
Limiting Motorcycle Exhaust Noise Through Amendment of the Motor Vehicle Code and its Regulations

David B. Torrey, Esq.* and Jeffrey R. McCulley**

INTRODUCTION

Noise caused by loud motorcycles – specifically by loud motorcycle exhaust systems – has long been identified as a societal problem both in Pennsylvania and in the nation at large.

In 1980, a bold initiative of the Environmental Protection Agency (EPA) seemed to foreshadow an era in which states would aggressively police motorcycle exhaust noise emissions by enacting and enforcing laws based on the EPA's motorcycle/muffler manufacturing standards.¹ For the reasons discussed below, however, such an aggressive policing regime never unfolded among the states, including Pennsylvania. This is unfortunate as society has become victim to ever-louder motorcycles in the intervening decades. Indeed, many Pennsylvania legislators report an outcry of complaints from constituents each spring as recreational bikers bring their machines loudly out of winter storage.²

* A.B., West Virginia University; J.D., Duquesne University School of Law. Administrative Law Judge, Pennsylvania Department of Labor & Industry, Pittsburgh, PA; Adjunct Professor of Law, University of Pittsburgh School of Law. The opinions expressed herein are solely those of the author.

** Licensed Motorcycle Inspection Mechanic, Pittsburgh, PA.

¹ Transportation Equipment Noise Emission Controls, 45 F.R. 86,694 (Dec. 31, 1980) (codified at 40 C.F.R. § 205.150-74) [hereinafter *Final Rulemaking*].

² The June 8, 2005 website notes of Mr. Charles Umbenhauer, a lobbyist for the motorcycle interest group ABATE, are instructive:

I can't count the number of times that I have been stopped in the hall ways at the

This article sets forth a proposal to limit motorcycle exhaust noise through amendment to the Pennsylvania Motor Vehicle Code (MVC) and its regulations. Consistent with the original intent of the EPA, the authors argue that Pennsylvania law should conform to federal manufacturing standards so that: (1) inspection mechanics can reject motorcycles that are not equipped with EPA-approved mufflers; (2) police authorities can easily cite unlawfully loud motorcyclists; and (3) it is illegal to remove or replace an EPA-approved muffler on a regulated street-use motorcycle.

These proposals are essential to address the motorcycle noise problem in Pennsylvania. Currently, inspection mechanics, such as the principal co-author, cannot reject a motorcycle at inspection on the grounds that it is equipped with a non-EPA-approved muffler.³ This restriction includes cases where the owner has removed the original EPA-approved muffler and attached an aftermarket “straight pipe,” also known as a “drag pipe,” or a competition-use only muffler. These devices, notably, are marketed to street-bike owners for their noise-creating capabilities. The sound created can easily be *in excess* of EPA manufacturing limits.

Inspection mechanics are restricted in this way for a simple reason. While the MVC and its inspection regulations require that a motorcycle “shall be equipped with a muffler,”⁴ the latter term is not defined. As a result, inspection mechanics and police officers have no discretion to reject or cite motorcycles, pre- or post-EPA regulation, with installed aftermarket systems, like straight pipes, that have the superficial characteristics of a muffler but possess virtually no noise-suppressing capability. Meanwhile, a host of noise-making products such as “whistle-tips” and devices intended to emit harsh sounds upon momentary “revving” are completely unregulated and legal.⁵ The surprising result of this regulatory omission is that most motorcycles with ear-splitting aftermarket exhaust systems are in fact compliant with Pennsylvania inspection standards.

Under the current law, operating an excessively loud motorcycle can constitute a

Capitol by various legislators and asked what can they do about their constituents complaining about noisy motorcycles. Some are not quite as diplomatic, they are more to the point. “If you guys don’t do something about quieting down those motorcycles, we will.”

Posting of Charles Umbenhauer, http://www.monvalleyabate.org/html/mv_news_from_umbenhauer.htm (April 26, 2006, 18:43:57). In a March 10, 2004, posting, ABATE lobbyist John Mullendore wrote: “We were stopped by a legislator at the capital yesterday who represents the Westmoreland area. He has been getting calls from his district about loud bikes and what can he do about it. He was considering options such as increasing fines.” Posting of John Mullendore to A.B.A.T.E. Pennsylvania, http://www.abatepa.org/abate/legislation/press/pr_2004_SoundIssue.htm (March 10, 2004).

³ As discussed below, Pennsylvania never adopted EPA standards in this area, and the applicable law and regulations do not make any reference to EPA-approved mufflers. *See infra* note 52 and accompanying text.

⁴ 75 PA. CONS. STAT. § 4523(c) (2004); 67 PA. CODE § 175.152(b); 67 PA. CODE § 175.160(c)(5).

⁵ Neither the Motor Vehicle Code nor its regulations ban such devices, nor does the law otherwise provide the motorcycle inspection mechanic with the power to reject a motorcycle so equipped. California, notably, is a jurisdiction that bans whistle-tips. *See* CAL. VEH. CODE § 27150.3(d) (2004) (defining a whistle-tip as “a device that is applied to or is a modification of a motor vehicle’s exhaust pipe for the sole purpose of creating a high-pitched or shrieking noise when the motor vehicle is operated.”).

traffic violation under the MVC, for which the police can cite the operator.⁶ In this regard, a regulation promulgated under the code prohibits the operation of a motorcycle on the highway when such a vehicle, traveling above 35 miles per hour, generates greater than 84 decibels of noise.⁷

While a laudable provision, this prohibition is almost impossible to enforce. The test requires police to set up a meter and wait for noisy motorcycles to pass by.⁸ Thus, this “pass-by” test is a labor-intensive approach that requires specially trained police personnel and expensive equipment. This method is not only unpopular with police but also so unworkable that the approach is virtually unknown among law enforcement personnel. Attempting to regulate motorcycle noise in this fashion is no substitute for enforcing EPA standards.

The MVC, though not its inspection regulations, also prohibits modification of exhaust systems in a manner that would amplify or increase noise above the levels referenced above.⁹ The police may well attempt to implement this prohibition, but the problem of impracticality of enforcement is again present. To determine if an exhaust system was illegally modified (which includes being replaced), the police perform the cumbersome and impractical “pass-by” testing. In addition, the current penalty for illegal modifications is *de minimis* in nature and hardly a deterrent to a motorcyclist intent on creating a loud machine by replacing the original equipment with a straight pipe.¹⁰ This article argues that the law should be changed so that: (1) such modifications are proscribed outright, (2) all regulation-era motorcycles must have an EPA-approved muffler, and (3) mechanics who engage in illegal modifications are subject to stiff penalties.

As a preface to refinement of these arguments, this article first identifies the justification for more aggressive restriction of motorcycle exhaust noise and explains why the state should appropriately exercise its remedial police powers in this area. The authors discuss the causes of the most recent increases in motorcycle noise, and anticipate and respond to the defenders of loud motorcycles.

This article then reviews why the EPA’s careful and meticulous plan to limit motorcycle exhaust noise under the auspices of the Noise Control Act (NCA),¹¹ a scheme that included assisting states with implementing enforcement, never unfolded.

