Failure of the FEIS to Address Critical Issues of Public Health and Traffic Safety, Regarding the I-270 / 495 Road Widening and Toll Lanes Alternative 9 Proposal

by Byron Bloch, Auto Safety Expert, Resident of Montgomery County

First, I must express concern that the latest FEIS Final Environmental Impact Study of some 26,000 pages issued by MDOT on June 17th does not allow adequate time for citizens to review, analyze, and comment on their concerns. Only thirty days, until July 17th, is clearly not enough time for citizens to respond to such a massive proposal and FEIS that has severe and permanent consequences for Montgomery County and the State of Maryland.

This submission will therefore give a brief overview of some of the compelling issues that have NOT been adequately covered in this latest so-called Final Environmental Impact Study (FEIS). While there are issues of economic overreach to commit to paying Transurban for at least fifty years of toll revenue, plus major adverse effects on the Climate Crisis, plus toxic air quality to the citizens in adjacent neighborhoods, plus no need for any "Public-Private-Partnership" when the recent Federal Infrastructure Bill would keep the roads as fully public with no egregious privatized tolls that penalize low-income families.

MDOT Ignores Critical Public Health Issues, Including the Daily Generation of Toxic and Carcinogenic Silica Construction Dust

It is outrageous that this FEIS does NOT adequately address concerns for the toxic and carcinogenic crystalline silica construction dust that will be generated daily during at least the six years of road demolition and re-construction... including the multiple bridges and soundwalls. The FEIS ignores any concerns that thousands of our children through seniors will be sickened with asthma, silicosis, COPD, and lung cancer. In their response, MDOT simply refers to "fugitive dust" and then mentions that they "may" use some measures to minimize or mitigate.

Contrast this evasive smoke-and-mirrors response with the evidence presented by the National Cancer Institute about silica construction dust being toxic and carcinogenic, and by the American Public Health Association about road re-construction projects causing silicosis. Yes, there are OSHA requirements to help protect the on-site workers from breathing respirable silica dust, but what about the nearby citizens and neighborhoods and schools ? One of the MDOT measures is that they *"may use"* water trucks... but that means a fleet of daily tanker trucks and spraying huge amounts of water to hopefully capture enough of the silica dust, etc., and then how and where is it safely dispersed (without adversely affecting our public water supply ala Flint,

Exhibit I

Michigan)? Mitigation techniques are only mentioned in broad brush terms, and that they *"may"* be used... and that these measures are only partially effective at best. **Therefore, I strongly urge the US Department of Transportation (DOT), and the Environmental Protection Administration (EPA), and the Federal Highway Administration (FHWA) to reject the proposed MDOT / Transurban proposal of Alternative 9 to widen the I-270 and add toll lanes.**

Response by MDOT in FEIS:

Construction Impacts (Pages 49-50-51)

Because the project's construction duration is not anticipated to exceed six years in any single location, most air emissions associated with construction are considered temporary in nature. The primary air quality concerns during construction would be a potential short-term localized increase in the concentration of fugitive dust (including airborne $PM_{2.5}$ and PM_{10}), as well as mobile source emissions, including pollutants such as CO. To manage fugitive dust emissions during construction, the contractor may use some or all of the following dust control measures, to minimize and mitigate, to the greatest extent practicable, impacts to air quality:

- Minimize land disturbance;
- Cover trucks when hauling soil, stone, and debris (MDE Law);
- Use water trucks to minimize dust;
- Use dust suppressants if environmentally acceptable;
- Stabilize or cover stockpiles;
- Construct stabilized construction entrances per construction standard specifications;
- Regularly sweep all paved areas including public roads;
- Stabilize onsite haul roads using stone; and/or
- Temporarily stabilize disturbed areas per MDE erosion and sediment standards.

