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TRANSPORTATION, INFRASTRUCTURE
ENERGY & ENVIRONMENT COMMITTEE

October 21, 2013

James T. Smith, Secretary of Transportation
Maryland Department of Transportation
7201 Corporate Center Drive
P.O. Box 548
Hannover, MD 21076

Dear Secretary Smith,

I am writing in response to the Maryland Transit Administration's Final Environmental Impact Statement (FEIS) on the Purple Line project. I serve as the Chairman of the Montgomery County Council's Transportation, Infrastructure, Energy and Environment Committee and represent many residential neighborhoods impacted by the Purple Line's construction.

When I first sought the privilege of serving on the County Council, I indicated my support for the Purple Line. My assessment then and now was that on balance the Purple Line is in the larger public interest. That said, I was and remain keenly aware that communities I represent are being asked to make a very large sacrifice. They mourn the loss of the bucolic trail they love, the peace and quiet of their neighborhoods, and for those living immediately adjacent to the route, they are rightly concerned about the daily impacts on their homes and lives.

In my work on the Council, I have committed to the communities affected by the Purple Line that I will do everything within my power to mitigate, to the maximum extent possible, the adverse impacts resulting from the construction of this important state project. Fundamentally, Mr. Secretary, that is your job now. As important as it is to obtain federal support for this project in a timely manner, it is equally important that you satisfactorily address the legitimate issues raised by my constituents.

That responsibility is even greater now after the successful negotiations with the Columbia County Club became public, a process which regrettably created the impression that the concerns of the well heeled and powerful are given priority. Moreover, the prospect of a public private partnership has also raised concerns that legitimate community interests may be sacrificed on the altar of profitability.

These factors, when combined with the substantive issues that have been raised by adjacent neighborhoods, require binding commitments from the state to mitigate to the maximum extent possible the adverse consequences of this important state project. As the Coquelin Run

Citizens Association points out in their comments on the FEIS, our County's Parks Department has stated that

“[o]ne lesson learned from working on the Intercounty Connector (ICC) was that commitments for minimization and mitigation measures should be well defined during the FEIS process and confirmed in the record of decision (ROD).”

Coquelin Run Citizens Association comments, p. 2 (emphasis added).

I. Community-based Concerns

A number of neighborhoods that I represent on the County Council have submitted detailed comments on the FEIS, including the Kentbury Drive Residents Group (“KDRG”); the Coquelin Run Citizens Association; the East Bethesda Citizens Association; and the Town of Chevy Chase. Their comments set forth a wide range of concerns, including, but not limited to, noise, vibration, access points to the trail, construction impacts, trees and landscaping, aesthetic and visual impacts, safety, and water runoff.

I will not repeat here all of the details of what these parties have put before the state. Suffice it to say, they buttress their concerns with serious and sophisticated argumentation. I request that you respond to these concerns in a similar manner and that you set forth the appropriate mitigation measures you are prepared to undertake as a result.

Below I add some further commentary to what has otherwise been forcefully presented by the community, and some additional areas that should be explored going forward.

II. Noise/Vibration

Noise and vibrations from the Purple Line's daily operation are a primary concern for neighborhoods and homeowners along the proposed route. See KDRG comments at pgs. 3-9; Coquelin Run Citizens Association comments, pgs. 3-6; East Bethesda Citizens Association comments at pgs. 3-4.

Among other issues related to noise, these neighborhoods challenge the use of the “hourly equivalent sound level as the sole metric for impacts on adjacent residences”, KDRG comments at p. 3; the related failure to include “maximum sound levels ... despite the recommendation from the FTA”, *ibid.*, p. 4; and the alleged “failure to describe the actual noise levels”, Coquelin Run Citizens Association comments at p. 4.

For some communities, vibrations pose “an even greater threat [than noise] to the well-being and quality of life of nearby residents.” Coquelin Run Citizens Association comments, p. 3. Neighborhoods cite a “lack of specific detail” in the FEIS that address the concerns regarding the impact of vibrations on nearby homes.

The nature of these concerns are very serious and do not appear to be adequately addressed by the measures committed to by the state thus far, measures that I understand will, among other things, reduce noise levels by 12 decibels. Indeed, the FEIS identifies in Table 4.31 “*Impacted Property Locations*” several properties where the vibration of the Purple Line will exceed the maximum federal standards for vibration. However, the FEIS only references “potential mitigation measures.” It does not indicate what these measures will be and if they will be mandated.