The authors proceed to set forth a specific proposal to amend the MVC¹² and its regulations¹³ to effectuate those plans in Pennsylvania. The core of these proposals constitutes a simplification of what the EPA refers to as the “label match up”

⁶ 75 PA. CONS. STAT. § 4523.

⁷ 67 PA. CODE § 157.11(a) (1999). This regulation actually sets forth a range of variables, based upon sound measured at different speeds and sites, or “ground cover” upon which the motorcycle is being operated. Ground cover is either “hard” (pavement-like), or “soft” (grass-like).

⁸ See 67 PA. CODE § 157.43; 67 PA. CODE § 157.44 (describing procedures used in measuring motor vehicle noise emissions during highway operations).

⁹ 75 PA. CONS. STAT. § 4523(d).

¹⁰ 75 PA. CONS. STAT. § 6502.

¹¹ Noise Control Act of 1972, Pub. L. No. 92-574, 86 Stat. 1234 (codified as amended at 42 U.S.C. §§ 4901-4918 (2000)).

¹² 75 PA. CONS. STAT. §§ 101-9805.

¹³ 67 PA. CODE §§ 1.1-601.18.

program.¹⁴ Under this simplification, every regulated motorcycle, that is, all motorcycles manufactured since 1983, must be equipped with an EPA-approved muffler. Compliance with this requirement would be demonstrated to the inspection mechanic and the police officer by the presence of an EPA-mandated label embossed on the muffler. At the same time, pre-regulation motorcycles would be subject to stricter noise regulation through careful definition of the term “muffler,” and by outright proscription of certain loud systems and devices.

It is submitted that the ever-increasing popularity of loud motorcycles impacts negatively on the public health and safety.¹⁵ These proposed changes are much needed and legitimate exercises of the police power of the Commonwealth to enact laws and regulations to protect these societal rights.¹⁶

THE PROBLEM OF EXCESSIVE MOTORCYCLE EXHAUST NOISE: HARM TO THE PUBLIC

When a motorcycle roars up the street and one is interrupted from a business conversation, phone call, TV program or other activity, the typical response seems to be one of annoyance. One is equally agitated each time this event recurs. A person

¹⁴ See *infra* notes 64-69 and accompanying text. For the EPA's use of the term “label match-up,” see ENVTL. PROT. AGENCY, REGULATORY ANALYSIS APPENDICES FOR THE NOISE EMISSIONS REGULATIONS FOR MOTORCYCLES AND MOTORCYCLE EXHAUST SYSTEMS D-1-D-13, O-1 (1980) [hereinafter *Appendices*].

¹⁵ Another potential basis of regulating motorcycle exhaust system noise is harm, in the form of hearing loss, to the operator and passengers. The EPA considered this, but in the end did not make it a focus of the basis of its regulation. See ENVTL. PROT. AGENCY, DOCKET ANALYSIS FOR THE NOISE EMISSION REGULATIONS FOR MOTORCYCLES AND MOTORCYCLE EXHAUST SYSTEMS 1.8 (1980) [hereinafter *Docket Analysis*] (stating that “[i]n regard to the impact of motorcycle noise on the hearing capabilities of the operator or passengers, it should be noted that noise levels at the position of the operator's or passenger's ear would be reduced as a result of source noise reduction, and thus some further level of impact would be expected. However, because it is very difficult to predict or measure the noise level incurred by riders, due to such factors as wind-induced turbulence and the acoustic effect of safety helmets, we deleted from the final analysis any assessment of the benefits to be experienced by either operators or passengers”).

Many assert that most of the motorcycling hearing loss hazard comes from wind noise experienced by the rider at speeds above 35 mph, as opposed to exhaust noise. Still, because the operator appreciates the sound of the machine at lower speeds, logic dictates that the motorcyclist exposing himself to excessive exhaust system noise (often above 100 decibels) is potentially putting his hearing at risk of harm from this exposure as well. See ENVTL. PROT. AGENCY, REGULATORY ANALYSIS FOR THE NOISE EMISSIONS REGULATIONS FOR MOTORCYCLES AND MOTORCYCLE EXHAUST SYSTEMS 4-27 (1980) [hereinafter *Regulatory Analysis*].

With regard to ongoing concerns over the threat to hearing caused by motorcycle noise, see Joyce Howard Price, *Motorcycle Noise Called Hearing Threat*, Wash. Times, September 17, 2004 (reporting on a new University of Florida study that found, among other things, that in a “test of 33 motorcycles, [audiologists] ... determined that nearly half produced sounds above 100 decibels when throttled up... [NIOSH] warns that exposure to noise at 100 decibels is safe for only 15 minutes”).

¹⁶ See generally *Best v. Zoning Bd. of Adjustment of City of Pittsburgh*, 141 A.2d 606 (Pa. 1958) (defining police power). Compare Steven N. Brautigam, *Rethinking the Regulation of Car Horn and Car Alarm Noise: An Incentive-Based Proposal to Help Restore Civility to Cities*, 19 COLUM. J. ENVTL. L. 391, 425 (1994) (noting that, since the EPA's Office of Noise Abatement and Control was “terminated in 1981, noise regulation efforts have been confined to the traditional police power reserved to states”) with Paul Dempsey, *Local Airport Regulation: The Constitutional Tension between Police Power, Preemption and Takings*, 11 PENN ST. ENVTL. L. REV. 1, 2 (2002) (noting that, “prior to 1972 local police power regulation and common law actions were the principal means of arresting airport noise pollution...”).

cannot, through simple willpower, avoid reacting negatively to the noise.

Research demonstrates that a complex reaction is at work, and a person's reaction to the noise transcends benign annoyance.¹⁷ The reason for this unending cycle of anxiety is that the reaction to noise is not a wholly conscious act. "Sometimes called the 'flight or fight' response," the reaction is a physiological condition that is beyond our control.¹⁸ Noise intrusions cause "elevation of blood pressure, changes in heart rate, secretions of certain hormones into the blood stream, changes in digestive processes and increased perspiration on the skin."¹⁹ However momentarily, one is literally made ill by these noise events.

One commentator on vehicle noise problems in Manhattan summarizes the public health problem as follows:

Noise pollution has been implicated in a variety of health disorders, ranging from stress and hypertension to permanent hearing loss. Noise has been shown to cause emotional and behavioral problems: "even moderate levels of noise can heighten anxiety, decrease the incidence of cooperative behavior, and increase the risk of hostile behavior in experimental subjects." ... Traffic noise is a pervasive public health problem, adversely affecting the lives of ninety-seven million urban dwellers.²⁰

The effects of motorcycle exhaust noise on the health and welfare of the public are well documented in the EPA's 1980 commentary accompanying the final motorcycle exhaust system rulemaking.²¹ In addition to the stress response, the commentary reviewed other adverse health effects of noise including interference with sleep, relaxation, concentration, TV and radio-listening, and face-to-face and telephone communications.²²

Why was the EPA concerned about the regulation of motorcycles? For one,

¹⁷ In deciding to regulate motorcycle exhaust systems on public health and safety grounds, EPA explicitly rejected the proposition that annoyance constituted a triviality that could not be the basis for regulation. See *Docket Analysis*, *supra* note 15, at 1-3 (stating that "annoyance is a crucial component that needs to be controlled if EPA is to uphold its responsibilities. Annoyance does constitute a danger to the public's health and welfare, and EPA is proceeding to regulate as required under the Noise Control Act").

