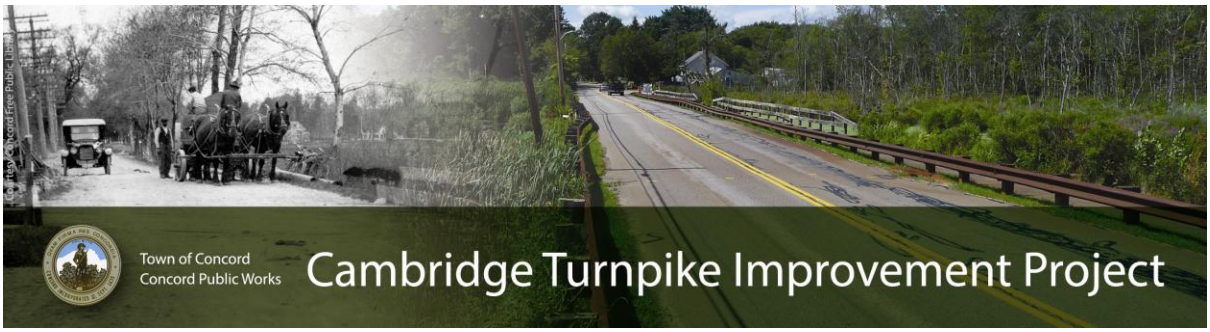

Concord Public Works Commission
October 10, 2012 Public Meeting

Design Considerations

As we begin the process of developing alternatives for the construction improvements to Cambridge Turnpike, it is important to establish our design priorities. While the primary focus of this project will be addressing the existing flooding conditions that result in frequent road closures, flooding of homes and businesses and impacts to their septic systems, we recognize the equal importance of Traffic, Pedestrian and Bicycle Safety and Traffic Congestion issues. Implementing a comprehensive public outreach program is also very important and critical to any successful design implementation. The recently completed questionnaire provided a very good start by measuring individual perspectives. These will be a very useful guide for all our proposed designs.

At present, we are still in the data collection phase of the project, which includes collecting traffic counts and obtaining and reviewing the traffic accident data. The improvement of traffic safety and congestion involves two main issues. First, we are very much aware of the complexity of driving through the Cambridge Turnpike/Lexington Road intersection. This "Y"-type configuration makes exiting from Cambridge Turnpike to make a left on Lexington Road very difficult. Also, during the peak traffic flows, there is considerable back-up on the Turnpike, increasing the accident potential. To address this, we will be analyzing the accident data to assist in developing recommendations for improvement. We will also be considering geometric adjustments to the intersection approach, and we have had preliminary discussions with the officials of the Museum to explore other alternatives that could be mutually advantageous to both parties as they begin a campus master plan process. Additionally, we will be analyzing the turning movements to develop existing and projected "levels of service". These levels will be expressed as letters from A to D, with A representing relatively free flow. This analysis will provide the project team with the critical information necessary to quantify the existing congestion and traffic flow issues present at the intersection and compare design solutions and alternatives based on cost, effectiveness, feasibility and context sensitivity.

Another traffic safety issue is speeding. While Cambridge Turnpike has a posted speed limit of 35 mph, its relatively straight alignment allows motorists to be "too" comfortable travelling at a higher speed. Once we provide a newly surfaced roadway, this temptation will be exacerbated. As such, we intend to evaluate traffic calming measures to reduce this effect.

To address the flooding issues, we are presently completing comprehensive field surveys including obtaining cross-section elevations of Mill Brook from Crosby's Pond through Heywood Street and ending at the Main Street culvert. The main purpose of this information is to prepare a LOMR (Letter of Map Revision) for this land area, east of Main Street. When the previous LOMR was prepared in 2002, the flood elevations, west of Main Street, were reduced about three feet from elevation 124 to 121. However, the flood elevations east of Main Street, and specifically at the low point on the Cambridge Turnpike Bridge remain at elevation 128.4. The new LOMR is expected to lower this elevation to reflect the survey data we are collecting. We expect to have the updated flood level elevations by early November, 2012.

The importance of "correcting" the flood elevations is two-fold. First it will provide us with the baseline for raising the two roadway crossings of Mill Brook to a point higher than the flood levels and just as important, it will place all of the surrounding properties in a better position for establishing insurance rates. On a separate track, we are also investigating the potential for creating increased flood storage by enhanced river maintenance activities and even dredged excavations where possible.

While developing the traffic and flooding improvements, our project objectives will be to also integrate two additional modes of transportation; pedestrian movement (sidewalks) and bicycle travel. The recent questionnaire had considerable support for adding sidewalks and at least more than a majority number mentioned support for bicycle lanes. Adding sidewalks requires 5-feet to be added to the existing width and the nationally recognized standards for bicycle lanes are 4-feet on each side of the road. Since we also had considerable comments on not widening the roadway width, we will be challenged as we proceed to balance the various interests.

Finally, our design priorities must include aesthetically pleasing elements, especially landscaping and bridge alternatives, in a manner that complements the community's character and is sensitive to the nearby environmental and historical resources.