

To: Detroit International River Crossing Partnership
From: Roshani Dantas, Michigan Environmental Council
roshanimec@voyager.net, 517-487-9539

Comments for the Local Advisory Council regarding DRIC study

(will send additional footnotes to DRIC study)

There are several aspects of DRIC study process that the Michigan Environmental Council feels have not been addressed and need to be examined.

- 1) Need for Health Impacts Study(FHWA guidance)
- 2) Environmental Justice Considerations/proximity to schools
- 3) Capacity Issues

Need for Health Impacts Study

At the previous Local Advisory Council meeting, MDOT presented information on the Federal Highway Administration's position for conducting a human health impact study for the Detroit River International Crossing. The presentation quoted FHWA's federal guidance that it was unable to follow through with a health impact study because of the uncertainties regarding MSAT research. In addition it cited EPA's existing and promulgated rules to demonstrate that significant reductions in "hazardous air pollutants" in mobile sources would be taking place over the course of 10-20 years. Therefore we would actually be seeing declines in emissions over time although vehicle miles traveled would be increasing.

There are several problems with the assumptions of this guidance and the conclusions that it draws regarding conducting a health impact study. In particular, it is problematic that DRIC uses this analysis to conclude a health impact/effect study is not possible for the International Border Crossing.

FHWA Guidance

1) The first refers to the graph that is used to demonstrate MSAT reductions with increasing vmt. How does it take into account the assumptions for retirement rate for older diesel trucks and the behavior of companies in regards to EPA 2007 stringent diesel emission standards?

Implementation for the new EPA rules for cleaner diesel engines occurs after 2007. It has already been published in several articles that many companies are rushing to buy new trucks before more stringent federal emission regulations for diesel engines take effect in 2007. The new regulations promise to raise the price of diesel-engine trucks in 2007, due to the installation of costly emissions equipment. The new requirements threaten to impact new truck sales. The PM emission standard goes into effect in 2007. The NOx and NMHC standard will be phased in for diesel engines between 2007 and 2010. **Phase-in based on percent of sales basis: 50% from 2007-2009 and 100% in 2010. So we will have companies buying more pre-2007 trucks to save on capital expenses and running these trucks as long as possible which underestimate modeling results of actual MSAT emissions.**

In addition this graph was created in 2000, based on new emissions data and

developments in technology for monitoring MSATs, this graph could be revised to accurately reflect current information.

2)The second assumption is in regards to the following statement

”According to EPA, existing and new “According to EPA, existing and newly promulgated rules will cause significant reduction in air toxics from mobile sources—in the range of 67%-90% by 2020...”

A lot of assumptions are made with the graph showing declining MSATs and the statement above. Firstly the graph and statement above only reflects national changes in air toxics and for fleets of trucks but does not consider the localized effects of hot spot areas such as Detroit, an already non-attainment area struggling to achieve attainment. In particular, the individual patterns of truck traffic from I-75 and the Ambassador Bridge make this area a hot spot for diesel emissions from older trucks. Secondly this data does not show to consider the latest and more accurate data emissions or larger scale projects that may affect the overall declining MSATs.

In addition, the newly promulgated EPA rules for PM2.5 have come under a lot of controversy. EPA’s own scientific advisory panel(government appointed advisory committee), that has advised the EPA for over 35 years to shape government rules on air toxics, has dissented from EPA’s decisions for the first time in its history^{iv}. Health agencies such as the American Lung Association are disappointed in what should have been a rule that was set forth to protect public health after the agency was given 7 years to review more than 2,000 studiesⁱⁱⁱ. The white house reportedly took out statements from the scientific study conducted by the EPA scientific panel concluding that low income people are more vulnerable to exposure to soot and dust. In addition statements were deleted that stated that the rules may “substantially impact the life expectancy of the U.S population”. Therefore the FHWA statement in regards to significant declines of MSATs in particular for PM2.5, does not seem to reflect newly promulgated EPA rules that suggest that our public health with regards to mobile diesel emissions is still a very serious concern.

Within the body of this guidance, the FHWA says that “In March 2001 MSAT rule, EPA acknowledged significant gaps in its knowledge regarding exposure to toxics and potential benefits of further reductions” So to make assumptions on the decline in MSATs to be a reasoning that public health will be protected is a difficult statement to argue when there are many gaps in the knowledge. If anything, gaps in knowledge warrant increased measures of protection that can be accomplished at the project level.