If the state does not believe that these concerns justify a supplement to the FEIS, it is incumbent upon the state to fully set forth why and to demonstrate clearly how the concerns that the community has raised will be responsibly addressed. As is set forth more fully below, there is a potential technological fix here that should be explored that would address both noise and vibration issues – the use of fuel cells to power the Purple Line.

In addition, one of the other issues raised with my office by constituents was the concern regarding the use of bells or horns by Purple Line trains while traveling through communities. In section 4.11.3 “*Noise Sources Related to LRT Vehicle Operations*”, MTA states:

“MTA is currently developing a Bell and Horn Policy for the Purple Line which would indicate standard operating procedures for horn and bell use in different types of locations”

The FEIS does not address what those “standard operating procedures” may be. I would strongly advocate for MTA to work with local community leaders to determine where and how bells/horns are to be used. While I understand that there may be occasions when the use of these technologies is unavoidable, such as when trains are entering a tunnel or during scheduled track work, we need a policy that strictly limits their use, but for exceptional circumstances, and minimize the use of bells/horns such as other communities have done.

For example, I would urge MTA to consider modeling their bell/horn policy for the Purple Line off of the Baltimore Light Rail (BLR) model, especially when it comes to at-grade crossings. The Baltimore Light Rail system carries 8.6 million riders annually through residential and commercial areas and has an exemplary safety record. The BLR uses a mixture of flashing lights and chimes to alert pedestrians of its approach. If the Purple Line could incorporate flashing lights and chimes as a warning measure for at-grade crossings, as opposed to horn blasting techniques, I believe residents, homeowners, and pedestrians alike would benefit.

III. Trees

A. Reforestation

In Chapter 4.13.3 “*Long-Term Operational Effects*” of the FEIS, MTA states:

“Where forest impacts occur, MTA will comply with MDNR requirements for final planting obligation.”

The Maryland’s Department of Natural Resources (MDNR) requires that any project accepting \$1 or more of state funds must perform mitigation efforts to minimize forest disturbance. MDNR’s requirement states:

“Replacement of forest cleared...must be accomplished on an acre-for-acre, one-to-one ratio on public lands and within a year of completion. Attempting to locate reforestation sites within the same county...is given the first priority.”

Trees are a resource that I have long fought to protect and are cherished by the communities I represent. See KDRG comments, pgs 12-14; Coquelin Run Citizens Association comments, p. 6. Regrettably, trees and the tree canopy are among the biggest casualties of this project. That does not mean these trees must be lost forever. However, a one-to-one ratio does

not guarantee that tree canopy will be restored to its pre-construction levels. A variety of factors result in a large percentage of replanted trees dying before reaching maturity.

It is precisely for this reason that our County has adopted a three-to-one replacement ratio as its standard tree replacement policy. We recently passed two separate bills to ensure our tree canopy was protected: Bill 41-12, the Roadside Tree Bill, which established firm protection plans for trees within the County's Rights-of-Way and Bill 35-12, which established a replacement formula for new development on both public and private property. Accordingly, I urge the MTA to not only comply with the reforestation efforts mandated by MDNR, but to instead adopt a three-to-one replacement ratio.

More broadly, the state should, as we require anyone working in our right of way to do, incorporate "tree protection plans" in its ongoing work. Not only do the trees along the right of way require protection, but the state must work equally hard to ensure that the root zones of those trees on private property are protected as well.

B. Alternatives to Overhead Wires

From its inception, the Purple Line was engineered to be powered by overhead lines. *The use of overhead lines will prevent the restoration of a full canopy.* This is why I have previously and consistently urged the state to explore alternatives to overhead wires. I continue to do so and I believe alternatives do exist. One such alternative to overhead wires is battery packs. Battery packs allow trains to travel without the need for overhead wires.

There are several examples of light rail systems using battery packs. The Japanese government began using the NiMH battery to power trains in 2007. The NiMH battery is an extremely powerful and reliable alternative to overhead wires and was engineered by Kawasaki. Kawasaki also developed the SWIMO battery, an even smaller battery that should be considered as an alternative to overhead wires. These batteries are capable of powering a train's entire operating system, while maintaining an impressive range. Additionally, there are examples of batteries being used to power trains along the Landches Line near Frankfurt, Germany and the Espresso Tiradentes in Sao Paolo, Brazil. These lines use battery packs not only for fuel efficiency reasons, but also as a mitigation measure to avoid damaging architectural and environmental surroundings.