Since CO emissions from motor vehicles generally increase with decreasing vehicle speed, disruption of traffic during construction (such as temporary reduction of roadway capacity and increased queue lengths) could result in short-term elevated concentrations of CO. To minimize the amount of emissions generated, efforts would be made during construction to limit traffic disruptions, especially during peak travel hours including keeping the same number of existing lanes open during construction.

Construction activities would also generate GHG emissions. Preparation of the roadway corridor (e.g., earth-moving activities) involves a considerable amount of energy consumption and resulting GHG emissions; manufacture of the materials used in construction and fuel used by construction equipment also contribute to GHG emissions; and on-road vehicle delay during construction would also increase fuel use, resulting in GHG emissions. ..... The results of the ICE analysis for the Preferred Alternative show that the construction and maintenance of the project would produce annualized CO_2 equivalent emissions of approximately 1.1 million metric tons per year ($MTCO_2e$). Total construction and maintenance related emissions over the 30-year lifespan of the project are estimated at 34,477,856 MTCO2e. The majority of these emissions are associated with vehicles using the roadway during normal operations and delays associated with the construction of the project. Refer to **FEIS, Chapter 5, Section 5.8.4**.

MDOT FEIS Ignores the Increase in Traffic Congestion and Chaos, and Increase in Truck-versus-Car Severe Collisions, and No On-Point MDOT Study Was Conducted

MDOT has presently selected Alternative 9 as the preferred road design, which means there will be 7 northbound lanes and 7 southbound lanes on the I-270, with two of those centrally located to be the toll lanes. There are multiple safety problems with the proposed road design. When the cars and trucks need to shift lanes to get to those central toll lanes, or from the central toll lanes to the outer periphery for the exits, such lane shifting will lead to many severe collisions. In my fifty years as a national auto safety expert, I have worked on analyzing many such cases, and two such examples are shown below.

There is no need for any toll lanes (other than to provide a revenue stream to Transurban for the next 50 years), and such toll lanes will exacerbate the traffic backup bottlenecks as those 7 northbound lanes will have to funnel down to just two lanes north of Gaithersburg. Presently, those bottlenecks are largely due to 4 or 5 lanes funneling down to just two lanes north of Gaithersburg to Frederick. Since "5 down to two" creates a present bottleneck problem, imagine what will happen with "7 down to two" by Alternative 9.

These types of truck-vs.-car crashes will occur much more frequently with Alternative 9. Since the MDOT FEIS ignores this traffic safety hazard, the FEIS is flawed and should not proceed. Please note that the FEIS itself affirms this lacking: "Although safety was not one of the specific elements identified in the Study's Purpose and Need, the safety goal is to reduce the number and severity of traffic crashes within the study limits." *(Text cited below is from pages 60 and 61 of the FEIS.)* A reading of the entire text shows it to be a feeble admission that traffic safety and crashes were not examined nor accounted for by the so-called Alternative 9 design.

To note further omissions in the MDOT FEIS, Alternative 9 does NOT address the need for safety shoulder or break-down lanes. These should preferably be adjacent to the left and right outer travel lanes, with the shoulder lanes being a minimum width of 8 feet, preferably 10 feet, and FHWA even recommends 12 feet shoulder lane widths if the road of concern anticipates at least 30-percent of the traffic will be trucks, as would be the case on the I-270. The so-called 'road design" for Alternative 9 looks much like an artist's concept, and does not include any technical details to describe such necessary features as entry and exit ramps, how the traffic will enter and exit the toll lanes, how the traffic on the central toll lanes will transition to the exits, and other details.

Therefore, because of these major flaws and shortcomings in the FEIS, I urge the US DOT, FHWA, and NHTSA to voice their serious concerns and ensure that this terribly inadequate Transurban plan not proceed.

Response by MDOT in FEIS:

Safety (Pages 60 and 61)

Several comments raised concerns about the proposed action's potential impacts on vehicle, pedestrian, and/or bicycle safety. These comments assert that the construction of enhanced interchanges could impact pedestrian and bicycle safety and that an increased number of highway lanes and/or access to managed lanes will increase weave movements, thereby compromising travel safety. As summarized below, the project will implement accepted engineering techniques to address safety issues during project construction and operation.