3) From Appendix D: “In assessing environmental impacts for highway projects, FHWA has analyzed air quality at the project level. This is particularly true in nonattainment and maintenance areas where the concern about violating the National Ambient Air Quality Standards(NAAQS) is a significant issue”

The entire seven-county region of Southeast Michigan is in non-attainment of both 8-hour ozone and fine particulate (PM2.5) standards. The potential impacts of increased

freight traffic as a result of a new Bridge Crossing and the associated infrastructure (plazas and roads) needs to be studied very closely in terms of the region's already poor air quality standards. The region, in cooperation with MDEQ, must demonstrate how it will achieve attainment for 8-hour ozone and PM2.5 in several years. **Now, with new more stringent standards for PM 2.5 being promulgated and EPA's development of coarse particulate standards(between PM 2.5 and PM10) that Metro Detroit might not attain, what is the DRIC project doing to demonstrate its role in achieving compliance with PM2.5 standards?**

4) Does this project fall under "Projects with Higher Potential MSAT Effects" category?

We assume that it is in this category because it fits the criteria in terms of the significantly increased Commercial Average Daily Traffic(CADT) and the fact that it effects vulnerable populations.

Thus Appendix C is considered:

Information that is Unavailable or Incomplete. Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

This statement should not be used as reasoning for not conducting a health study. In science, we often face many of the same "modeling" shortcomings however this does not prevent studies from continuing. It only means we need to discuss our limitations of the study and continue more cautiously as done with most toxicological data. However we do not move in the other direction in which a "lack of accurate data" means that we ignore the possible effects of a chemical (or project) and proceed as if they were not of concern until we are able to figure out methodology to realize that there is a problem. However this is not the case with MSATs, despite the uncertainties that exist with modeling, there are thousands of studies that point to the health problems that are found from children, homes and schools exposed to diesel emissions. In addition, we have good toxicological information of the toxicity of all MSATs in particular for benzene and diesel particulate matter.

We can also assess the models that already exist for modeling of some of the MSATs. Of particular relevance to are the CALINE3 and HYROAD models. CALINE3 is a preferred or recommended model used to determine concentrations of carbon monoxide and particulate matter around highways. HYROAD is an alternative, microscale transportation model used to simulate the effects of traffic, emissions, and dispersion. This model is specifically designed to determine concentrations of carbon monoxide, PM, and air toxics. Both CALINE3 and HYROAD can and should be used as the basis for estimating the public health impacts of the increased air pollution that would be emitted by the inevitable increase in concentration of diesel truck traffic associated with the DRIC.

This existing information needs to be evaluated as tools for assessing health impacts as instructed by the Federal Guidance's CEQ provisions to assess existing uncertainty of data.

Appendix C in the Interim guidance refers to attachment C of CEQ provisions of Incomplete or Unavailable Information

- “3. A summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on human environment;
4. The agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted.... For the purposes of this section, “reasonably foreseeable” includes impacts that have catastrophic consequences, even if their probability of occurrence is low...”

A Sierra Club 2004 published report on Highway Health Hazards, actually cited in the Federal Guidance that discusses the numerous studies linking the increasing respiratory problems seen in children and adults to truck and automobile emissions.

Examples include:

“A Study in Erie County, New York found children living in neighborhoods with heavy truck traffic within 220 yards of their homes had increased risk of asthma hospitalizations

“A European study determined that exposure to traffic-related air pollution, “in particular diesel exhaust particles” may lead to reduced lung function in children living near major motorways”^{vi}

“...The authors show that diesel exhaust can trigger asthma attacks in individuals with no pre-existing asthmatic history”^{vii}

“Researchers measured diesel particulates near mobile and idling trucks at the West Oakland Port. An aethalometer was used to measure indoor toxins and a high level of diesel particulates was found. The people living in these homes were exposed to five times the level of diesel particulates that people were exposed to outdoors in other areas of Oakland”^{viii}

Studies have been done in the southwest Detroit area on asthma and pollution exposure by a University of Michigan program called Community Action Against Asthma. In addition, Detroit Dept. of Public Health Asthma Alliance has lots of information on the respiratory problems and environmental exposures.

There may be gaps in information but there is definitely a significant amount of evidence that can be evaluated and drawn upon to conduct a health study for the DRIC.

6) The guidance discusses that there are no ambient standards for MSATs in the NAAQs and so there are no nonattainment areas for air toxics.

Again this statement cannot be used as a defense for not instituting protection and evaluation of MSATs at the project level. The 1990 Clean Air Act Amendments (CAAA) Section 112(k) requires EPA to reduce hazardous air pollutant (HAP) risks in urban areas. Also, the Federal Aid Highway Act and its implementing regulations require the Federal Highway Administration to consider the adverse effects of air pollution, to evaluate the costs of eliminating or minimizing such effects, and to incorporate measures necessary to mitigate the effects.ⁱ Health effects are clearly an

environmental impact that must be analyzed under NEPA – in fact, NEPA regulations require an agency to address the extent to which a project impacts public health.ⁱⁱ Finally, NEPA’s goals of encouraging informed agency decision making and fully informing the public about a project can only be met if all of the impacts – including the public health impacts – of a project are discussed in the EIS.