¹⁸ *Regulatory Analysis*, *supra* note 15, at 5-2.

¹⁹ See *id.* See also Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise (ENVTL. PROT. AGENCY 1981).

²⁰ Brautigam, *supra* note 16, at 392-93 (collecting authorities and quoting Sidney A. Shapiro, *Lessons from a Public Policy Failure: EPA and Noise Abatement*, 19 *ECOLOGY L.Q.* 1 (1992)). See also Anne Matthews, *Beyond the Glare and the Blare* PRESERVATION, May/June 2004, at 33 (stating that "neurologists warn that the human brain needs silence and darkness. Our species, hard-wired for life in the Paleolithic, craves naps and rest breaks, but modern life does not allow enough quiet time... Overexposure to noise has been linked to heart disease, headaches, high blood pressure, low birth weights...").

²¹ Transportation Equipment Noise Emission Controls, 45 F.R. 86,694 (Dec. 31, 1980) (codified at 40 C.F.R. § 205.150-74) [hereinafter *Final Rulemaking*]. For an epic treatment of the Noise Control Act, and regulation of noise in general, authored prior to EPA's 1980 rulemaking, see Stephen G. Wood, *Traffic Noise Regulation: A Comparative Study*, 1979 *BYU LAW REV.* 461 (1979).

²² ENVTL. PROT. AGENCY, *Regulatory Analysis*, *supra* note 15, at 5-25.

motorcycles were far and away identified as the most intensely annoying noise source in every EPA study.²³ Consequently, the EPA took action²⁴ and preempted the field of regulating the manufacture of motorcycle exhaust systems (*i.e.*, mufflers) based upon the types of findings summarized above.²⁵ As a result of this action, new street-use motorcycles marketed and sold must be equipped with an effective, noise-suppressing muffler.²⁶

However, how quiet the motorcycle is after the machine leaves the showroom and is in the hands of the owner is another question. As noted above, enforcement is left to the states, and Pennsylvania, like most jurisdictions, does not follow through with the type of regulation envisioned by the EPA. Meanwhile, the motorcycle exhaust noise problem not only persists, but worsens.²⁷ A small minority of bikers (aided by manufacturers) glorifies the sound of loud motorcycles and they desire to share the noise, however unwelcome, with the rest of the public.²⁸

As a result of lax enforcement by states and municipalities with regard to EPA noise regulations and muffler labeling, a flourishing market now exists for products that superficially perform muffling, and for other products that actually *enhance* the noise of the motorcycle.²⁹ These mufflers and devices are used by motorcyclists who desire the rumbling, snorting, aggressive sound with which most of the public is familiar.

The popularity of the type of motorcycle that is typically retrofitted with a loud aftermarket exhaust system is, indeed, at an all-time high.³⁰ Motorcycle industry marketing departments seize upon this trend by offering ever-louder exhaust systems.³¹ Some manufacturers arrogantly advertise that their replacement mufflers

²³ See *id.*, at 5-24 (“when queried in attitudinal surveys, respondents generally rate motorcycle noise as a major, if not the major, source of annoyance from traffic-related noise...”). In the present day, an extensive presence of anti-noise culture websites is evidence that a significant portion of the public perceives excessive noise from a variety of sources, including motorcycles, to constitute a serious problem. See Noise Off: The Citizens Coalition Against Noise Pollution, <http://www.noiseoff.org> (last visited Sept. 10, 2006); No Noise: The Noise Pollution Clearing House, <http://www.nonoise.org> (last visited Sept. 10, 2006).

²⁴ The EPA derives its authority to take action with this regard from the Noise Control Act of 1972 (NCA), 42 U.S.C. §§ 4901-4918.

²⁵ See *Final Rulemaking*, *supra* note 1.

²⁶ It is interesting to note that the EPA, in seeking to suppress environmental noise, does not regulate motorcycle engine size. The loudness of a motorcycle is not a derivative of engine size, as is sometimes believed, but is instead derived from the ineffectiveness of the muffler that is attached to the engine.

²⁷ See *generally infra* notes 30-39 and accompanying text. One Pennsylvania municipality, the Borough of New Hope in Bucks County, enacted its own ambitious regulation on noise control in 2004. NEW HOPE, PA., ORDINANCE #2004-1 § III(c)(5) (2004) *available at* <http://www.newhopepd.org/faqs.html> (containing special prohibitions on “operating a ... motorcycle ... in such a manner as to cause annoyance to persons across a real property boundary from the noise source.... (a.) All motorcycles built or rebuilt after 1982 ... will be operated at or below ... the decibel level of 86”)

²⁸ *New Model Forecast Statistics*, DEALER NEWS, May 2005, at 92.

²⁹ See *generally* Motorsports Network, <http://www.motorsports-network.com/index.htm> (last visited Sept. 6, 2006) (showing the prevalence of ineffective or noise-enhancing mufflers in the motorcycle trade).

³⁰ *New Model Forecast Statistics*, *supra* note 28, at 92.

³¹ One system, for example, is called the “Ghetto Blaster,” and another the “Ground Pounder.” These products can be purchased at motorcycle shops or via the Internet. For product details and photos, see J & P Cycles: Morotcyle Parts & Accessories, <http://www.jpicycles.com> (last visited Oct. 1, 2006).

may be easily gutted for use as an open header.³² This type of product has the superficial appearance of a muffler, but features an easily removable “baffle,” the sound-absorbing internal component. The motorcycle owner could pass inspection with a nominal muffler and then, with the turn of a few screws, have a straight pipe with no noise suppressing capability.³³

A sociologist, not a mechanic and a lawyer, might be better equipped to explain the genesis of the desire for loud motorcycles. The desire may parallel the contemporary craze for louder car stereos, enormous SUVs, and immense suburban homes. The armchair psychologist, on the other hand, may regard the phenomenon as some manifestation of the “Me Generation” run loudly amuck. The most likely explanation, however, is found in motorcycle culture. As one dealer newsletter remarks, “[p]art of the Harley-Davidson experience or mystique is the sound. The sound of a Harley-Davidson is unmistakable. Customers ... want their bikes to sound like a Harley.”³⁴

However, the motorcyclist with a loud machine has unacceptably chosen to share the mystique with others, usually to gain unwelcome attention. When coupled with the fact that the loudness of the machine has nothing to do with better engine design and/or increased performance,³⁵ “ear-splitting” motorcycles constitute the most gratuitous of health and environmental problems.

