

STATEMENT OF LARRY J. SILVERMAN BEFORE THE HOWARD COUNTY FUELING STATION TASK FORCE

August 12, 2014

I. My Background and Expertise

- a. My name is Larry J. Silverman. I live in Takoma Park in Montgomery County. I have been an environmental lawyer for more than forty years, specializing in air and water quality issues. My clients include municipal governments, conservation organizations and small businesses. For many years I have taught environmental law and policy to graduate students at Johns Hopkins University. For the last four years I have been deeply engaged in an effort to stop the Costco company from opening a hyper gas station too near to homes, a school and an outdoor recreation area. I have helped promote and get passed County legislation establishing a partial buffer zone between large stations, defined as selling 3.6 million gallons per year, and schools and playgrounds. I also participated in an effort to pass state legislation in this area, which continues. Most significantly, I have been an active participant in the longest running -- 36 full days of hearings -- Special Exception (conditional use) case in the history of Montgomery County. This case, which is still not decided, relates to Costco's application to build a mega gas station like the Gateway station in Columbia, very close to homes, shoppers, mall employees, a public swim and tennis club, and a school for severely handicapped children. In the process I have learned a lot about the substantial environment, health, safety and convenience questions involving gas stations as well as the strengths and weaknesses of Zoning Codes in dealing with the emerging trends in fuel distribution systems.
- b. For most of my career I have had the good fortune to be involved on the cutting edge of the law. I started working on air and water issues before the Clean Air and Clean Water Acts were passed. I was one of those who helped craft and refine those measures over the ensuing decades. The use of zoning to reduce air and water pollution risks is today in 2014 an emerging issue.

II. The Importance of Local Land Use Decisions in Avoiding Adverse Environmental Impacts of Gas Stations and Similar Uses:

- a. The E-Z Pass Story
- b. EPA Guidelines on School Siting
- c. Limits on State and Federal Regulation of Fuel Distribution Systems

III. What are the Risks Associated with Gas Stations?

- a. Gasoline service stations present a number of environmental and safety issues. For a good summary see an April 4, 2009 article from Scientific American, entitled "Is it safe to live near a gas station?"¹
- b. Air pollution from idling cars in queues, vapors escaping from underground tanks, losses at the pump, accidental spills, and emissions of diesel fuel tankers and refueling hoses.

¹ See Scientific American, Is it safe to live near a gas station? <http://www.scientificamerican.com/article.cfm?id=is-it-safe-to-live-near-gas-station> Attachment 2

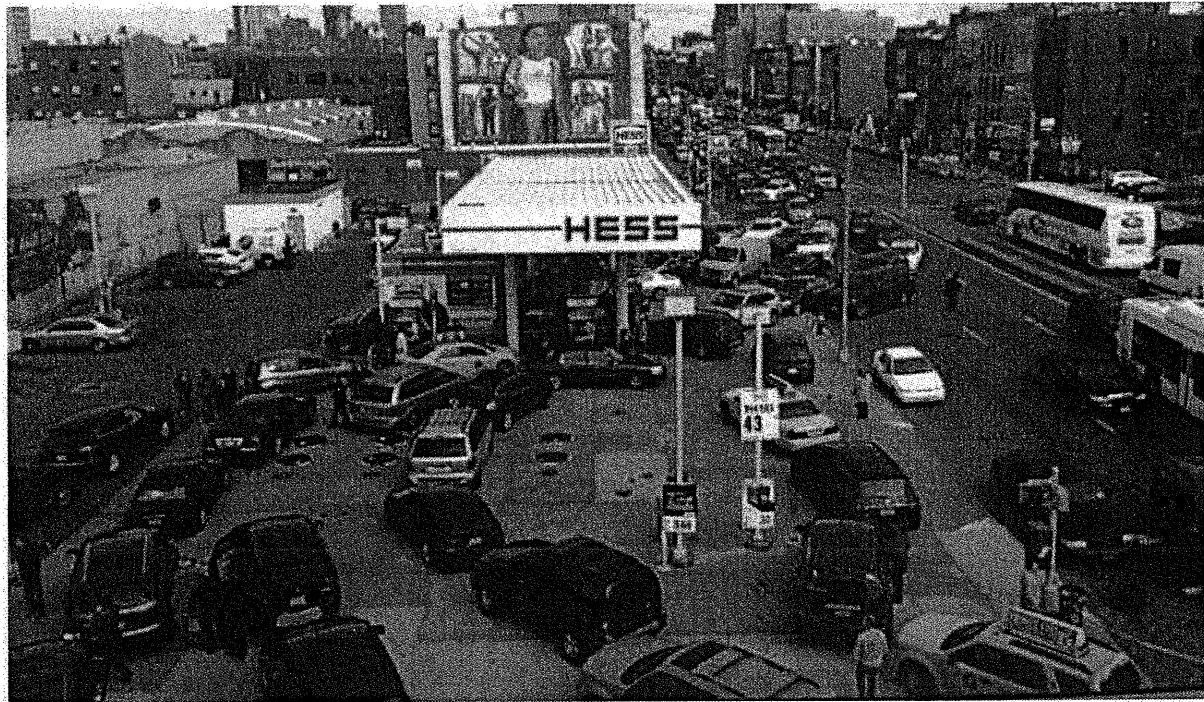
- c. Air pollutants of concern include:
 - i. Ground Level Ozone
 - ii. NO2
 - iii. CO
 - iv. Fine particulate matter or PM2.5
 - v. Volatile Organic Compound such as benzene, toluene
 - vi. Odors
- d. Ozone and NO2 are particular concerns in Howard County, due to non-attainment status. Even though the County generally meets National Ambient Air Quality Standards (NAAQS) for other pollutants, the County should be on guard against creating or making worse pollution hot spots affecting particular neighborhoods. A simple and effective preventive measure is to create buffer zones between pollution sources and people.
- e. While these air pollutants degrade public health generally, children, elderly and those with pre-existing health issues are most at risk.²
- f. Pollution of ground and service waters from tank spills, accidents, and spills at pump are a serious concern. Jacksonville, MD underground tank spill is a case in point.
- g. Fires (1200 per year nationwide, most caused by burning cars) pose safety risks. Source: National Fire Protection Association.³