Also relying on the absence of a National Ambient Air Quality Standard (NAAQS) for Air Toxics is highly suspect. The absence of NAAQS standards for air toxics does not provide a blanket under which The Partnership can hide from the well-studied toxicology that calls into question the health impacts of pollutants from mobile sources. Motor vehicles emit several pollutants that EPA classifies as known or probable human carcinogens. Benzene, for instance, is a known human carcinogen, while formaldehyde, acetaldehyde, 1,3-butadiene and diesel particulate matter are probable human carcinogens.

Environmental Justice and Detroit Schools

The EPA defines environmental justice as:

“Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.”

Executive Order 12898 of February 11, 1994 applies to federal agency actions and directs them to the extent permitted by law, to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority populations and low-income populations state’s are encouraged to use the goals as benchmarks.

Wu et. al conducted a study on the proximity of schools in Detroit to automobile and truck traffic. The study demonstrated the environmental justice implications of Detroit schools and their proximity to highways in particular that have heavy Commercial Truck Average Daily Traffic. It also highlighted the 150m citing distance as the distance in which these emissions have the greatest impact before dispersion. Some of the findings include:

- Percentage of African American increases in Wayne county schools within 150 meters of highways with major Commercial Average Daily Traffic (CADT). CADT \geq 5000 trucks.
- 2.8% of schools are near major truck traffic (CADT \geq 5000) in the Detroit district
- Detroit had much higher percentage of schools located near AADT than a comparison study done of minority communities in California. (7.2% Schools near AADT for Detroit, 4.2% for Wayne County)
- Decreasing AADT highways meant increasing CADT highways

-In addition, for schools that had more students on free meal programs were correlated with increased CADT (≥ 5000)-showing increased in poverty meant more likely that they would be exposed to truck emissions

-Study also stated "traffic-related exposures have been associated with many adverse health outcomes, including cardiopulmonary mortality, all-cause mortality and especially asthma"

This study demonstrates the increased amount of emissions from trucks and automobiles that Detroit children are exposed to. Detroit asthma rates are some of the highest in Michigan. These exposures are predominantly found in the African-American, Hispanic and Low-Income communities in the city compared to the surrounding Wayne county area and higher income areas in Michigan. The environmental justice analysis for the DRIC study has not been given serious consideration and needs to be considered especially since the plaza for the bridge is located near Southwestern high school. Exposure of diesel emissions to children has shown to cause serious health consequences so it is inexcusable for the DRIC study to be considering a site next to a school. The southwest community is already inundated with increased amount of diesel particulates, MSATs and other pollutants given the status as a non-attainment area. It does not seem as though the agency has considered the evidence of existing burdens of heavy industry and minority and low-income make-up of the Southwest Detroit community in comparison to the surrounding communities that have not been chosen as a site for this project. In addition they have not considered the burden of the already increased respiratory illnesses that exist in this community as a result of the poor air quality in comparison with other areas. This revealing the undue increased burden that this community already faces and how this proposed project will further exacerbate that burden. Therefore the Michigan Environmental Council believes that there are serious flaws in the Environmental Justice analysis that MDOT proposes that it has included in its study.

Bottom Line: MDOT claims that in FHWA federal guidance concludes that because there is no developed "FEDERAL" air modeling methodology and this will not be developed for several years that they are not required to do a Health Impact Statement. Firstly, MDOT is not "mandated" but there is nothing that says they are "not allowed" to conduct a health study based on project level foreseeable health impacts. In fact as revealed above this guidance does elude to the project level considerations for projects of this magnitude (tier 3). Stating the despite the "uncertainty in data available" agencies need to review existing credible scientific material. "A summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on human environment;

4. The agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted.

Models have been developed at the state level in Michigan and through individual studies that can be used to do some modeling, with limitations but some, to model emissions for projects. In addition there are thousands of studies that show the health impacts of auto and truck emissions on humans and in particular on children. This is of great concern with this project as the proposed truck plaza is backed up right next to Southwestern High school. The health studies above display the consequential effects on children from being closed to highways with somewhat moving traffic. But this is a plaza with idling trucks in a concentrated area.

A parent with a child that lives in the community and sends their child to this school, even if the child has no asthma, can expect development of asthma with the proximity of this plaza to the school. For children with asthma, the consequences could even be fatal with the exposures of this

magnitude to diesel emissions. How many parents feel comfortable sending their child to a school located next to an International truck plaza with thousands of trucks passing through daily?

MDOT nor FHWA has even considered assessing these existing issues or data from studies and other agencies, as is apparent in this current proposed siting issue. The death rate from asthma attacks within the city is rising as well as health care costs to cover severe asthma attacks from insured as well as the high number of uninsured residents and children. Given the magnitude of this project why can an assessment of health and environmental justice not be done?

