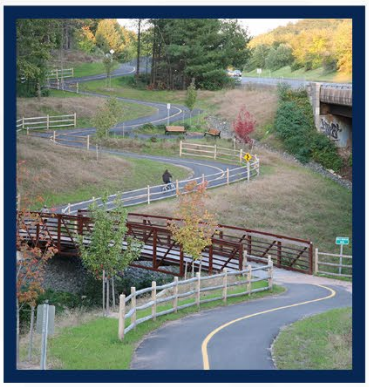
IDAHO STOP STUDY

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PURSUANT TO PUBLIC ACT NO. 23-116



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EXECUTIVE SUMMARY

As part of Public Act No. 23-116, "An Act Implementing the Recommendations of the Vision Zero Council," the Connecticut Department of Transportation (CTDOT) was tasked with studying the effects of implementing a statewide policy that permits a bicyclist to treat stop signs as yield signs and red lights at traffic signals as stop signs, also known as an "Idaho Stop." Through a comprehensive review of existing literature, the impact of the Idaho Stop on the safety of bicyclists was evaluated and the potential benefits and drawbacks associated with adopting similar legislation in Connecticut was examined.

All states that have adopted the Idaho Stop always allow for stop-as-yield control at unsignalized intersections, while some have adopted red-as-stop and/or right-turn-at-red-as-yield at signalized intersections. Some states have excluded the use of Idaho Stops at specific types of intersections. Although the limited existing research suggests that adoption of the Idaho Stop does not result in an increase in bicyclist injuries and fatalities, there is also no statistically significant safety benefit based on a review of available data. And while there are mobility benefits to implementing the Idaho Stop, it could also create confusion for drivers and law enforcement without a robust public education campaign and revisions to driver education programs. At this time, CTDOT makes no recommendation for or against implementation of the Idaho Stop in Connecticut but offers this report to the General Assembly to aid in deliberations on the subject.

Problem Statement

With the recent rise in crashes involving vulnerable road users, CTDOT is investigating the potential benefits of adopting new laws that improve their safety. The Idaho Stop, which permits bicyclists to treat stop signs as yield signs and red lights at traffic signals as stop signs, is one such new policy CTDOT is investigating to determine if it can be effectively

deployed on all public roads in Connecticut, as tasked under Public Act No. 23-116, “An Act Implementing the Recommendations of the Vision Zero Council.” Investigation into the applicability of Idaho Stops includes determining if Idaho Stops are effective in reducing crashes, if they can be appropriately implemented in Connecticut, and what legislative practices should be adopted for their implementation.

LITERATURE REVIEW

This investigation is focused solely on the impacts of the Idaho Stop with respect to foot-powered bicycles. Electric bicycles and scooters are excluded from the investigation, but electric-assisted bicycles are defined as part of the literature review, and some states have adopted the use of the Idaho Stop for electric bicycles.

Differences between Bicyclists and Motorists

A bicyclist is defined as any person who is riding a bicycle, a device propelled solely by human power through a belt, chain, or gears, and having two or more wheels. An electric-assisted bicycle is a device equipped with fully operative foot pedals and an electric motor with a power output of not more than seven hundred fifty (750) watts that is either Class 1, Class 2, or Class 3. Implementation of Idaho stop would require statutory identification of bicyclists as a new roadway user or more descriptive subsection when defining all road users.

While bicyclists must obey all road signs and signals, along with every other road law, there are inherent differences between operating a bicycle and a motor vehicle, such as the unique safety considerations, maneuverability, and distinct needs of cyclists on the road, leading to less effective or equitable transportation regulations and infrastructure (Tekle, 2017). These differences include maximum attainable speed, average weight and

size, driver/operator visibility, awareness of the surrounding environment, and protection offered to bicyclist/vehicle occupants. One study cites research showing that pedestrians and bicyclists exert more care and attention before crossing red signals than green signals (Leth et al., 2014). Moreover, starting from a stop requires substantially more physical exertion for a bicyclist than for a motorist. Not requiring bicyclists to come to a complete stop decreases the time required to proceed through an intersection and allows bicyclists to maintain momentum while clearing an intersection.

Benefits of the Idaho Stop

The Idaho stop allows bicyclists to treat stop signs as yield signs and red lights as stop signs. When a bicyclist approaches a stop-controlled intersection, the bicyclist must stop if there is approaching cross-traffic. If there is no approaching cross-traffic, the bicyclist is not required to stop and may instead roll past the sign and enter the intersection (stop-as-yield). When a bicyclist approaches a signalized intersection, the Idaho stop allows bicyclists to treat red lights as stop signs, making a complete stop. The bicyclist can then cross the intersection if there is no approaching cross-traffic (red-as-stop). Furthermore, if the bicyclist intends to turn right at the signal, then they must yield to oncoming traffic before proceeding with the maneuver (right-turn-on-red-as-yield). The mobility benefits of the Idaho Stop are that it (1) enhances traffic flow, especially for areas with a significant number of cyclists, (2) allows cyclists to maintain momentum by not coming to a complete stop at every intersection, thus reducing the amount of physical exertion, and (3) formalizes a behavior that is already common among cyclists, thus making the law more reflective of actual cycling practices.