IV. The Importance of Fuel Depot Siting Decisions in Emergency Management Planning:

- a. Planning for fuel stations should be an integral part of homeland security management. Large stations play an important role in emergencies as they are often the only ones with fuel available to sell. Where should these stations be located so as to provide emergency service with least impact on people and neighborhoods? Finding places to place fuel depots that are likely to be used by tens of thousands of people during an emergency without at the same time creating pollution sacrifice zones in nearby neighborhoods should be a priority for Howard County planners. Here is a photo of a hyper-station in New York City after Hurricane Sandy. This was the scene at hyper-stations throughout the affected areas. This will be the scene at stations in Howard County's largest stations after an emergency. Large gas stations become critical recovery sites after emergencies. The issue for planners is how to site these facilities so as to maximize their value while minimizing their impact on the people nearest to them.

² Wall Street Journal, Nov. 8, 2011, "The Hidden Toll of Traffic Jams", Attachment 3.

³ NFPA, April 2011, Fires at US Service Stations, <http://www.nfpa.org/research/reports-and-statistics/fires-by-property-type/business-and-mercantile/fires-at-us-service-stations>



V. The Importance of Planning

- a. There are two important Planning processes, which need to be coordinated so as to minimize environmental risk while providing essential public services. One type of planning is well known to County and other municipal governments. The other type of planning relates to the Clean Air Act requirements that states develop a State Implementation Plan for Achieving and Maintaining compliance with the National Ambient Air Quality Standards (NAAQS). As I understand it, the County Land Uses and Sector plans have very little to say about gas stations and other facilities that tend to concentrate pollutants. And on the State and regional level, almost no effort has been invested in the issues that concern this Task Force. I was disappointed but not surprised to see that the most recent BMC Conformity Study of Transportation Plans for the County made no mention of gas stations, parking garages, bus depots and other uses that tend to concentrate auto related pollutants in particular areas. In other words, there is no plan and no real data to guide decisions making on the local level. Finally there appears to be no
- b. Worst of all, there appears to be no coordination between normal County planning and zoning and SIP Planning.

VI. The fuel industry and the environmental rules relevant to that industry are changing at a rapid pace. How can local zoning stay abreast of these moving targets?

- a. The retail gasoline industry is undergoing rapid and large changes. You will hear more about this from another witness, who is an expert in gasoline markets. The basic take away is that market forces are moving rapidly; and the County should move rapidly as well to enact reasonable regulations before it is too late to make a difference.
- b. The demand for gasoline is dropping

- c. While typical gas stations are experiencing declining or flat sales, very large gas and go hyper-stations selling product at discount prices are growing rapidly.
- d. Advent of electric cars and natural gas powered vehicles will have unknown impacts on the industry.
- e. Environmental standards relative to fuels stations and cars and trucks are changing rapidly. Less than one year ago, the standard for PM2.5 was changed from 15 ugrams/m3 to 12, a 20% reduction. In the past, PM2.5 was not regarded as a major automobile related issue. The new lower standards have changed this perception. Rules for placement of monitoring devices for pollutants, especially NO2 and PM2.5, are being revised as we meet. This means that current measurements may not reflect the severity of the actual situation.

VII. A word about Competition

- a. Competition: Land Use agencies may not favor one group over another by arbitrarily limiting competition. On the other hand, competition can cause adverse impacts on public health and welfare, which County agencies should consider.
- b. Closing old gas stations is not the same as closing other retail outlets. Gas Station decommissioning requires excavation of old tanks and general site clean-up. Abandoned stations are one of the indicators of distressed "brownfield" communities.
- c. Gas stations provide other services to community, including car repair, bath rooms, convenience stores, air for tires and other amenities that could be lost if older stations are driven out of business by hyper-stations that may not offer the same.

