Possible consequences of discontinuing seasonal changes of time on road safety

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Structure of the Presentation

1. Road safety and the light-shift hypothesis
2. The evidence
3. Conclusions

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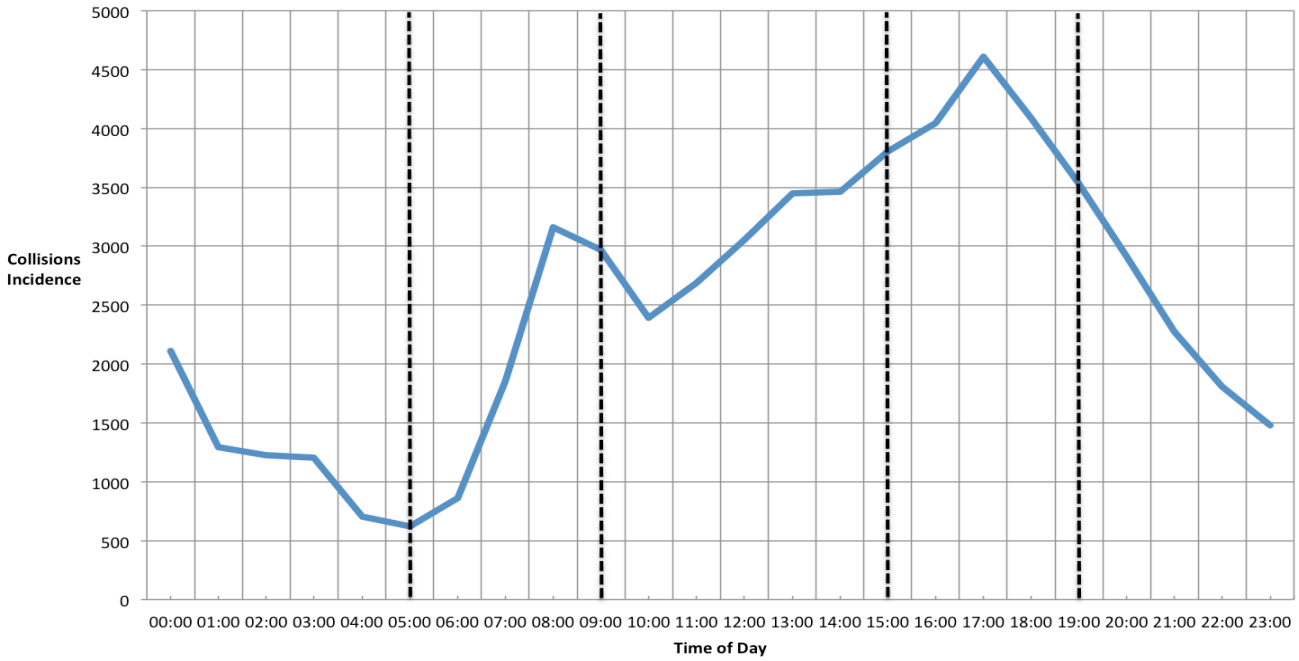
1. Road safety and the Light-Shift Hypothesis

- **Shifting light from the morning (when collision risk is lower) to the evening (when collision risk is higher) should have a net road safety benefit.**



Based on collision data in Republic of Ireland (Sarma, 2017)

2. The Evidence - The British Summertime Experiment

1. 1968-1971 UK and Eire maintain summertime year-round.
2. Three studies looked at Road Traffic Collision (RTC) data. All reported increase in morning collisions, decrease in evening collisions and net savings (0.7% reduction in serious injuries).
3. ROSPA draw on this evidence in calling for a move to CET in the UK.

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However

1. The data is 50 years old. How valid is it? Seatbelts, ABS, airbags, driver behavior, road infrastructure, traffic density?
2. Permanent summertime in different jurisdictions (and within jurisdictions) within a time zone differs due to different longitude (i.e. more westerly) and latitude.
3. Experiment abandoned in part because of perceived increased risk to farmers and children.

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Conclusion: The British Summertime Experiment studies should not be used to support the argument that discontinuing seasonal changes of time would confer a road safety benefit (due to poor validity).

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Evidence - Studies on DST

Sarma & Carey for the RSA, 2015, summarized 24 studies.

<u>Shifting light to evening in March</u>

should lead to a reduction in RTCs.

- 12 studies looked at long term effects up to 13 weeks and 11 reported small reductions in RTCs (all were from the US).
  - However this could be due to changes in climate, traffic densities etc. heading into summer.
  - 16 studies looked at short term effects (should control for traffic flow etc.) but sleep disruption is a confound. Findings mixed.

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Shifting light to morning in October

should lead to an increase in RTCs.

- 15 studies looked at short-term effects – 5 reported increase, 5 decrease and 5 no-change.
- A number of studies reported a long-term deterioration in road safety after the transition, but these are attributable to range of factors including climate.

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Conclusion: Findings mixed and studies did not control for other explanations (e.g. changes in climate or traffic flow over time).

International DST literature does not support assertion that shifting light from morning to evening has a positive impact on road safety.

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3. Overall conclusion

Deliberations on a move to permanent summertime should be based on factors other than road safety because the evidence available is inconclusive and does not support the assertion that shifting light from the morning to the evening in the EU would lead to a road safety benefit.

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