HOUSE OF REPRESENTATIVES
FINAL BILL ANALYSIS

BILL #: HB 761

FINAL HOUSE FLOOR ACTION:

SPONSOR(S): Caldwell and others

58 **Y's** 56 **N's**

COMPANION BILLS: SB 392

GOVERNOR'S ACTION: Vetoed

SUMMARY ANALYSIS

HB 761 passed the House on April 30, 2014, as SB 392. The bill raises the maximum allowable speed limit on certain highways and authorizes, but does not require, the Department of Transportation (DOT) to increase the speed limit on certain roadway types. The new maximum allowable limits would be:

- 75 mph on limited access highways;
- 70 mph on any other highways outside an urban area of 5,000 or more persons with at least four lanes divided by a median strip; and
- 65 mph on other roadways under DOT jurisdiction.

The bill also directs DOT to determine the minimum speed limit on certain highways and makes technical and conforming changes.

Depending on the impacts of this bill on the number of motorists that exceed the legal speed limit, there may be an indeterminate fiscal impact on state and local governments due to changes in traffic ticket revenue.

The effective date of this bill was July 1, 2014; however, the bill was vetoed by the Governor on June 2, 2014.

I. SUBSTANTIVE INFORMATION

A. EFFECT OF CHANGES:

Current Situation

Speed Limit History and Current Law
The Department of Transportation (DOT) has long been charged with posting maximum and minimum speed limits on state and federal highways in Florida, subject at various times to national speed limits. Prior to 1974, state law authorized DOT to set maximum and minimum speed limits for travel on roadways under its authority, not to exceed 70 mph, with discretion for certain highways outside of a city or state roads connecting links or extensions thereof within a city.[1]

In 1974, a National Maximum Speed Limit (NMSL), designed chiefly to conserve fuel, took effect, establishing a national maximum speed limit of 55 mph. In 1987, Congress allowed states to set speed limits of up to 65 mph on interstate roads in areas with fewer than 50,000 people ("rural interstates"). In 1995, Congress repealed the NMSL, allowing states to set their own speed limits on their roads. Most states have since increased the speed limits on some or all of their roads.[2]

Since 1996, the authorized maximum speed limits on state highways in Florida have been as follows:

- 70 mph on limited access highways;
- 65 mph on any other highways outside an urban area of 5,000 or more persons with at least four lanes divided by a median strip; and
- 60 mph on other roadways under DOT jurisdiction.[3]

Section 316.187(1), F.S. provide that if DOT determines, based on an engineering and traffic investigation, that the speed limit is higher or lower than what is reasonable or safe, DOT may determine a reasonable and safe speed limit which takes effect when appropriate signs giving notice of the speed limit are erected.

Section 316.187(2)(c), F.S., sets minimum speeds on state roads. The minimum on all highways that are a part of the National System of Interstate and Defense Highways and have not fewer than four lanes is 40 mph, except that if the posted speed limit is 70 mph, the minimum speed is 50 mph.

Intent of Speed Limits
DOT notes that the "primary intent for establishing a speed zone is to improve vehicular and pedestrian safety by reducing the probability and severity of crashes."

> "The "statutory" or allowable speed limits mandated by state statutes prevail on the types of roads and/or locations identified within state, municipality, and county jurisdictions. Such speed limits may be altered upward or downward by speed zoning thus creating specific or altered speed limits or restrictions for prescribed segments of highways roads and residential streets. Statutory limitations however, establish maximum speed limits for state, county, and city road systems."[4]

Establishment of Speed Limits/Speed Differential/85th Percentile Rule

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[1] Ch. 71-135, L.O.F.
[2] A listing of state speed limits is available at: http://www.ghsa.org/html/stateinfo/laws/speedlimit_laws.html (Last visited February 13, 2014).
[3] S. 316.187(2), F.S.
[4] DOT Traffic Engineering & Operations Office Topic No. 750-010-002, *Speed Zoning for Highways, Roads & Streets*. Available at: http://www.dot.state.fl.us/trafficoperations/speedzone/Speed_Zone_Manual.shtm (Last visited February 25, 2014).