The Preferred Alternative would maintain the existing separation between highway operations and local traffic, bicyclists and pedestrians through access limits and physical barriers in accordance with state and Federal design standards and regulations. Refer to **FEIS, Chapter 3, Section 3.1.5**. With respect to pedestrian safety concerns for those areas located outside the highway facilities themselves, where direct access ramps would be constructed, alterations to traffic patterns and roadway/sideway networks would be mitigated by the inclusion of signage, high-visibility crosswalk markings, and pedestrian countdown signals. Existing pedestrian and bicycle facilities impacted by the proposed action would be replaced in- kind or upgraded to meet the current master plan recommended facilities. Any such replacements would be coordinated with county and pertinent local jurisdictions, in compliance with Maryland law.
Although safety was not one of the specific elements identified in the Study's Purpose and Need, the safety goal is to reduce the number and severity of traffic crashes within the study limits. A review of the existing crash history and a quantitative analysis of the safety impacts of the proposed action is included in the FEIS as part of the MDOT SHA's Application for Interstate Access Point Approval documentation required by FHWA (**FEIS, Appendix B**).

The design of the proposed action is undergoing extensive constructability reviews, and a Transportation Management Plan and Maintenance of Traffic plans will be developed in final design to ensure that it can be built safely and efficiently with minimal disruptions. The HSM and ISATe analysis summarized in the IAPA will be updated during final design, as needed. FHWA's ultimate approval of final design will take those safety impacts into account.

Background, and Summary of Failures in the FEIS

I have reviewed and analyzed multiple sections of the FEIS, including those on Construction Impacts, Air Quality, and Safety. My experience and expertise includes over fifty years of serving nationally as a court-qualified auto safety expert to analyze how and why vehicle accidents and injuries occur. I've served on the 1999 *U.S. ONE DOT Commercial Motor Vehicle Safety Workshop*, testified by invitation at U.S. Congressional Hearings on vehicle safety issues like fuel tank fires and truck underride, submitted recommendations to NHTSA on safety defects, airbags, truck underride, and rollover roof crush. and have been published in the *International ESV Conferences* and in *Vision Zero International* magazine, and was proud to receive a *Lifetime Achievement Award* from the *2001 World Traffic Safety Symposium*.

In conclusion, the Maryland DOT and Transurban Final Environmental Impact Study (FEIS) is evasive and fraught with omissions on such critical areas as:

- **The generation of toxic silica construction dust that will assuredly cause asthma, silicosis, and lung cancer to many residents, children to seniors.**

- **The FEIS also fails completely to address how the added lanes will INCREASE traffic travel times as the road widening increases to 7 lanes which will then have to funnel down to a 2-lane bottleneck.**

- **The FEIS fails to address how the Alternative 9 road design will lead to more vehicle crashes, including the lethal truck-vs.-car crashes (which I have analyzed for many years as a national auto safety expert analyzing many such actual collision accidents). The lane shifting and cross-overs to and from the toll lanes to entry and exit locations will exacerbate such collisions with severe to fatal consequences for the occupants of passenger vehicles.**

- **The FEIS fails to address these critical public health and traffic safety issues, among many others, and to legitimately resolve these issues so the public will not be suffering from nor penalized by these shortcomings in the FEIS and the so-called plan for Alternative 9. .**

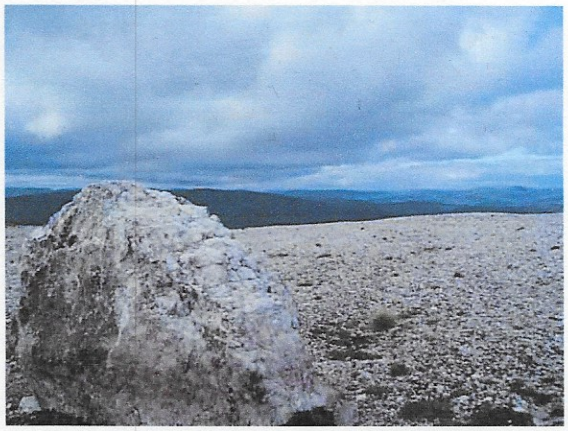
For these reasons, and more, I respectfully urge that the proposed terribly inadequate plan to widen the I-270 and add toll lanes should be cancelled.