Former New York Police Chief William J. Bratton has written of the very real hazards that loud motorcycles can produce.³⁶ Indeed, he persuasively identifies loud noise from boom cars³⁷ and motorcycles as factors that lead to the degradation of urban life and the encouragement of crime and hopelessness:

Operation Soundtrap gave rise to another initiative known as Operation Cyclecheck. In neighborhoods where Operation Soundtrap had shut down the “boom-box” cars, police enforcement agents still heard the powerful drone of unlawfully loud motorcycles. Some illegally modified motorcycles produce exhaust noises so loud that they set off the anti-theft alarms of cars parked along the street. When packs of riders cruise neighborhoods on these loud motorcycles, they make sleep impossible and drown out

³² *Id.*

³³ See Noise Off: The Citizens Coalition Against Noise Pollution, <http://www.noiseoff.org> (last visited Sept. 10, 2006)

³⁴ Cerini Harley-Davidson, *Let's Make Some Noise, or Should We?*, CERINI HARLEY-DAVIDSON/BUELL NEWSLETTER, May 2003. The article adds, ominously, “[t]his can be accomplished by simply altering the mufflers or by altering the entire exhaust system. The sound from these altered pipes can range from ‘mellow’ to ear-splitting...” However, the article continues on, admirably, by pleading with customers to keep noise in check, lest the state become more rigorous in regulating and policing the problem.

³⁵ Some argue that straight pipes/drag pipes increase performance, but this is largely incorrect. Drag pipes originally designed for off-road (track) competition do not provide any appreciable added horsepower to a stock motorcycle engine. It is worth noting, also, that a new Honda CBR 600 has a powerful, state-of-the-art engine that provides excellent performance equipped with its EPA-approved muffler. It can achieve a quarter mile in the mid-10 second range. See Honda: 2007 Model Introduction, http://powersports.honda.com/preview/index.asp?ef_id=1097:3:597c27d4707d972b7ee18a3301045079_452956269:jHnmiENIYXsAAEbnFnoAAAAK:20060915174231&bhcp=1 (last visited Sept. 17, 2006).

³⁶ William Bratton, *The New York City Police Department's Civil Enforcement of Quality-of-Life Crimes*, 3 J.L. & POL'Y 447 (1995).

³⁷ *Id.* at 460 (describing boom cars as cars with their “boom-box” or stereo “pouring out loud music”).

car horns and emergency sirens, creating a serious safety hazard.³⁸

Part of the renowned Giuliani/NYPD effort to make New York more livable through policing “quality-of-life” crimes, was, notably, aggressive and creative enforcement of New York laws on motorcycle noise.³⁹

THE “LOUD PIPES SAVE LIVES” DEFENSE

Some opponents of regulating motorcycle exhaust noise argue that one should have the uninhibited right to ride a loud motorcycle as a matter of freedom of choice for the owner.⁴⁰ Most opponents, however, avoid this highly libertarian view in favor of the argument that loud motorcycles lead to increased safety.⁴¹ The idea is that “motorcycles must have a certain decibel level so that other drivers are aware of their presence. Such a level gives the motorcyclists a slight ‘noise visibility.’”⁴²

This proposition is usually articulated with the slogan “loud pipes save lives.”⁴³ In 1980, the EPA considered this type of argument and rejected it, noting that “[t]he Agency has not found any evidence that the noise levels proposed by [the] EPA for new motorcycles have any relationship to driver safety...”⁴⁴ In the EPA’s view, with which the authors concur, “[m]otorcyclists who are depending on the noise generated from their machines to provide a necessary warning to other road users are gambling with their own safety.”⁴⁵

This submission is correct and has stood the test of time. On the surface, it seems that the noise emitted by loud motorcycle exhaust systems would aid in conspicuity and cause more watchful driving by other motorists. Yet, since 1980, not a single thoughtful study was completed to support this theory. To the contrary, crash data shows that the two types of motorcycles that most often use loud pipes – cruisers⁴⁶ and the more aggressive appearing sport bikes – are the two bikes most likely to be involved in vehicular accidents.⁴⁷

Moreover, a loud motorcycle is not likely to save bikers from two of the most common forms of fatal accidents: (1) incidents caused by blind spots, and (2)

³⁸ *Id.* at 462 (footnote omitted).

³⁹ *Id.* at 460-62. The concerns over blaring horns and chronically sounding car alarms in Manhattan are, of course, well known. See Brautigam, *supra* note 16, at 392 (arguing that the failure to control urban noise is a serious but neglected problem which requires new thinking).

⁴⁰ ENVTL. PROT. AGENCY, *Docket Analysis*, *supra* note 15, at 10-3 (noting that when the EPA invited comments to its proposed rulemaking, many members of the motorcycling community responded that no regulation was in order, as bikers should have freedom of choice).

⁴¹ *Id.* at 9-5.

⁴² *Id.*

⁴³ See generally Ken Condon, *Do Loud Pipes Really Save Lives?*, MOTORCYCLE CONSUMER NEWS, Mar. 2004, at 41 (arguing that “loud pipes” may not actually help save lives).

⁴⁴ ENVTL. PROT. AGENCY, *Docket Analysis*, *supra* note 15, at 9-5.

⁴⁵ *Id.* (arguing that “[t]he noise level of a motorcycle would have to be substantially louder than most current models to be heard by an automobile or truck driver, even in a light traffic situation”). This speculative *de minimis* advantage was thought, correctly, to be outweighed by the public’s interest in a noise-free environment.

⁴⁶ A cruiser, typically a Harley-Davidson, is a motorcycle with a V-twin engine with retro styling, a low center of gravity and, usually, wide handlebars.

⁴⁷ Findings from “The Hurt Report”: *Motorcycle Accident Cause Factors and Identification of Countermeasures*, <http://www.clarity.net/~adam/hurt-report.html> (last visited Sept. 7, 2006).

accidents caused by vehicles turning left into the motorcycle operator's path.⁴⁸ In any event, measures such as defensive-driving education, helmet and headlights-on laws, and use of the horn can be less intrusive to the public and promote safety.

THE EPA'S PLAN TO LIMIT MOTORCYCLE EXHAUST NOISE

As submitted above, public health and safety should be protected by amendment of the MVC and its regulations to mandate use of EPA-approved mufflers. Under the authors' plan, every regulated motorcycle must be equipped with an EPA-approved muffler. Inspection mechanics and law enforcement personnel could easily police this requirement by the examining motorcycles for the presence of an EPA-mandated label embossed on the muffler.

This proposal is workable because of the groundwork established by EPA.⁴⁹ The federal government occupies the field of regulating noise emissions of motorcycles and aftermarket motorcycle exhaust systems.⁵⁰ Therefore, the mufflers of motorcycles, when sold, must conform to federal noise suppression standards and bear labels attesting to this fact.⁵¹

Pennsylvania, however, never followed through and amended its motor vehicle laws to provide for enforcement of how motorcycles are equipped *after* the machines leave the showroom and are in the possession of their owners. At this time, Pennsylvania has no regulation requiring that an original or replacement EPA-approved muffler remain on the vehicle after it leaves the showroom. The EPA intended for states like Pennsylvania to make such regulations, and, as the NCA indicated, enforcement is intended to be undertaken by states and municipalities.⁵²

The authors submit that now is the time for such enforcement. Before setting forth the proposed statutory and regulatory amendments, however, this article reviews the NCA's and the EPA's role in the motorcycle noise problem.

