

September 28, 2016

Mr. Ron Rienas
General Manager
Buffalo & Fort Erie Public Bridge Authority
1 Peace Bridge Plaza
Buffalo, NY 14213

Re: Required Travel Lanes During Bridge Construction

Dear Mr. Rienas:

Per your request, Jacobs has completed a brief analysis as a supplement to our Traffic and Revenue Report dated May 12, 2014 ("Report"). During the low traffic winter months the Authority is planning to reduce travel lanes on the Peace Bridge from three lanes to two lanes between the periods of November 15th and May 15th to accommodate construction. The normal lane configuration is two lanes east (U.S. bound) and one lane west (Canada bound). This is as a direct result of the different plaza configurations. During peak periods the east bound right (curb) lane functions as a truck queuing lane. The center lane serves U.S. bound cars. The westbound right (curb) lane serves cars and trucks entering Canada. Given the more expansive plaza in Canada, there is an extensive area where trucks can queue off the bridge before they enter Canadian inspection.

Analyses performed as part of our Report showed that a single lane of traffic in each direction could easily accommodate normal traffic flows both east and west bound across the bridge absent any other constraints to traffic flow through the facility. For example as noted in the report, on an annual basis Friday is the highest average daily traffic day with some 9,400 total vehicles daily entering Canada. The split is approximately 7,200 cars and 2,200 commercial vehicles. Summer months have higher daily volumes than the period planned for construction from November to May. We used the average annual daily traffic volumes to be conservative in this analysis. It is estimated that the highest travel hour is 10 percent of the average daily traffic. Therefore the bridge needs to be able to accommodate 940 westbound vehicles during the highest hours; 720 cars and 220 commercial vehicles. A two-lane bridge with a posted speed limit of 30 MPH has a per lane capacity of approximately 1,000 vehicles per hour.

The configuration of travel lanes on the bridge during construction can easily accommodate this level of traffic. The only constraints to moving vehicles across the facility are the ability to process the vehicles through the CBP and CBSA inspection booths. There is substantially more than enough processing capacity in the toll collection lanes that are post CBSA inspection booths. Toll collection will not constrain the flow of traffic across the bridge.

Similarly, there are a sufficient number of CBP and CSBA inspection lanes to process the anticipated flow of traffic during the construction period. However, if during any period of time there are not a sufficient number of CBP or CBSA inspection lanes available to process traffic, queues will develop quickly and back-ups will occur across the bridge.

The shortage of a single processing lane over a short period of time can quickly block the bridge. For example, a CBSA inspection lane can typically process 50 commercial vehicles in one hour, the shortage of a single processing lane would produce over one lane mile of queued commercial vehicles. Once that queue extended through the holding area and to the crossing, all vehicles crossing the bridge would be limited by the processing of commercial vehicles by the CBSA. This would further extend the queue. A similar situation occurs when insufficient CBSA car inspection booths results in cars queuing back onto the bridge choking off the trucks from being able to get off the bridge. Unlike eastbound traffic where the Authority has the ability to hold vehicles on the Canadian side allowing free passage across the Bridge, there is no area to queue vehicles on the New York side of the Bridge. With the elimination of the third travel lane during construction, the Authority does not have the ability to modify lane operation and clear the queues.

Therefore, during the period of construction from November 15th to May 15th it is crucial that a sufficient number of CBP and CBSA inspection lanes be opened during all periods to prevent queuing on the bridge.

If you have any questions or require additional information, please do not hesitate to contact me at 212-946-2233 or at Richard.Gobeille@jacobs.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Gobeille". The signature is written in a cursive, flowing style.

Richard "Rick" Gobeille, PE
National Toll /Finance Manager