Since the adoption of the original 1982 law in Idaho, there is no evidence of any long-term increase in bicyclist injury or fatality rates. The State of Idaho Highway Safety Plan, Fiscal

Years 1981-1984, which encompasses the period before and after the law was passed and implemented, stated that the injury fatality rates for bicyclists remain unchanged. Moreover, in the year following its introduction, bicycle injury rates in the state declined 14.5% with no change in the number of bicyclist fatalities (Meggs, 2010).

An often-cited study compared injury and fatality rates in Boise, Idaho, which has the Idaho Stop, to two similar cities in California (Bakersfield and Sacramento) that did not adopt the Idaho Stop. The study reported an approximate 15% decrease in bicyclist injuries in Boise in the year following the law's adoption and no long-term change in the number of bicyclists fatalities. Utilizing U.S. census data to obtain bicycling rates, an injury-to-bicycle-commuter ratio was generated that found Boise to be 30.4%-60.6% safer than Sacramento and 150%-252% safer than Bakersfield. Idaho was further studied between 1997 and 2014, where it was observed that 2% of all crashes involved bicyclists. Of these crashes, 27% were attributed to bicyclists failing to obey a traffic signal (Tekle,2017). Another study noted that in 2014 the national average of all fatal bicycle crashes was 2.2%, while in Idaho, the fatality rate of was 1.1%. Idaho had the 12th lowest bicyclist fatality rate in the nation and equal to four other states (Alabama, Maryland, North Dakota, and Ohio), with one that had since enacted a stop-as-yield law (North Dakota) (Tekle,2017). Further analysis of the National Highway Traffic Safety Administration (NHTSA) crash data for states that had enacted similar Idaho Stop laws did not result in a statistically significant reduction in fatal crashes in the years following its adoption (Jackson, 2021). Minnesota, Utah, Oklahoma, and North Dakota require additional crash data in the upcoming years, to determine the statistical significance of Idaho Stop law implementation in recent years. There is no evidence indicating that the Idaho Stop has increased bike conflicts with other bicyclists or pedestrians based on existing data.

In 2023, Connecticut published a Vulnerable Road User Safety Assessment for 2022 through 2026. In the document, the crash history involving bicycles was reviewed from January 1, 2018, to December 31, 2022. There were 24 bicyclist fatalities and 198 serious injuries during the five-year period. Most of the bicyclist fatalities and serious injuries were intersection related and could be affected by the Idaho Stop law.

Drawbacks of the Idaho Stop

The primary drawback to adopting Idaho Stop laws is that adherence to the traffic rule largely depends on the skill and judgment of each bicyclist and the locations where the Idaho Stop is permitted. An individual bicyclist's skill in maneuvering through an intersection under an Idaho Stop largely determines the occurrence of a crash. This is especially true when crossing signalized intersections, where opposing traffic has the right-of-way, and at intersections with multiple lane approaches. Experienced bicyclists are more capable in timing when to safely cross an intersection than motorists and inexperienced bicyclists. It should be noted that the ability of bicyclists to yield to traffic when crossing an intersection might very well increase if bicyclists are permitted to attempt the Idaho Stop at every crossing.

At intersections with multiple lane approaches, bicyclists face significantly longer crossing distances. If bicyclists fail to adequately scan an intersecting roadway with multiple lane approaches, they could be putting themselves at greater risk of collision with other motorists, regardless of how little time is spent in the intersection.

Since the adoption of the original 1982 law in Idaho, there is no evidence of any long-term increase in bicyclist injury or fatality rates. While more states have recently adopted Idaho Stop laws, there is little research evaluating the safety benefits of the Idaho Stop. Even the

often-cited Idaho Stop study notes that the decrease in bicyclist injuries includes "numerous types of collisions" and other data limitations. While the fatality rate of bicyclists in Idaho has been lower than the national average in recent years, it cannot be attributed exclusively towards the Idaho Stop. The recent introduction of Idaho Stop laws in other states, coupled with the unavailability of comparable crash data, prevent a more thorough analysis of the Idaho Stop at this time. As more jurisdictions consider adopting the Idaho Stop; California, New Jersey, New York, Virginia, and Montana; there will likely be more data to study in the future.

LEGISLATIVE REVIEW

Bicyclist Laws in Connecticut

Under Section 14-286a of the Connecticut General Statutes, bicycles are considered vehicles and bicyclists have the same rights and responsibilities as other motorists on the road. As a result, motorists expect bicyclists to abide by the same traffic laws, despite the differences in how the two road users operate.

The Connecticut General Statutes have been amended over the years to include laws that improve bicyclist safety by restricting or punishing motorists' actions that prescribe safe passing distances such as punishing drivers for unsafe driving acts ("vulnerable road user law"), prohibit distracted driving, and prohibit dooring. These amendments provide a clear distinction between the expected behavior of motorists and bicyclists. Other legislation has been enacted that seek to improve safety by promoting safer practices among bicyclists, including requiring bicyclists under the age of 15 to wear helmets, prohibiting bicycling while under the influence, and prescribing where in the road bicyclists should ride.