Accordingly, I urge the state, when it issues its RFP for the planned Public Private Partnership (PPP) that the state intends to use for this project, to request bids that include the use of battery packs and other alternatives to overhead wires.

IV. Alternative Fuels & Technologies

In Table 4-41, "*Direct Transportation Energy Consumption*" MTA's charts indicate that by 2040, the Purple Line will consume 8,402,952 kWh of electricity annually. I would respectfully urge the state to include in its RFP a request for proposals that include the following alternatives to traditional electricity consumption.

A. Fuel Cells

Recently, the China North Vehicle Yongji Electric Motor Corporation (YEMC) and the Southwest Jiaotong University jointly launched China's first energy fuel cell light rail train. The country's first energy fuel cell light rail train utilizes hydrogen and a YEMC-developed

permanent-magnet synchronous motor and frequency converter as its main source of power. The reported advantages of the synchronous motor are high power, high efficiency, remarkable energy conservation, *low vibration and minimal noise*. All of these qualities would serve our state, the environment, and the communities along the Purple Line route, but given the concerns regarding vibration and noise, for those reasons alone this technology deserves serious exploration. Accordingly, I would request that MTA include in the RFP for the P3 bids the feasibility of utilizing fuel cells as an alternative to electricity.

B. Wind/Solar Farms

If electricity must be used, clean renewable energy, such as wind and solar, should be used to power the Purple Line. To that end, I request that the MTA and its PPP designee examine the benefits of entering into a long-term Power Purchase Agreement with a wind farm or solar farm to acquire the energy needed to power the Purple Line.

Governor O'Malley, a strong supporter of the Purple Line, led the effort to pass the Maryland Offshore Wind Energy Act of 2013. Additionally, the Maryland Renewable Portfolio Standard (RPS) requires that Maryland obtain 20% of its electricity from renewable sources by 2022. Maryland's offshore wind farms, when completed, will generate 200 megawatts (MW). By using wind power, MTA and the Purple Line can work towards achieving this goal and take full advantage of one of the Governor's signature initiatives.

Maryland's solar farms, which rank 14th in the nation in size and output, are another alternative that I urge you to examine. The Maryland Solar Farm in Hagerstown, the Mount Saint Mary's University Solar Farm, and Nixon's Farm in Columbia, will be generating 1,250 MW of electricity by 2015, when the Purple Line is set to begin construction. Using even a portion of this solar-generated power would greatly reduce the amount of coal-powered electricity that would otherwise be used to power the Purple Line.

C. Microgrid

The US Department of Energy, New Jersey Transit (NJT), Sandia National Laboratories, and the New Jersey Board of Public Utilities have partnered to develop a new project known as the NJ TransitGrid. When developed, the NJ TransitGrid will be the first system of its kind to incorporate microgrid usage into a major civilian transit system. Currently, the project has a \$1 million budget from the federal government to plan and develop how the system will work and what assets it will employ.

Microgridding is the energy infrastructure of the future. They provide distributed, clean, reliable and consumer friendly power to their users. I had the privilege of being with the Governor on Wednesday of this week when he cut the ribbon for the first commercial solar microgrid using technology developed by two Montgomery County companies. He spoke eloquently of the importance of innovation to our state's economy. This project has similar potential to serve as a catalyst for innovation in the realm of clean distributed energy, innovation that creates jobs, reduces emissions, and lowers the dependence on the grid. Accordingly, I recommend MTA and its P3 partners investigate the feasibility of a microgrid project, similar to the NJ TransitGrid, as a way to power the Purple Line.

Mr. Secretary, the benefits and burdens of this critically important state project are not dispersed equally. Those that are being asked to sacrifice on behalf of the larger public good need your help. Their concerns need to be addressed, and the adverse impacts need to be mitigated to the maximum extent feasible. My goal, which I am sure you share, is to provide a state-of-the-art transit system that will serve us well into the future and that minimizes and mitigates adverse impacts on neighboring communities and our environment.

Sincerely,



Councilmember, District 1
Chair, Transportation, Infrastructure, Energy &
Environment Committee

cc: Michael Madden, MTA, Purple Line Project Manager
Glenn Orlin, Deputy Administrator, Montgomery County Council
Montgomery County Councilmembers
Isiah Leggett, Montgomery County Executive
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