NIH NATIONAL CANCER INSTITUTE

Crystalline Silica

What is crystalline silica?

An abundant natural material, crystalline silica is found in stone, soil, and sand. It is also found in concrete, brick, mortar, and other construction materials. Crystalline silica comes in several forms, with quartz being the most common. Quartz dust is respirable crystalline silica, which means it can be taken in by breathing.



Quartz is the most common form of crystalline silica.

How are people exposed to crystalline silica?

Exposure to tiny particles of airborne silica, primarily quartz dust, occurs mainly in industrial and occupational settings. For example, workers who use handheld masonry saws to cut materials such as concrete and brick may be exposed to airborne silica. When inhaled, these particles can penetrate deep into the lungs.

The primary route of exposure for the general population is inhaling airborne silica while using commercial products containing quartz. These products include cleansers, cosmetics, art clays and glazes, pet litter, talcum powder, caulk, and paint.

Which cancers are associated with exposure to crystalline silica?

Exposure of workers to respirable crystalline silica is associated with elevated rates of lung cancer. The strongest link between human lung cancer and exposure to respirable crystalline silica has been seen in studies of quarry and granite workers and workers involved in ceramic, pottery, refractory brick, and certain earth industries.

How can exposures be reduced?

The Mine Safety and Health Administration and the U.S. Occupational Safety & Health Administration (OSHA) have regulations related to silica. For example, OSHA has a fact sheet on Control of Silica Dust in Construction: Handheld Power Saws.

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Highway Repair: A New Silicosis Threat

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Abstract

Objectives. We describe an emerging public health concern regarding silicosis in the fast-growing highway repair industry.

Methods. We examined highway construction trends, silicosis surveillance case data, and environmental exposure data to evaluate the risk of silicosis among highway repair workers. We reviewed silicosis case data from the construction industry in 3 states that have silicosis registries, and we conducted environmental monitoring for silica at highway repair work sites.

Results. Our findings indicate that a large population of highway workers is at risk of developing silicosis from exposure to crystalline silica.

Conclusions. Exposure control methods, medical screenings, protective health standards, and safety-related contract language are necessary for preventing future occupational disease problems among highway repair workers.

The United States is currently engaged in a massive public works effort to repair the national highway system's deteriorating infrastructure.[1,2] The Federal Highway Administration and state transportation agencies are responsible for improvements to the national highway system and its support roads. The national highway system is composed of 163 000 miles of rural and urban roads and includes the interstate system, other urban and rural principal arteries, and strategic highway network connectors. The Transportation Equity Act for the 21st Century (TEA-21) was enacted on June 9, 1998, and is the latest in a series of legislation that authorizes federal surface transportation programs for highways, highway safety, and transit.[3]

Because the interstate system is nearly completed, the focus has shifted from constructing new highways to preserving and improving existing highways. Much of the pavement on the interstate system was constructed 20 to 40 years ago, with some older highways having been incorporated into the system. Data on interstate pavement condition are taken from the Highway Performance Monitoring System (HPMS) and are used to track the condition and the performance of US highway systems. The 1994 HPMS report to Congress (the most recent) showed that more than half of the highway system's pavement was rated as fair to poor, indicating a need for resurfacing or other rehabilitation in the near future.[4]

Traditional methods of highway surface repair involved patching damaged areas with asphalt, an approach that usually resulted in failure within months of the repair. In the mid-1980s, a new method of cut-and-repair road maintenance that uses newly developed quick-setting concrete material, resulted in more permanent repairs. This new method utilizes large crews to cut, break up, and remove large sections of concrete road before patching begins. These operations, sometimes completed during overnight work shifts, result in the generation of large amounts of dust.