Idaho Stop Laws in Other Jurisdictions

The Idaho Stop law was first passed in 1982, it allowed for bicyclists to treat red lights as yield signs before being revised to have bicyclists treat red lights as stop signs. In 2005, the law was further amended to allow right turns on red as yields at signalized intersections.

Ten states (Arizona, Arkansas, Delaware, Idaho, Minnesota, North Dakota, Oklahoma, Oregon, Utah, and Washington) have currently adopted the Idaho Stop law to allow bicyclists to treat stop signs as yield signs.

Four states (Arkansas, Idaho, Oklahoma, and Oregon) have allowed bicyclists to treat red lights as stop signs at signalized intersections. These states note that bicyclists must proceed through the intersection at a “reasonable or safe speed”, typically between 10 and 20 mph.

Three states (Arkansas, Idaho, and Oklahoma) allow bicyclists to treat red lights as stop signs when making a left turn onto a one-way road, while Oregon has allowed bicyclists to treat red lights as stop signs when making a left turn onto two-way roads. Arkansas, Idaho, and Oklahoma also permit bicyclists to treat red lights as yield signs when making a right turn.

Colorado and Idaho mention electric-assisted bicycles in their respective Idaho Stop laws. While Colorado permits a bicyclist operating an electric-assisted bicycle to make the Idaho stop at both stop-controlled and signalized intersections, Idaho only allows a bicyclist operating an electric-assisted bicycle to perform the Idaho stop at stop-controlled intersections. Utah’s law applies to users that operate either a bicycle or a moped. While Utah and Washington allow Idaho Stops at stop-controlled intersection, they prohibit its

use at-grade rail crossings. Utah also prohibits Idaho Stops at intersections with cycle tracks and/or bike paths, where the user must follow the traffic control device for the facility.

The state of Colorado has not enacted a statewide Idaho Stop law but allows municipal and county governments to adopt Idaho Stops as they see fit (stop-as-yield and red-as-stop). Washington, D.C and the City of Anchorage, Alaska have more recently adopted similar local legislation (stop-as-yield).

The City of Anchorage, Alaska explicitly calls for bicyclists to yield the right-of-way to "any other vulnerable road user," while Arkansas requires bicyclists to yield the right-of-way to pedestrians lawfully within an adjacent crosswalk. The City of Anchorage, Arkansas, Delaware, and Idaho call for bicyclists to yield to other vehicles that are already in the intersection. In Delaware, the law specifies that when an operator of a motorized vehicle and a bicyclist enter an intersection at the same time, the operator of the vehicle or bicycle on the left shall yield the right-of-way to the vehicle or bicycle on the right.

Utah is the only state that restricts the Idaho Stop law to 16 years old and over bicycle riders. The restriction was first introduced with "dead red" signal law and kept with introduction of stop as yield law in 2021.

FINDINGS

Although the limited research suggests that adoption of the Idaho Stop does not result in an increase in bicyclist injuries and fatalities, there is also no measurable safety benefit. Adoption of the Idaho Stop would address the inherent differences between bicyclists and

motorists and how each operate their respective vehicles, however it would place a new burden on all road users when approaching intersections. Allowing the Idaho Stop at intersections could decrease the amount time required to proceed through an intersection by cyclists, reduce the amount of physical exertion on the bicyclist, however it will require both motorists and bicyclists to be more aware of the surrounding environment at all intersections.

Under current Connecticut motor vehicle laws, a bicyclist is considered the same as a driver and must follow the same rules of the road applicable to motorists, including obeying traffic signals and stop signs. Without a change to statue defining bicyclists as a new vehicle class and permitting the Idaho Stop in Connecticut, common biking behavior will continue, and the number of bicyclist-related traffic enforcement stops will remain unchanged.

RECOMMENDATIONS

There are potential benefits and drawbacks to the implementation of the Idaho Stop in Connecticut. Currently, the research on the safety benefits of the Idaho Stop is inconclusive, but there are clear mobility benefits. As such, the CTDOT makes no recommendation for or against implementation of the Idaho Stop in Connecticut at this time. Instead, DOT will advance the following action items:

- Conduct a systematic analysis of crash data from states with enacted Idaho stop law to assess their impact on number of crashes at intersections with bicyclists. Minnesota, Utah, Oklahoma, and North Dakota had their laws changed in 2021, while Arkansas, Oregon, and Washington had their laws changed in 2019, thus not enough data has been available to assess statistically the significance of the law.

- Review public awareness campaigns by other states and lessons learned of how to reach wider audience in public education. The research would review cyclist education, law enforcement training, community workshops, edits to driver manual, etc.
- Review the possibility of implementing partial Idaho Stop law, where considerations would be given to just stop as yield intersections and/or signalized intersections that are nonoperational.

These reviews will provide additional information that CTDOT will consider in determining whether it will recommend implementation of the Idaho Stop at a later date.

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