

## Newark Cycle Track: Pre-Engineering Assessment

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Research by Dr. Peter Furth of Northeastern University's Civil and Environmental Engineering program asserts that the most fundamental need in a bicycling network is low-stress connectivity. A transportation system needs to provide routes between origins and destinations that do not require cyclists to exceed tolerable levels of traffic stress or considerable detours. High-stress streets are considered to be those with high speed limits, limited or non-existent lanes/markings and signage, long distances to cross at intersections, and other conditions that increase the potential for conflict between motorized and non-motorized travelers.

While a transportation system may already have bicycle-facility related improvements (e.g., signage and shared-pavement markings) to make bicycling safer and more appealing, these improvements may not provide a sense of safety to "interested, but concerned" cyclists. This term, coined by the Portland Bureau of Transportation bicycle coordinator Roger Geller, describes the large majority of cyclists who do not have the skill level and confidence to ride with traffic on busy streets. Research points to the need for transportation systems to provide low-stress connectivity for cyclists that provide route options that do not exceed the average cyclist's tolerance for traffic stress, or require a cyclist to detour from the most expedient route of travel.

As part of its work planning for healthy and complete communities for Delaware local governments, the Institute for Public Administration (IPA) at the University of Delaware has been conducting research on low-stress bicycling and network connectivity. The goal is to determine how low-stress connectivity approaches can attract the mainstream population in Delaware to bicycle networks, including "captive users" or "non-choice" bicycle riders who predominantly use this form of transportation.

IPA recently conducted a pre-engineering assessment study for a possible cycle track along Delaware



*A cyclist's perspective traveling on Newark's Delaware Avenue*

Avenue in Newark. The assessment builds upon recommendations of the 2014 Newark Bicycle Plan, which was created by the Newark Bicycle Committee in collaboration with Newark city officials, residents, WILMAPCO, the Delaware Department of Transportation (DelDOT), and local advocacy organizations. According to the Plan, "one of the critical missing links to bicycling in downtown Newark is the lack of an adequate westbound bike route through the downtown. To provide for this missing link, it is recommended that Delaware Avenue be reconfigured to include a two-way, separated bike lane known as a cycle track."

Cycle tracks have now been used successfully in many cities across North America. A cycle track is an exclusive bike facility, physically separated from motor traffic and distinct from the sidewalk, where bicycles travel. IPA public administration fellow Kirsten Jones (MA'16) assisted in completing a pre-engineering assessment for the City of Newark. Jones reviewed cycle track best practices, considered design options, and proposed alternative route scenarios to provide for low-stress

connectivity and address the need for bicycle-friendly transportation improvements along Delaware Avenue. As part of the assessment, Jones prepared a YouTube video that shows her navigating as a cyclist and reacting to potential conflicts between motorized and non-motorized travelers along Delaware Avenue, between Orchard Road and the Newark High School. Data and source material, used to prepare the video and assessment, were provided by DelDOT and WILMAPCO. The YouTube clip, presented by Jones to the Newark Bicycle Committee at their meeting on January 15, 2015, was highly acclaimed and generated positive feedback on the pros and cons of Delaware Avenue cycle track alternative route options. The YouTube clip will soon be rebranded and available for Delaware local governments to view as a Complete Street "best practice" within IPA's online Delaware Complete Communities Planning Toolbox (<http://completecommunitiesde.org/>). The YouTube may be seen at: <http://youtu.be/mJaPsZYWYp0>