The NCA directed the EPA and its Office of Noise Abatement and Control (ONAC) "to promote an environment for all Americans free from noise that jeopardizes their health or welfare."⁵³ ONAC studied this noise problem in detail, looking at all sources of environmental noise. Ultimately, the EPA identified motorcycles, *inter alia*, as a "major source of [environmental] noise."⁵⁴ In order to make this determination, the EPA studied the effects of noise on people while at work, while at home, while relaxing, and while sleeping.⁵⁵ The agency used several noise-emission testing methods, examined current state efforts to abate motorcycle

⁴⁸ For an excellent discussion of this proposition, see Condon, *supra* note 43 (arguing that the noise emitted from motorcycles does not give riders greater visibility).

⁴⁹ See *Final Rulemaking*, *supra* note 1 (providing federal rules based on EPA commentary for motorcycle exhaust systems).

⁵⁰ 42 U.S.C. § 4905 (2000).

⁵¹ *Id.* § 4905(e)(1).

⁵² *Id.* § 4905(e)(2) (2001). 45 Fed. Reg. 86694 (Dec. 31, 1980); 45 Fed. Reg. 13188 (Feb. 28, 1980); 45 Fed. Reg. 27188 (Apr. 22 1980). See generally *Final Rulemaking*, *supra* note 1.

⁵³ 42 U.S.C. § 4901(b).

⁵⁴ Identification of Products as Major Sources of Noises, 40 Fed. Reg. 23,105, 23,107 (May 20, 1975).

⁵⁵ ENVTL. PROT. AGENCY, *Regulatory Analysis*, *supra* note 15, at § 5.

noise,⁵⁶ and created a national plan to achieve its goal of regulating noise from motorcycle emissions.⁵⁷

After its initial studies, the EPA concluded that a major part of the noise problem with motorcycles was attributable to: (1) motorcycles with aftermarket exhaust systems that had poor or little muffling characteristics, and (2) owner modifications to, or tampering with, original equipment exhaust systems.⁵⁸ The EPA noted that either of these modifications could easily increase noise emissions to over 100 dBA.⁵⁹ The EPA also realized that if left unregulated, ongoing efforts to reduce noise from other transportation sources would make motorcycles the single most prominent environmental noise source.⁶⁰ The EPA's regulatory structure has two essential components: (1) establishment of maximum noise emissions for equipment, and testing for the same, and (2) labeling of newly manufactured motorcycles on the chassis and on the original muffler.⁶¹

The EPA first established maximum noise emissions levels by measurement under a strict scientifically derived testing procedure (SAE j331a).⁶² This procedure recreates the vehicle's maximum noise levels while under heavy acceleration. The test also represents the level of noise that can be expected to emanate from the vehicle in real world use. Currently, federal law reports the maximum noise emissions for motorcycle exhaust systems as 80 dBA.⁶³

Two labels are required to be affixed at the factory to show that the motorcycle, when equipped with an approved exhaust system, does not exceed the federal noise emission standard.⁶⁴ One label is on the chassis and contains, among other things, a "model specific code."⁶⁵ The other label is embossed on the muffler and certifies that it is approved for the motorcycle for which it is designed.⁶⁶ This label also contains an identical model-specific code that only appears on the corresponding chassis label.⁶⁷ The absence of either of these labels, the existence of an exhaust

⁵⁶ See *Appendices*, *supra* note 14, at D-1-D-13

⁵⁷ *Id.* at O-1-O-4.

⁵⁸ ENVTL. PROT. AGENCY, ENVTL. IMPACT STATEMENT FOR THE NOISE EMISSIONS REGULATIONS FOR MOTORCYCLES AND MOTORCYCLE EXHAUST SYSTEMS 3 (1980).

⁵⁹ *Id.*

⁶⁰ As submitted above, this noise problem identified by the EPA in the 1970s is still prevalent, if not worse, today. The type of motorcycles (cruisers) that utilize ear-splitting aftermarket/competition-use exhaust systems currently represents over 45% of new motorcycles sold today, as compared to just 12% at the time of the EPA studies. Jeff McCulley, *Loud Motorcycles* § 6, Noise Off: The Citizens Coalition Against Noise Pollution, <http://www.noiseoff.org/pipes/section.06.01.shtml> (last visited Sept. 20, 2006). For photographic examples of prohibited exhaust systems, see McCulley, *supra*, at § 14.

⁶¹ See *Final Rulemaking*, *supra* note 1 and accompanying text.

⁶² *Accord* 40 C.F.R. § 205.152 (2005) (regulating street motorcycles); 40 C.F.R. § 205.166 (regulating aftermarket exhaust systems). This test procedure (SAE j331a) measures the total noise (including exhaust, tire, wind, and engine mechanical noise), from the vehicle at 50 feet. The vehicle tested is in second gear, wide-open throttle, with the engine RPM at a pre-determined percentage of the engine's maximum RPM. See 40 C.F.R. § 205 subparts D-E, app. 1 (outlining test procedure).

⁶³ 40 C.F.R. § 205.166.

⁶⁴ § 205.158.

⁶⁵ §§ 205.158(a)(3), (a)(7).

⁶⁶ § 205.169.

⁶⁷ *Id.*

system without the correct label,⁶⁸ or the installation of a muffler without the correct model-specific code on a federally-regulated motorcycle, constitute a violation of federal regulations and thus of the NCA.

Labels, accordingly, are the critical indicator of compliance with the regulatory scheme. Sound level meters are not required to police the noise suppression effectiveness of exhaust equipment. In fact, the EPA intended these labels to be enforcement tools:

As an aid to State and local authorities, each motorcycle must display two labels which may be used to determine compliance. One, on the motorcycle frame, identifies the motorcycle manufacturer, class and advertised engine displacement. The other label exists on the exhaust system, and must contain the same model specific code as that of the motorcycle on which it is mounted. An enforcement officer need only compare the two to verify that the exhaust system is proper for the particular motorcycle.⁶⁹

Indeed, the EPA envisioned that a police officer could cite a non-complying motorcycle even when the vehicle was unattended and non-operational.⁷⁰

Interestingly, the EPA chose not to enforce noise emissions standards, including basic noise level testing, on “competition motorcycles,”⁷¹ and motorcycle exhaust systems that are for export and for competition use or pre-regulation.⁷² Although these systems do not have to meet EPA noise emission standards, labels are still required for these exhaust systems to identify their non-regulated status.⁷³ For example, competition-use only exhaust systems are embossed with the statement: “Does not conform to U.S. EPA Noise Emission Standards.”⁷⁴

The EPA, and ONAC, acting under the authority of the NCA (and its amendment, the “Quiet Communities Act”) originally planned to provide technical and financial assistance to states and localities to help abate noise.⁷⁵ This plan would have included providing encouragement and assistance to states in undertaking the necessary statutory and regulatory revisions to codify the label match up plan.⁷⁶ This aggressive policing regime never unfolded. In 1981, shortly after the release of the EPA regulations discussed above, Congress cut funding to ONAC.⁷⁷ Meanwhile, entities like the Pennsylvania legislature and the law enforcement community were simply never made aware of the label match-up tool.⁷⁸ One commentator

⁶⁸ For example, the label must indicate if the motorcycle is competition-use only, export-only, or pre-regulation.

