

Why are we still doing these?

My name is Bob Rapalus from Gardiner. Although I am not currently in the automotive field, I was trained in Auto Mechanics for 3 years in the 70's along with working in several garages before I changed my career focus. I have continued to work on vehicles as a pastime having performed several in-depth restorations and am currently performing a body-off restoration so my automotive knowledge is still maintained at a high level.

Although I am now an ardent automotive hobbyist, I feel I have a pertinent input as the career change I underwent resulted in my becoming a U.S. Naval Aviation Maintenance Officer with 31 years of active duty service performing and managing the maintenance on a variety of naval aircraft both ashore and onboard ship. I also have a degree in Aeronautics with a minor in Aviation Safety which focused on materials degradation and Accident Investigation. In the world of Aviation, all actions are based on true data of record and studies and not what someone thinks might happen.

My apologies if there's some redundancy with the information provided by Representative Fredericks, as we have been corresponding and sharing information and please realize that I call it like I see it.

Upon reviewing the minutes of the Committee on Transportation report dated March 24, 2021, which was the last time this issue came before the committee (at which time they forwarded an "Ought Not To Pass" decision), I noted the following issues which bear discussion as to why this proposed Bill should now pass:

Upon review of the testimonies that were previously provided to that committee (and possibly repeated to this committee), the approach taken by the various merchants and their representatives (i.e. Maine Automobile Dealers Association, Maine Municipal Association) and even the Bureau of Motor Vehicles is that the annual safety inspection is paramount to operating safe vehicles on Maine's roadways.

There were statements provided such that: "Many customers rely on that annual inspection for their understanding of the vehicle's condition" or that the annual inspections are required to prevent "catastrophic mechanical failures....before a potentially fatal accident." There are even comments addressing how the annual inspection generates over \$3 million per year towards the highway fund.

The issue that I have is that NONE of these statements and theories are backed by DATA or SURVEYS which renders them PERSONAL OPINIONS (with exception of the monies paid out by myself and fellow Mainers). I can easily understand how an individual in the position of financial gain would favor any legislation that supports a continued customer base to their associations.

The best counter point to the continuation of vehicle inspections was by The Maine Policy Institute who presented an extremely lucid argument that was backed up by statistical supporting data. It lays out and supports the fact that a majority of states have done away with the inspection requirement and explains why those states have made the decision and follows up with the fact that the accident rates in those states did not sky rocket as the supporters of maintaining the inspection criteria lead one to believe.

As Representative Fredericks also reported - The **Federal Government Accounting Office (GAO)** said research has also shown that motor vehicle component failure is a factor in a relatively small percentage of crashes. It cites a **2008 National Highway Traffic Safety Administration (NHTSA) report** which estimates that vehicle component failure was the “critical reason” (see below) in about 2% of crashes, and that the NHTSA found that driver behavior was the “critical reason” in 94% of crashes.

GAO found that research on the value of safety inspections “remains inconclusive.” Three U.S. studies of the relationship between safety inspections and crash rates over the past two decades have failed to find “statistically significant differences in crash rates in states with inspection programs compared to those without.”

GAO studied crash data in New Jersey and Oklahoma, both before and after those states eliminated their inspection programs. In each state, GAO reported, “crashes involving vehicle component failure were generally between 2% and 3% of all crashes and varied little from year to year, even after the elimination of the inspection programs.”

GAO also reviewed NHTSA data for police-reported motor vehicle crashes for the period between 2009 and 2013, and found that police recorded vehicle component failure in only 2% of all crashes nationwide and again attributed 94% of the critical reasons to driver behavior, with environmental conditions (e.g., slick or icy roads) attributing to the majority of the remainder causal factors.

When North Carolina officials examined the efficacy of mandatory inspection programs in 2008, they concluded that “nearly three decades of research has failed to conclusively show that mechanical defects are a significant cause of motor vehicle accidents or that safety inspections significantly reduce accident rates.”

In addition, Nebraska discovered that the number of crashes caused by vehicle defects actually declined after its mandatory inspection program was ended in 1982.

If vehicle safety inspections had a noticeable impact on accident rates, you’d expect auto insurers to price accordingly, offering lower premiums to drivers in states with mandatory inspections. But that is not what the data shows. If anything, states without these mandates tend to have slightly lower auto insurance rates than the national average. (American Consumer Institute June 20, 2019)

So the question I have to the legislators who are pushing to keep the annual inspections is - What exactly is the basis and empirical data being used to extend the inspection requirement?

Texas and New Hampshire eliminated this requirement in 2025 based on research published by the National Institutes of Health, there is no conclusive evidence that required yearly auto inspections significantly increase road safety.

Connecticut does not require ongoing vehicle safety inspections - According to "CONNECTICUT TRAFFIC ACCIDENT FACTS (2008)," in 2008, vehicle mechanical failure was a contributing factor in 0.67% of all reported accidents in the state; in 0.58% of accidents in which someone was injured; and in 0.71% of fatal accidents. Unsafe or blown tires accounted for 0.35% of all reported accidents, 0.3% of accidents in which there was an injury, and were not involved in any accidents in which someone died.

By comparison, the largest single contributing factor in all crashes and in those involving an injury was a driver following another vehicle too closely (a factor in 28.35% of all crashes and 30.43% of crashes involving an injury). The two largest factors in state crashes in which someone was killed were people (1) driving under the influence or (2) losing control of their vehicles (28.93% and 25%, respectively).