Capacity Issues-Purpose and Needs lacks clarity:

In examining the Purpose & Needs document there seems to be a misrepresentation of two major aspects that would affect the crossing. The first is the rising cost of gas and the affect that will have on increase in cross-border auto and truck traffic (passenger and commercial). The second is the decline in manufacturing, also partially a result of rising energy costs. Without examining these two items in conjunction with the need for a new crossing The Partnership is making a false assumption about the carrying capacity of the current bridge infrastructure.

Rising Energy Costs:

The recent tragedies in the Gulf Coast region have exacerbated a problem that has been slowly building for the last few years, namely the rising costs of oil and fossil fuels. In 2004, the price of crude oil averaged \$36.97 per barrel, and crude oil accounted for about 47% of the cost of a gallon of regular grade gasoline. In comparison, the average price for crude oil in 2003 was \$28.50 per barrel, and it composed 44% of the cost of a gallon of regular gasoline.ⁱⁱⁱ Moreover there is a sense that businesses, specifically one that deals in extensive supply train models that rely on the generous input from fossil fuels, will be incurring systematic losses over the following decades unless they drastically reduce their reliance on fuel. The DRIC study does not take this into account when it purports the need for increased border capacity.

Decline in Manufacturing:

According to a 2004 report done by the Institute of Labor and Industrial Relations at the University of Michigan, the State of Michigan lost nearly 163,000 manufacturing jobs from 2000 through 2003, a decline of 18 percent. Michigan added 450,000 jobs (about 11 percent) from 1990 to 2003. Most noticeable is that manufacturing is virtually the only industry that lost jobs (more than 100,000) over this period. One of the long term trends driving the Michigan economy, that work is increasingly centered in offices, schools, and hospitals knowledge-based industries are playing the same role in a post-industrial economy as manufacturing did in the industrial economy^{iv}

A decline in manufacturing would inevitably lead to a drop in the need for servicing the industry with industrial freight projects. However, The Partnership has forecasted an increase of approximately 40% in cross-border traffic by 2030.^v That is despite this drop in manufacturing and a drop in cross border traffic. In numbers taken from the Bridge and Tunnel operators Association and used by The Partnership in the September 2005 Travel Demand Model Update there has been an approximate drop of 3 million two-way trips on both the Ambassador Bridge and in the Windsor Tunnel between 1999 and

2004.^{vi} It is counterintuitive to argue that a drop in cross-border traffic and a lag in the major economic sector that cross-border commercial traffic supplies would lead to a 40% increase in traffic and thereby warrant a new crossing.

An integration of the DRIC in terms of other major infrastructure projects in the region needs to be studied:

There are a host of projects that will have a profound effect on Detroit, specifically Southwest Detroit, currently being considered. As of yet there has been no statement from MDOT, FHWA, SEMCOG or any other decision-maker in the transportation planning process about the possible connection between all of these projects. Three specific projects of note need to be considered before the DRIC study moved forward. These projects are the Detroit Intermodal Freight Terminal, the expansion of I-94 in Downtown Detroit and the Ann Arbor to Detroit Corridor Mass Transit project.

ⁱ 23 U.S.C. 109(h)

ⁱⁱ 40 C.F.R. 1508.27

Capacity Issues only

ⁱⁱⁱ A Primer on Gasoline Prices, Energy Information Administration, Department of Energy, Available online: http://www.eia.doe.gov/bookshelf/brochures/gasolinepricesprimer/eia1_2005primerM.html

^{iv} A New Path to Prosperity? Manufacturing and Knowledge-Based Industries as Drivers of Economic Growth, by Lou Glazer, Michigan Future Inc., and Donald Grimes, Institute of Labor and Industrial Relations, University of Michigan (July 2004), available online at http://www.cherrycommission.org/docs/Resources/Economic_Benefits/NewPathToProsperity.pdf

^v Detroit River International Crossing Project Draft Purpose and Need, p. 1

^{vi} Detroit River International Crossing Study: Travel Demand Model Update, September 2005, p. 22

Footnotes

- iii. American Lung Association. Statement by John L.Kirkwood, President and Chief Executive Officer, American Lung Association, On Proposed New Particle Pollution Standards. "EPA Plan is a Disappointment".<http://www.lungusa.org>.
- iv. Lambrecht, Bill "Scientists Complain of Dimished Role Under Bush" *St.Louis Post-Dispatch*.
- v. Sierra Club. "Highway Health Hazards". 2004
- vi Wu, Y. and Batterman S. "Proximity of Schools in Detroit, MI to Automobile and Truck Traffic". *Journal of Exposure Science and Environmental Epidemiology* 2006.; 00, 1-14