⁶⁹ ENVTL. PROT. AGENCY, *Docket Analysis*, *supra* note 15, at 6-14.

⁷⁰ ENVTL. PROT. AGENCY, *Appendices*, *supra* note 14, at O-1.

⁷¹ 40 C.F.R. § 205.151(a)(3) (“Competition motorcycle means any motorcycle designed and marketed solely for use in closed course competition events”).

⁷² *Id.* § 205.169(e)(2)-(4).

⁷³ *Id.*

⁷⁴ *Id.* § 205.169(b)(2).

⁷⁵ Quiet Communities Act, 42 U.S.C. § 4913 (2000); Sidney A. Shapiro, *Lessons from a Public Policy Failure: EPA and Noise Abatement*, 19 *ECOLOGY L.Q.* 1, 2 (1992).

⁷⁶ Shapiro, *supra* note 75, at 2.

⁷⁷ *Id.* at 19.

⁷⁸ *Id.*

summarizes the scenario as follows:

The Noise Control Act ... sought to protect all Americans from “noise that jeopardizes their health or welfare.” However, unlike other environmental statutes, the NCA set no EPA abatement goals for the states. As a result, states and local subdivisions had no legal responsibility to address noise pollution, and noise pollution efforts lagged. The Quiet Communities Act ... passed in 1978, provided for some additional federal grant support for state and local governments for noise abatement. Finally, when the Reagan Administration took office, it ordered elimination of funding for the EPA Office of Noise Abatement and Control in 1981, effectively ending the federal role...⁷⁹

While this may well be the case, public health and safety currently demands control of motorcycle exhaust noise emissions. The vehicle law and its regulations should be amended to take advantage of the regulatory groundwork set forth by EPA, however ineffectively advocated by the federal government.

The astonishing failure of executive responsibility has been the subject of a masterful analysis by Professor Sidney A. Shapiro, who remarks that “[o]f the twenty-eight environmental and health and safety statutes passed between 1958 and 1989, the Noise Act of 1972 ... stands alone in having been stripped of budgetary support.”⁸⁰ Shapiro examines at length the reasons why ONAC lost its funding, pointing out, among other things, that “there never has been a well organized constituency for noise control similar to that supporting other types of environmental actions.”⁸¹ Nevertheless, Shapiro notes that Congress never repealed the Noise Act therefore, “EPA continues to have a statutory responsibility to implement it.”⁸²

A PROPOSAL TO AMEND THE MVC AND ITS REGULATIONS

The EPA, and hence the federal government, occupy the field of regulating the manufacture of original and replacement equipment motorcycle exhaust systems.⁸³ Nevertheless, states, including Pennsylvania, are free to pass laws governing motor vehicle noise.⁸⁴ In fact, states can adopt EPA motorcycle exhaust system manufacturing standards into their own motor vehicle laws.

The authors submit that Pennsylvania should undertake such an adoption by way of legislative and administrative amendment of the MVC and the regulations promulgated thereunder. The authors’ proposal simplifies the “label match-up” plan so that inspection mechanics and law enforcement personnel need only check for one label, that is, the label embossed on the muffler.

⁷⁹ Brautigam, *supra* note 16, at 426.

⁸⁰ Shapiro, *supra* note 75, at 2.

⁸¹ *Id.* at 20.

⁸² *Id.* at 2.

⁸³ 42 U.S.C. § 4905(e)(1).

⁸⁴ *Id.* § 4905(e)(2).

Summary

The principal statutory changes would: (1) equip the Department of Transportation [hereinafter *PennDot*] with the power to incorporate EPA standards into the MVC, and (2) require EPA-compliant exhaust systems and prohibit non-compliant exhaust systems and other noise-making devices. Additional third and fourth changes would establish appropriate penalties for non-compliance.

The regulations requiring amendment are found in title 67 of the Pennsylvania Code, chapter 175, titled “Vehicle Equipment and Inspection.”⁸⁵ This chapter is an extensive and instructional section of the *PennDot* regulations. Inspection mechanics, such as the principal co-author, utilize this chapter, commonly referred to as the “Inspection Code,” on a daily basis.

These regulations would repeat the statutory admonition requiring motorcycles to be equipped with an EPA-compliant exhaust system, and banning non-EPA-compliant exhaust systems. The Inspection Code would also be amended to specifically instruct mechanics regarding how to reject a motorcycle on the basis of its exhaust system, and would set forth definitions for guidance.

Authorizing PennDot to Promulgate Vehicle Equipment Standards Established Under the Auspices of the Noise Control Act (MVC)

The MVC provides that *PennDot* should promulgate vehicle equipment standards for vehicles, equipment, and devices, as generally established by the legislature.⁸⁶ The law permits incorporation of several federal standards, which are listed,⁸⁷ but omits the NCA. This provision of the MVC also establishes that “[federal] standards” supersede state standards “applicable to the same aspect of performance for the vehicle or item of equipment.”⁸⁸ Because Pennsylvania law lacks standards applicable to mufflers, the NCA should be included in MVC’s definition of “federal standards.”⁸⁹ Inclusion of the NCA would ensure that the federal regulations defining EPA-compliant mufflers supersede current state law and require muffler-labeling.⁹⁰

Requiring an EPA-compliant System, Prohibiting the Non-compliant, and Proscribing Loud Non-regulated Mufflers and Devices (MVC and Inspection Code)

The core of the authors’ proposal is an amendment to the MVC § 4523, which governs exhaust systems, mufflers, and noise control.⁹¹ As discussed in the introduction, the MVC requires that all vehicles “be equipped with a muffler or other effective noise suppressing system in good working order...”⁹² Furthermore, the

⁸⁵ 67 PA. CODE § 175.

⁸⁶ 75 PA. CONST. STAT § 4103(a).

⁸⁷ *Id.* § 4103(c).

⁸⁸ *Id.* § 4103(b).

⁸⁹ *Id.* § 4102.

⁹⁰ *Id.*

⁹¹ *Id.* § 4523.