The 85th percentile rule is used by all states to establish speed limits. The Institute of Transportation Engineers reports:

> "The most widely accepted method by state and local agencies is to set the limit at or below the speed at which 85 percent of the traffic is moving. … Studies have shown crash rates are lowest at around the 85th percentile speed. Drivers traveling significantly faster OR slower than this speed are at a greater risk for being in a crash. It is not high speeds alone that relate to crash risk; it is the variation of speed within the traffic stream."
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> "Large variations in speed within the traffic stream create more conflicts and passing maneuvers."
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> "According to a Federal Highway Administration study, all states and most local agencies use the 85th percentile speed of free flowing traffic as the basic factor in establishing speed limits.
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> "Radar, laser and other methods are used to collect speed data from random vehicles on a given roadway. This speed is subject to revision based upon such factors as: crash experience, roadway geometrics, parking, pedestrians, curves, adjacent development and engineering judgment. This practice is in accordance with the MUTCD.[5]
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> "In the final analysis, it is the judgment of the traffic engineer that determines which, if any, of the factors in the speed study warrant an adjustment of the 85th percentile speeds. After all variables are considered and a speed limit is established, traffic should flow at a safe and efficient level."[6]

DOT adheres to the 85th percentile rule when establishing speed limits on state highways, subject to the statutory maximum limits, and advises:

> "It is common traffic engineering knowledge that about 85% of all drivers travel at reasonably safe speeds for the various roadway conditions they encounter, regardless of speed limit signs."
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> "Based on this knowledge, a traffic engineering study is conducted to establish speed limits on the state highway. The Department uses the "85th percentile" method of determining appropriate and safe posted speed limits in conjunction with the maximum statute-based speeds. This method is based on extensive nationally accepted studies and observations. By measuring the speed of hundreds of vehicles at various points along the roadway, traffic engineers are able to use data to determine a reasonable and safe maximum speed to post for all vehicles to travel."[7]

Once the 85th percentile speed is identified and revised based on factors such as roadway conditions, crash experience, and applied engineering judgment, a maximum limit is established. Because vehicle speed differential; *i.e.,* large variations in speed within the traffic stream, have a clearly established impact on crash risk, an appropriate minimum allowable speed may also be set. DOT then periodically

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[5] The Manual on Uniform Traffic Control Devices, which is a uniform system of traffic control devices for use on the streets and highways of the state adopted by DOT pursuant to s. 316.0745, F.S. Per s. 316.0745(3), F.S., "All official traffic control signals or official traffic control devices purchased and installed in this state by any public body or official shall conform with the manual and specifications published by the Department of Transportation…."

[6] Institute of Traffic Engineers, *Speed Zoning Information, A Case of "Majority Rule,"* on file in the House Transportation & Highway Safety Subcommittee.

[7] DOT website, *Frequently Asked Questions – Speed Limits.* Last visited February 10, 2014: http://www.dot.state.fl.us/trafficoperations/faqs/speedlimitfaq.shtm.

reviews maximum speed limits on state roads for a variety of reasons, such as a request for review from a citizen or an effort to study the effects of a prior increase in the limit.

Speed/Safety Relationship

Noting a disparity in findings among various studies of aggregate data relating to the relationship between increased speed and vehicle crashes, the National Cooperative Highway Research Program (NCHRP), a branch of the National Academy of Science, analyzed the results of several studies of specific locations before and after an increase in the posted speed limit.[8] Results of the NCHRP study are encapsulated in the following table:

Increase in Speed Limit (mph)	Change in Avg Actual Speed	Change in Total Crash	Change in Probability of Fatal Injury	Total Change in Fatal Injury Count
55 to 65	+3 mph	+3.3%	+24%	+28%
65 to 75	+3 mph	+0.64%	+12%	+13%

Similarly, the Federal Highway Administration notes that "the effects of speed on safety are complex and only partially known."[9] However:

> "There is clear and convincing evidence that crash severity increases with individual vehicle speed. This finding is supported by theory and statistical analysis."
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> "A vehicle's kinetic energy is proportional to its velocity squared. When a crash occurs, all or part of the kinetic energy is dissipated, primarily through friction and mass deformation. As kinetic energy increases exponentially with speed, so does the potential for mass deformation, including humans that are inside and outside of the vehicle. Analysis of crash statistics have shown that the probability of being injured in a crash increases as the change in speed at impact increases, particularly when this change in speed occurs over a short time duration."[10]

