM (2019). "Standard Time More Beneficial for Public Health Than Summer Time". Rijksinstituut voor Volksgezondheid en Milieu. https://www.rivm.nl/en/news/standard-time-more-beneficial-for-public-health-than-summer-time

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

Silver (2014) "Which Cities Sleep In, and Which Get to Work Early". FiveThirtyEight. https://fivethirtyeight.com/features/which-cities-sleep-in-and-which-aet-to-work-early/

Skeldon & Dijk (2019). "School Start Times and Daylight Saving Time Confuse California Lawmakers". Current Biology. https://www.cell.com/current-biology/fulltext/S0960-9822(19)30312-4

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

Yorkshire (2018). "British Summer Time: Why Do We Change the Clocks?". Yorkshire Evening Post. https://www.yorkshireeveningpost.co.uk/news/uknews/british-summer-time-why-do-we-change-clocks-313791

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)

National PTA

National Safety Council

American College of Chest Physicians National School Boards Association

B-Society

American Academy of Dental Sleep Medicine

European Sleep Research Society

Agudath Israel of America

Society of Anesthesia & Sleep Medicine

German Teachers' Association

French Society for Sleep Research & Medicine

National Commission for the Rationalization of Spanish Hours

California Islamic University

Society for Light Treatment & Biological Rhythms

Rabbinical Council of California Agudath Israel of California Northwest Noggin Neuroscience

California Sleep Society

Michigan Academy of Sleep Medicine

Ohio Bicycle Federation Wisconsin Sleep Society

Canadian Society for Chronobiology

Southern Sleep Society Normal Time All the Time German Society for Time Policy

Missouri Sleep Society
Solaris Fatigue Management

Sleep Medicine Association Netherlands

Chronobiology Lab Groningen

Better Times Platform

Barcelona Time Use Initiative for a Healthy Society

National Education Association American Academy of Sleep Medicine American Federation of Teachers

American College of Occupational & Environmental Medicine

Start School Later

Rabbinical Council of America

Society for Research on Biological Rhythms

Florida PTA

World Sleep Society

European Biological Rhythms Society Society of Behavioral Sleep Medicine

American Academy of Cardiovascular Sleep Medicine

Agudath Israel of Florida

Francophone Chronobiology Society Association of Canadian Ergonomists

Good Light Group

Agudath Israel of Chicago

Daylight Academy
Kentucky Sleep Society
Maryland Sleep Society

Australasian Chronobiology Society Cuyahoga Astronomical Association

Adath Israel San Francisco Tennessee Sleep Society Curtis Clock Lab

Capitol Neurology

Stephens Memorial Observatory
Dutch Society for Sleep–Wake Research

Dakotas Sleep Society Abolish Time Change!

Individuals (non-comprehensive list)

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Shimon Amir PhD, Professor, Concordia University, Montreal, Quebec

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Irving Zucker PhD, University of California, Berkeley

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Richard E Cytowic MD, Washington, DC

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Royan Kamyar MD, Physician, La Mesa, California

Jack Kruse DMD MD, Neurosurgeon, New Orleans, Louisiana

Beth Malow MD MS, Medical Doctor & Researcher, Brentwood, Tennessee

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

Prof Stacey Harmer, University of California, Davis

Betty C Jung MPH RN MCHES, New Haven, Connecticut

Fabian Mohedano, President of Catalan Council for Vocational Training, Former Member of Parliament

"Permanent, year-round Standard Time is the best choice to most closely match our circadian 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

Most work/school starts at 8am.

How would you rather start your day half the year?



🎯 SAVE STANDARD TIME

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

"Cancer rates significantly increase when sunrise is later.

"Permanent DST would make sunrise later, while permanent Standard Time would make sunrise closer to body time."

Nicolas Cermakian PhD

President, Canadian Society for Chronobiology

https://www.theglobeandmail.com/apinian/article-turn-back-the-clock-on-daylight-savings-why-standard-time-all-yea

SAVE STANDARD TIME

"National PTA is opposed to Daylight Saving Time during the winter months because of the safety factor."

Heidi May Wilson

Spokesperson for the National Parent Teacher Association

https://www.washingtonpost.com/science/2019/03/08/springing-forward-daylight-saving-time-is-absolete-confusing-unhealthy-critics-say.



SENATE BILL NO. 2201

SUGGESTED AMENDMENT TO ABOLISH DAYLIGHT SAVING TIME AND TO RESTORE PERMANENT STANDARD TIME

A BILL for an Act to create and enact a new section to chapter 1-08 of the North Dakota Century Code, relating to requiring the state to observe standard time year-round; and to provide a contingent effective date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new section to chapter 1-08 of the North Dakota Century Code is created and enacted as follows:

Year-round observance of standard time.

This state and each political subdivision shall be exempt from the advancement of time as provided by 15 U.S.C. 260(a) and shall observe standard time year-round as the standard time of the entire state and each political subdivision.

SECTION 2. CONTINGENT EFFECTIVE DATE. This Act becomes effective on the thirtieth day after the attorney general certifies to the legislative council that Minnesota, Montana, and South Dakota each have commenced the observance of standard time year-round as the standard time.