⁹² 75 PA. CONST. STAT. § 4523(c).

noise suppressing system is to be “in constant operation ...”⁹³ The subsection concludes that “no muffler or exhaust system shall be equipped with a cutout, bypass or similar device.”⁹⁴ The MVC also prohibits modification of exhaust systems if the resulting noise is increased beyond that allowed by PennDot regulations.⁹⁵

These general provisions do not ensure quiet motorcycles. The term “muffler” is not defined to mean “EPA-compliant muffler.” Moreover, pass-by tests, the current method of enforcing sound levels, are unworkable and unpopular with the police.⁹⁶

To correct this, the pertinent sub-division of the MVC⁹⁷ and the Inspection Code,⁹⁸ governing motorcycle exhaust systems should be greatly expanded. The proposed statute includes a specific reference to the standard muffler label language required under federal regulations. The statute would provide as follows:

All motorcycles subject to U.S. EPA noise emissions regulations (*i.e.*, all motorcycles manufactured after December 31, 1982), shall be equipped with an EPA-approved exhaust system, with a label embossed on the muffler that states:

“This (manufacturer’s name) exhaust system (serial number) meets EPA noise emission requirements of (noise emission standard) dBA for the following motorcycles: (list of model specific codes). Installation of this exhaust system on motorcycle models not specified may violate Federal law.”⁹⁹

Every motorcycle shall be equipped with a muffler that substantially reduces exhaust noise. If not originally equipped, the muffler must reduce noise to levels similar to that of the vehicle’s original equipment. The muffler may not show evidence of modifications or external repair.

No muffler or exhaust system shall be equipped with a cutout, bypass, or similar device.

No motorcycle shall be equipped with a straight pipe exhaust system regardless of the presence of baffles, or a hollow core muffler, or a muffler with a label affixed that implies that the muffler is intended for closed course or competition use, or a device that either electronically or mechanically amplifies exhaust noise.

No exhaust system shall be equipped with whistle tips or other devices to produce a high pitch noise. No motorcycle shall emit a sharp, harsh, or unreasonably loud noise while momentarily revving

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.* § 4523(d).

⁹⁶ *See supra* notes 6-8 and accompanying text.

⁹⁷ 75 PA. CONS. STAT. § 4523.

⁹⁸ The authors propose that the parallel regulation, 67 PA. CODE § 175.152 (“Exhaust Systems”), be amended to include the same language of the proposed statute, as quoted below.

⁹⁹ This language is based upon the critical labeling regulation found at 40 C.F.R. § 205.169(e). Two “noise emission standards” actually exist under the federal scheme. For motorcycles manufactured from January 1, 1983 to December 31, 1985, the maximum dBA is 83. From that date forward the maximum dBA is 80.

the engine while the vehicle is stationary.¹⁰⁰

The EPA-approved mufflers referenced in the proposed statute were installed on all on- and off-road motorcycles for sale in the U.S. manufactured after December 31, 1982. These mufflers are current, state-of-the-art sound-suppressing devices that achieve substantial reductions in exhaust noise levels. They are constructed with welded or riveted seams and joints.¹⁰¹ Because of this construction, modifications to increase noise are difficult to make without causing obvious signs of mutilation and alterations to their appearance.

As expressed in the proposed statute, all EPA-approved exhaust systems feature a label embossed on the muffler in an easily accessible location that states the make and model of the vehicle, the not-to-exceed sound limits, and a model and/or serial number.¹⁰² The label certifies that the exhaust system, when installed on its corresponding vehicle, passed the federal EPA noise level test, and does not exceed its prescribed sound level (currently at 80 dBA). The language proposed by the authors is derived from the EPA regulations that created the labels.¹⁰³

As noted in the prior section, an EPA-compliant motorcycle leaves the factory with two labels: one on the chassis, and the other embossed on the muffler.¹⁰⁴ Under this simplified plan, the MVC and its regulations are altered to reference only the muffler label. The presence or absence of this label would thus be the focus of inspection mechanics and law enforcement personnel in determining the legality of a motorcycle exhaust system.¹⁰⁵

The further proposed additions are intended to address the regulation of motorcycles produced before EPA manufacturing standards became mandatory in 1983. These vehicles actually arrived from the factory with quiet exhaust systems. Indeed, many are still on the road and retain their original, effective exhaust systems.¹⁰⁶ Other older motorcycles, however, are now equipped with aftermarket replacement systems such as straight pipes and hollow-core mufflers (that is, competition-use only equipment) that provide only a superficial muffling effect.

The state does not have the power to make pre-1983 vehicles compliant with EPA regulations. However, the statute can be fine-tuned, as drafted above, to define

¹⁰⁰ *Id.* § 205.169(e).

¹⁰¹ *Regulatory Analysis, supra*, note 15, at 6-3.

¹⁰² 40 C.F.R. § 205.169.

¹⁰³ *Id.* § 205.169(e).

¹⁰⁴ *See supra* notes 64-68 and accompanying text.

¹⁰⁵ The authors have intentionally left mention of the “model-specific code” out of this proposal because it could cause confusion for inspection mechanics and police who cannot find the chassis or “Motorcycle Noise Emission Control Information” label. The principal co-author has seen these labels removed by vehicle owners for cosmetic reasons. In addition, sometimes these labels are in obscure locations that require the removal of the motorcycle seat or side covers. Not inspecting in search of this additional label should not be a problem because swapping mufflers from different makes and models is nearly impossible because motorcycle mufflers and exhaust systems are generally designed for specific models. They are stylized to give the motorcycle a unique appearance. The muffler size, inlet, and location, as well as exhaust pipe size and mounting brackets, are all individualized. Even if mufflers could be cross-installed, the resulting noise increase (if any) would be negligible. Model-specific language could be included in the proposed changes, but the authors submit that such a step is unnecessary.

¹⁰⁶ It is not uncommon to see long-lived exhaust systems because of low annual mileage (2000-3000 mi/yr), due to primary use of motorcycles in the warmer months.

“muffler” specifically, and to outright ban the “worst offenders,” *i.e.*, straight pipes and hollow-cores.¹⁰⁷

The proposed ban on cutouts and bypasses is aimed at devices attached to exhaust systems that allow the operator to temporarily avoid the muffling effect of the exhaust system and make intermittent loud noise. A ban on such devices actually exists in another provision of the MVC applicable to the exhaust systems of all vehicles.¹⁰⁸

The proposed ban on whistle tips and similar features is aimed at exhaust-system-related devices that are affixed specifically to make noise and attract attention. The Inspection Code already directs that motorcycles with sirens, bells, and whistles be rejected.¹⁰⁹ The authors propose that this prohibition be extended to exhaust-system based noisemakers.

Establishing Penalties on Operators (MVC)

Current law provides for only *de minimis* penalties for modifying an exhaust system to make it produce noise in excess of current regulation-based maximums.¹¹⁰ More onerous penalties must be enacted for two reasons. First, fines levied by law enforcement personnel, not merely rigorous inspections, are necessary to ensure compliance with the proposed statute. Shocking as it may seem, it is likely that, if the MVC is changed, many vehicle owners will simply stop having their motorcycles inspected and take their chances with getting stopped by the police. The principal co-author repairs at least fifty regularly-used motorcycles per year with either no inspection sticker or one that is several years out of date. Second, given the substantial income of many motorcyclists, only a significant fine will deter owners into compliance with the regulations.

Deterrence can be accomplished by adding a subsection (g) to the relevant section of the MVC. This addition would provide as follows: “Penalty. – Any person operating a motorcycle in violation of any of the provisions of 75 Pa. Cons. Stat. § 4523(f) is guilty of a summary offense and shall, upon conviction, be sentenced to pay a fine of \$1000, and upon second and subsequent violations shall be subject to a fine of \$2000.”