In 2008 researchers from Purdue University determined that raising the speed limit from 65 mph to 70 mph on Interstate 65 in Indiana did not increase the probability of fatalities or severe injuries.[11] The researchers pointed out that it is still an open question of whether this finding would hold true if speed limits were increased further to 75 or 80 mph. However this same research paper indicated that higher speed limits were found to be associated with higher accident severities for some non-interstate highways; and suggested that future speed limit changes need to be carefully assessed on a case-by-case basis, particularly for non-interstate highways. The paper also noted that research has not been able to completely separate the effects of speed limit changes from a number of other variables including:

- speed enforcement;
- vehicle miles traveled;
- vehicle occupancy;
- seat belt usage;
- alcohol use;
- proportions of passenger cars, minivans, pickup trucks and sport utility vehicles;
- vehicle safety features, such as air bags and antilock brakes;

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[8] National Cooperative Highway Research Program, Research Results Digest 303, *"Safety Impacts and Other Implications of Raised Speed Limits on High-Speed Roads,"* on file in the House Transportation & Highway Safety Subcommittee.

[9] Federal Highway Administration, *Speed Concepts: Informational Guide*, Chapter 3, September 2009: http://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa10001/. Last visited February 10, 2014.

[10] *Id.*

[11] *Analysis* of the Effect of Speed Limit Increases on Accident-Injury Severities, Nataliya V. Malyshkina, Fred Mannering School of Civil Engineering, Purdue University, Transportation Research Record: Journal of the Transportation Research Board No. 2083, available at: http://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa09028/59.htm. Last visited February 24, 2014.

- speed limits on other roads; and
- driver expectations, adjustments and adaptation to risk.

Speed/Fuel Use Relationship
A study by the Fuels, Engines and Emissions Research Center of the Oak Ridge National Laboratory,[12] conducted on 74 vehicles, model years 2003 to 2012, including "various sizes of sedans, wagons, and SUVs, as well as pickup trucks, minivans and a few "muscle cars" and sports cars," showed the following general negative effect of increased speed on fuel economy:

Speed Increase	Percent average mpg decrease for a given 10 mph increase in speed
50 to 60 mph	12.4%
60 to 70 mph	14.0%
70 to 80 mph	15.4%
All three increments	13.9%

Proposed Changes
The bill amends s. 316.183(2), F.S., eliminating the statutorily specified minimum speed limits on all highways that are a part of the National System of Interstate and Defense Highways with at least four lanes and authorizing DOT to determine the safe and advisable minimum speed limit on all such highways. The bill gives DOT the discretion to set minimum speed limits on all highways that are a part of the National System of Interstate and Defense Highways with at least four lanes.

The bill amends s. 316.187(2), F.S., increasing by five miles per hour the existing authorized maximum allowable speed limits on Florida's state highways as follows:

- 75 mph on limited access highways;
- 70 mph on any other highways outside an urban area of 5,000 or more persons with at least four lanes divided by a median strip; and
- 65 mph on other roadways under DOT jurisdiction.

Based on the provisions of s. 316.187(1), F.S., DOT would still determine a reasonable and safe speed limit on a particular highway segment after an engineering study and traffic investigation; and then would post appropriate speed limit signage as needed.

The bill has an effect date of July 1, 2014.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:
   Depending on the impacts of this bill on the number of motorists that exceed the legal speed limit, there may be an indeterminate fiscal impact on state and local governments due to changes in traffic ticket revenue.

2. Expenditures:
   None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

[12] *"ORNL researchers quantify the effect of increasing highway speed on fuel economy, 18 January 2013:"* On file in the House Transportation & Highway Safety Subcommittee.

1. Revenues:
   Depending on the impacts of this bill on the number of motorists that exceed the legal speed limit, there may be an indeterminate fiscal impact on state and local governments due to changes in traffic ticket revenue.

2. Expenditures:
   None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:
Indeterminate. To the extent that speed limits on some highway segments are increased, drivers would see shorter travel times and increased mobility. These benefits must be balanced with the risks of increased personal injury or deaths, property damage, and litigation costs which might be associated with increased crash severity. Increased fuel consumption by individual travelers choosing to travel at higher speeds on any roadways upon which the speed limit may be increased would also be expected.

D. FISCAL COMMENTS:
DOT advises it expects an "indeterminate insignificant" fiscal impact and reports "[a]ny increases to speed limits would involve engineering study costs and speed limit signage change including fabrication and installation costs, on a case by case basis."[13]

[13] DOT 2014 SB 392 Bill Analysis, on file in the House Transportation & Highway Safety Subcommittee.