I also have the following reference studies listed from NIH dated (2021), S Fosser (Institute of Transportation – Norway) Accident Analysis & Prevention, 1992, and a study performed by the Motor Transport Institute of Poland to include accident data from Austria, Czech Republic, France, Germany, Finland, Sweden, Netherlands which I won't read for sake of time but show the same conclusive evidence that compulsory vehicle safety inspections do not impact vehicular accident rate or severity.

So again I ask - Why are we still doing these?

NIH Study dated June 15, 2021

The main conclusions that can be drawn from the present systematic review can be summarized as follows:

- Despite the extended time period used to search for relevant publications, very few studies met our minimum methodological requirements for providing causal evidence for the possible effect of periodic vehicle inspection on road crash rates.
- In overall terms, the studies included in this review were compromised by a variety of methodological limitations, most related to their observational design and the limited information available. Therefore, the causal contribution of VTI programs to the reduction in road crash rates could not be definitely confirmed.

AN EXPERIMENTAL EVALUATION OF THE EFFECTS OF PERIODIC MOTOR VEHICLE INSPECTION ON ACCIDENT RATES

S Fosser Accident Analysis & Prevention, 1992

204,000 cars were randomly assigned to three different experimental conditions. 46,000 cars were inspected annually during a period of three years; 46,000 cars were inspected once during three years; and 112,000 cars were not inspected. The number of accidents was recorded for a period of four years. No differences in accident rates were found between the groups. The technical condition of inspected vehicles improved compared to those not inspected. The experiment did not have any unintended side-effects. It is concluded that periodic motor vehicle inspection has no preventive effect on the technical condition of cars in a system where roadside inspections also exist.

Study performed by the Motor Transport Institute of Poland titled: **PERIODIC TECHNICAL INSPECTIONS OF VEHICLES AND ROAD TRAFFIC SAFETY**

Statistical comparisons were undertaken on data from selected European Union

States to include cold weather countries of : Austria, Czech Republic, France, Germany, Finland, Sweden, Netherlands, etc. The comparisons included:

Periodic motor vehicle inspection (PMVI) compared with those states with no PMVI (including those with random inspections), states requiring annual inspections compared with the states requiring biannual inspections, and states employing random inspection procedures compared with those that employ compulsory periodic inspections and those with no inspection programs.

The results of the analyses showed no statistically significant differences in the accident and injury rates for the states with PMVI compared to the states without PMVI. There was no statistically significant difference in accident rates between the states with biannual PMVI and states with annual PMVI. Crain (1981) has noted that "...vehicle technical inspection programs do not have the expected effect of reducing accident rates" and that "...more frequent inspections do not result in the reduction of the accident rates".

In addition, there were two unexpected findings of this study. The first was that there was a tendency for states with PMVI programs to have higher death rates than those without PMVI, although this was not a statistically significant difference. The second was that states that conduct random vehicle inspections were found to be those with the lowest accident rates.

Crain (1981) suggested two reasons why PMVI programs may have failed to reduce crash rates. Firstly, additional resources devoted to vehicle maintenance as a result of periodic inspection may not affect the vehicle's safety systems, and secondly, even if they do, it is dissipated by adjustments in drivers behavior who convinced about their vehicles reliability adopt more risky behavior.

Conclusion - accidents, where the technical defect was identified as the only cause, the rate is below 1%. All this allows to formulate the thesis that the impact of periodic roadworthiness tests on the road safety should not be seen as a big value, but rather as being too small to be measurable.

THE EFFECTIVENESS OF VEHICLE SAFETY INSPECTIONS: AN ANALYSIS USING PANEL DATA

David Merrell, Marc Poitras, Daniel Sutter First published: 01 January 1999

Findings: We examined the effectiveness of state automobile safety inspections and present new evidence from a panel of the 50 states for the years 1981-1993. Our approach incorporated several innovations over previous studies of safety inspections; most significantly, we estimated a fixed-effects model that incorporated state-specific shifts in casualty rates. We found no evidence that inspections significantly reduce fatality or injury rates.

EFFECTS ON ACCIDENTS OF PERIODIC MOTOR VEHICLE INSPECTION IN NORWAY

P Christensen, R Elvik Accident Analysis & Prevention, 2007

An extensive program of periodic motor vehicle inspection was introduced in Norway after 1995, when the treaty between Norway and the European Union (EU) granting Norway (not a member of the EU)

access to the EU inner market took effect (The EEA treaty). This paper evaluates the effects on accidents of periodic inspections of cars. Trucks and buses were not included in the study. Negative binomial regression models were fitted to data on accidents and inspections created by merging data files provided by a major insurance company and by the Public Roads Administration. Technical defects prior to inspection were associated with an increased accident rate. Inspections were found to strongly reduce the number of technical defects in cars. Despite this, no effect of inspections on accident rate were found. This finding is inconsistent with the fact that technical defects appear to increase the accident rate; one would expect the repair of such defects to reduce the accident rate. Potential explanations of the findings in terms of behavioral adaptation among car owners are discussed. It is suggested that car owners adapt driving behavior to the technical condition of the car and that the effect attributed to technical defects before inspection may in part be the result of a tendency for owners who are less concerned about safety to neglect the technical condition of their cars. These car owners might have had a higher accident rate than other car owners irrespective of the technical condition of the car.