Establishing Penalties on Inspection Mechanics (MVC)

Onerous penalties on uncooperative inspection mechanics must also be enacted to ensure compliance with the changes proposed above. Many motorcycle dealerships

¹⁰⁷ A “hollow-core” muffler is one in which the exhaust inlet (near the engine) is visible from the exhaust outlet. An EPA-approved muffler, in contrast, will have components that disperse and suppress noise by routing the exhaust in a non-linear pattern through the pipe. This type of muffler utilizes complicated internal baffling chambers, noise suppression absorption materials, and is highly engineered. In such mufflers, the exhaust inlet *cannot* be viewed from the outlet. McCulley, *supra* note 60, at §§ 12-13.

¹⁰⁸ 75 PA. CONS. STAT. § 4523(c).

¹⁰⁹ 67 PA. CODE § 175.160(b)(2)(iii) (providing for inspection mechanics to “[c]heck the horn and reject if any of the following apply: ... (iii) the vehicle is equipped with a siren, bell, whistle, or a device emitting harsh or unreasonably loud sound, except on emergency vehicles and vehicles equipped with an anti-theft device”).

¹¹⁰ Currently, owners of vehicles with illegal exhaust systems are subject only to a \$25 fine plus court costs and related fees. 75 PA. CONS. STAT. § 6502(a).

and smaller repair shops/inspection stations likely sell customers loud aftermarket exhaust systems at a considerable cost (\$300 to \$1000), and install them on new \$8,000 to \$20,000 motorcycles. These customers may feel that shops “owe them an inspection sticker.” The motorcycle shops may also feel obliged to keep their customers happy. Moreover, many motorcycle shops and dealerships are staffed with like-minded motorcycle enthusiasts who endorse and enjoy the mystique of loud motorcycles.

To ensure compliance, the authors submit fines should be imposed on retailers and repair shops that do not adhere to the proposed changes.¹¹¹ This proposal can be accomplished by adding the following language to the provision of the MVC addressing issuance of inspection certificates:

(f) Motorcycle exhaust systems – An inspection mechanic and the inspection station, where either issued an inspection certificate to a motorcycle that is in violation of 75 Pa. C.S. § 4523(f) (relating to motorcycle exhaust systems, mufflers, and noise control), commits a summary offense. Both the inspection mechanic and the inspection station owner shall, upon conviction, be sentenced to pay a fine of \$1,000, in addition to current penalties and suspensions.

Amending the Inspection Code to Effectuate Changes to the MVC

The regulations comprising the “Inspection Code” should be amended to reflect and further detail the changes in the MVC. As indicated above, the regulations, formally titled “Vehicle Equipment and Inspection,” are extensive, instructional provisions that mechanics, such as the principal co-author, actually utilize on a daily basis. These regulations essentially form the inspection mechanic’s manual. Therefore, the authors submit that the following provisions should be added to the appropriate section of the MVC:¹¹²

(5) Inspect the exhaust system and *reject* if one or more of the following apply:

(i) The vehicle, if manufactured after December 31, 1982, is not equipped with an EPA-approved muffler, with a label embossed on the muffler which states: “This (manufacturer’s name) exhaust system (serial number) meets EPA noise emission requirements of (noise emission standard) dBA for the following motorcycles: (list of model specific codes). Installation of this exhaust system on motorcycle models not specified may violate Federal law.”

(ii) The vehicle, if manufactured before January 1, 1983, is equipped with:

- a) Straight pipe exhaust system, with or without baffles;
- b) Hollow-core (open center design) mufflers; or

¹¹¹ New Hampshire, notably, uses large fines similar to this to accomplish the same thing. N.H. REV. STAT. ANN. § 266:59(a)(III) (LEXISNEXIS 2002 AND SUPP. 2005).

¹¹² 67 PA. CODE § 175.160.

- c) Any muffler with a label affixed that implies the muffler is intended for closed-course or competition use.
- (iii) For all motorcycles, regardless of manufacture year, reject if:
 - a) The muffler has signs of tampering or modifications either externally or internally (as viewed by peering through the exhaust outlet with bright light) or signs of external repair;
 - b) The muffler has a cap or device unless otherwise originally equipped that prevents a thorough inspection of the muffler;
 - c) The vehicle emits a sharp, harsh or unreasonably loud noise while momentarily revving the engine while the vehicle is stationary;
 - d) The exhaust system is equipped with a device that will amplify exhaust noise, either electronically or mechanically;
 - e) The exhaust system is equipped with whistle tips or other devices to produce a high pitched noise; or
 - f) The vehicle has no muffler, or an ineffective muffler.

In addition, the following definitions should be provided for cross-reference to the regulations and to the MVC and added to the definitional regulations that precede the Inspection Code.¹¹³

EPA-approved muffler – A motorcycle exhaust system component that bears an embossed label that certifies the listed make and model of the motorcycle does not exceed either 83 dBA for motorcycles manufactured from January 1, 1983 to December 31, 1985 or 80 dBA for motorcycles manufactured after January 1, 1986.

Muffler – An exhaust system component that substantially reduces exhaust noise. If not the original equipment, the muffler must reduce noise to levels similar to that of the vehicle's original equipment.

Straight pipe exhaust system – A motorcycle exhaust system that has the outward appearance of a uniform, consistent diameter the entire length of the system.

Baffles – A removable aftermarket motorcycle exhaust system component that is designed to reduce exhaust noise.

Hollow-core muffler – A muffler that has an exhaust inlet which is visible from the exhaust outlet.

CONCLUSION

The foregoing constitutes the simplest and easiest way to substantially reduce the number of noisy motorcycles on the road. The proposed inspection procedure, performed by the police or inspection mechanics, would take less than two minutes to perform. The inspection would involve simply checking the year (post-1983) of the motorcycle's manufacture, and then checking for the correct muffler label. For

¹¹³ *Id.* § 175.2.

all motorcycles, the procedure would involve performing a visual check of internal and external components of the muffler. For pre-regulation motorcycles (1982 and older), the procedure would also include checking for prohibited components.

The proposed changes would have no effect on 80 to 90% of the 276,000 motorcycles on the road in Pennsylvania today. The remaining 10-20% of motorcycles would need only \$400 to \$1,200 in corrective repairs to achieve compliance with the proposed changes. Used parts would cost about half of this amount. Considering the prevalence of used parts available on the Internet, there is no reason why most motorcycles cannot become compliant with these proposed changes. An alleged lack of availability of new or original equipment is not a legitimate argument against the authors' proposal.

Motorcycles that are illegal under the MVC's current pass-by test are actually in the minority. In fact, many of the bikes that keep the public awake at night, that ruin the peace and tranquility of one's home or backyard, and that jar citizens to a frazzle while in traffic, are *legal* under our current Motor Vehicle and Inspection Codes. The authors' proposal, if enacted, will dramatically alter this unsatisfactory situation.