Our article describes the potential risk of silicosis for workers in the fast-growing highway repair industry. We reviewed silicosis surveillance data from the National Institute for Occupational Safety and Health (NIOSH) Sentinel Event Notification System for Occupational Risks (SENSOR) and crystalline silica exposure data from highway repair projects collected during the 1999 road construction season.

Background

Silicosis is a disabling, nonreversible, and sometimes fatal lung disease caused by inhaling dust containing extremely fine particles of crystalline silica.[5,6] Crystalline silica is found in materials such as concrete, masonry, and rock. Working with materials that contain crystalline silica can produce airborne respirable dust, causing lung damage. Silicosis is a disease with a long latency period and usually takes 20 years or more to develop. Symptoms of silicosis include shortness of breath, wheezing, chest tightness, and cough, although initially there may be no symptoms. In addition to causing silicosis, inhalation of crystalline silica particles has been associated with other diseases, such as chronic obstructive pulmonary disease, connective tissue disease, renal disease, tuberculosis, and lung cancer.

The dangers of silica exposure and silicosis are well established in the mining,[7–9] iron and steel manufacturing,[10,11] and pottery industries.[12–14] The danger to construction workers is less clear, although certain occupations (e.g., masonry, abrasive blasting) have welldocumented associations with silicosis.[15–19] Since 1985, silicosis surveillance has been conducted in several states under the NIOSH SENSOR program.[20] The New Jersey Department of Health and Senior Services (NJDHSS) is 1 of 3 state agencies that conduct surveillance of silicosis under SENSOR (Michigan and Ohio are the other 2 states). The SENSOR states obtain reports of silicosis from hospital discharge data, physician records, death certificates, and other sources.[21] Recently, California, New York, Maine, New Mexico, and North Carolina have begun silicosis surveillance under various NIOSH surveillance grants.

The NJDHSS maintains a registry of reported silicosis cases and collects the medical and occupational data necessary for determining whether a case meets an epidemiological case definition. Cumulative data on silicosis are collected and are analyzed by NIOSH to determine incidence, causes, and trends of the disease. An integral component of the New Jersey surveillance system for silicosis is the follow-up of work sites identified through case reports. NJDHSS industrial hygienists conduct on-site evaluations, assess the risk of exposure to silica, and recommend control measures to prevent exposure.

The NJDHSS began a hazard surveillance project in 1998 to investigate highway repair as a possible source of silica exposure. Interest in this industry stemmed from a sentinel case of silicosis identified by NJDHSS in 1993. The case involved an individual who worked for 2 road construction companies from 1955 to 1990. This person was 63 years old when he was first diagnosed with silicosis. His work history indicated exposure to silica dust without

respirator use during highway-building activities. Although the sentinel case pointed to exposure as a result of building roads versus repairing highways, a link between the highway construction industry and silica exposure was established. A review of the Occupational Safety and Health Administration's (OSHA) Integrated Management Information System database revealed that few data were available on silica exposure from highway construction. A pilot project was initiated with the New Jersey Department of Transportation (NJDOT) to perform industrial hygiene air sampling at highway repair sites. Air sampling was performed at a bridge deck repair site during the 1998 summer construction season; levels of silica dust indicated that workers were potentially overexposed.

In January 1999, the New Jersey Silica Partnership (Table 1▶) was formed to address issues associated with silica exposure among New Jersey road and highway workers. The primary goal of this effort was to quantify silica exposure from dust-producing tasks undertaken during road construction and repair work. The silica exposure data were used to support the development of protective language for NJDOT contracts similar to the health and safety language for reducing lead exposure that currently appears in NJDOT contracts for overpass- and bridge-painting operations.