VIII. Thirteen Questions for the Task Force

- a. How can this Task Force help the County Council reduce the safety, health, and environmental risks associated with gas stations and other elements of our fuel distribution systems?
- b. What are those risks?
- c. The State regulates the engineering aspects of gas stations, dictating the standards for underground fuel storage tanks, pumps and other hardware. A state requirement that all new or all and existing gas tanks have double wall construction, for example, reduces the risk of a tank rupture that could pollute water, air and land. It is a good tool. State regulation is just one line of defense. Does the County have any of its own tools to enhance the safety of gasoline and other fuel stations?
- d. Specifically, should the County Council explore the use of land planning and zoning as tools for protecting their citizens and their territory from unintended and very negative occurrences involving the retail sale of fuel, such as air and water pollution, as well as spills, fires and explosions? Do buffer zones make sense? How big? What places deserve special protection? Schools, hospitals, homes for ill and /or elderly people, places where children congregate, water sources, forests, other natural resources, residential neighborhoods?
- e. What types of buffer zones have other jurisdictions enacted? What do the EPA, the Metro Council, the MDE recommend?

- f. Do the Flood Hazard Overlay and the Well Head Protection Overlay in current zoning law afford adequate protection for the risks associated with gas stations, especially large ones? Should other overlays be considered?
- g. What other techniques are being explored to reduce the possibility of harm while serving the public's needs?
- h. What water resources in the County should be accorded additional protections?
- i. Drinking water sources, public and private
- j. Patuxent River and tributaries
- k. Storm water structures
- l. Water/sewer infrastructure
- m. Others?
- n. Has the County or the state identified especially sensitive areas, such as well fields, water engineering stations, reservoirs, and the like upon which the people of Howard County depend? What tools can be fashioned to protect them from rare but devastating events? Are there routine occurrences that impair the quality of water resources? What are the likely pathways of risk? How can it be minimized? How do these issues relate to County Storm Water Permit?
- o. Air Pollution: Is there a potential for a gas station or a group of gas stations to create local conditions in the air that may have significant impact on people in that vicinity? How are current stations causing or contributing to air quality problems? How will new stations impact air issues? How can these types of problems be avoided or reduced?
- p. Should the County have better resources for or access to monitoring of air and water pollution risks?
- q. How should County Planning efforts mesh with Air Quality Implementation plans developed by the Metro Council and the State?
- r. How effective has the current system been in permitting gas stations and similar facilities, while minimizing health and environment risk?

Thank you for allowing me to state my concerns today.

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Traffic Congestion and Infant Health: Evidence from E-ZPass[†]

By JANET CURRIE AND REED WALKER*

We exploit the introduction of electronic toll collection, (E-ZPass), which greatly reduced both traffic congestion and vehicle emissions near highway toll plazas. We show that the introduction of E-ZPass reduced prematurity and low birth weight among mothers within 2 kilometers (km) of a toll plaza by 10.8 percent and 11.8 percent, respectively, relative to mothers 2–10 km from a toll plaza. There were no immediate changes in the characteristics of mothers or in housing prices near toll plazas that could explain these changes. The results are robust to many changes in specification and suggest that traffic congestion contributes significantly to poor health among infants. (JEL I12, J13, Q51, Q53, R41)

Motor vehicles are a major source of air pollution. Nationally they are responsible for over 50 percent of carbon monoxide (CO), 34 percent of nitrogen dioxide (NO₂), and over 29 percent of hydrocarbon emissions, in addition to as much as 10 percent of fine particulate matter emissions (Michelle Ernst, James Corless, and Ryan Greene-Roesel 2003). In urban areas, vehicles are the dominant source of these emissions. Furthermore, between 1980 and 2003 total vehicle miles traveled (VMT) in urban areas in the United States increased by 111 percent against an increase in urban lane-miles of only 51 percent (US Department of Transportation 2005). As a result, traffic congestion has steadily increased across the United States, causing 3.7 billion hours of delay by 2003 and wasting 2.3 billion gallons of motor fuel (David Schrank and Tim Lomax 2005). Traditional estimates of the cost of congestion typically include delay costs (William S. Vickrey 1969), but they rarely address other congestion externalities such as the health effects of congestion.

This paper seeks to provide estimates of the health effects of traffic congestion by examining the effect of a policy change that caused a sharp drop in congestion (and therefore in the level of local motor vehicle emissions) within a relatively short time frame at different sites across the northeastern United States. Engineering studies

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[†]To comment on this article in the online discussion forum, or to view additional materials, visit the article page at <http://www.aeaweb.org/articles.php?doi=10.1257/app.3.1.65>.