

**TRANSPORTATION LAND USE COMMITTEE  
INFORMATION ITEM**

**#2**

**SUBJECT:** GIS Sidewalk and Trail Centerline Database

**ELECTION DISTRICT:** Countywide

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**BACKGROUND:**

The *Loudoun County Bicycle and Pedestrian Mobility Master Plan* was adopted by the Board in October 2003. Its primary goal is to, “Develop a comprehensive walkway, bikeway and shared-use path network among residential neighborhoods, towns, workplaces, shopping centers, transit stations, historic districts, schools, libraries, recreation centers, parks, etc.” In addition, the *2010 Countywide Transportation Plan Update (2010 CTP)*, adopted on June 15, 2010 and amended through January 19, 2011, outlines the planning guidelines for the provision of bicycle and pedestrian facilities along CTP roads (arterials and collectors). The *2010 CTP* serves to achieve the stated goal of the Bicycle and Pedestrian Mobility Master Plan by supplementing the recommendations and guidelines contained in that plan and using the CTP road network as a framework for a bicycle and pedestrian facilities network.

Among the 1-5 year actions stated in the *Bicycle and Pedestrian Mobility Master Plan* is to, “Identify most needed areas for pedestrian and bicycle improvements for implementation as funds become available.” As part of a bicycle and pedestrian promotion and safety education program, the plan encouraged the development of a bicycle and pedestrian information website. It also sought the design and implementation of pedestrian wayfinding sign projects and signed rural bike routes, and “Collaborat(ion) with existing non-profit organizations based in Loudoun County or the region that can work effectively with government and the private sector to implement promotional strategies, such as a large - scale bicycle ride or walking event.”

A newly mapped layer of sidewalks and trails provides the basis for implementing elements of Bicycle and Pedestrian Mobility Master Plan. The purpose of this briefing is to provide the committee with a demonstration and to get the committee’s feedback.

**Completion of Sidewalk and Trail Mapping- Locating the Gaps**

The Office of Mapping and Geographic Information (OMAGI) has completed an inventory of the County’s sidewalks and trails, including those in the county’s towns. The mapped layer was compiled using the county’s base map and aerial photography. It includes information about each sidewalk and trail such as the name of any street it borders and type of pavement. The inventory also includes crosswalks.

The layer provides the basis for a sustainable inventory that can be used to locate gaps in the system and to monitor progress on an on-going basis. The layer is sustainable because it can be maintained from the County's routine base map maintenance program together with citizen inputs. The inventory has been used by the Office of Transportation Services (OTS) to respond to the Board's request to prioritize bicycle and pedestrian improvements countywide and around the future Metrorail Stations at Routes 606 and 772. It has also been obtained by the Town of Middleburg which has obtained a grant to study the trail network in and around the town.

### **Development of a Bicycle and Pedestrian Route Information Website**

Since the County's transit bus routes have also been mapped, it is now possible to combine the sidewalk and trail inventory into a network on a website that will allow the public to route from one point in the County to another using a combination of public transit and sidewalks and trails.

The web site will take advantage of the County's new Community Base Map published through the World Street Map at <http://www.arcgis.com/home/webmap/viewer.html?services=3b93337983e9436f8db950e38a8629af>. The Community Base Map is hosted by ESRI at no cost to the County. The features displayed on the map are controlled by the County and they are periodically updated by us. They are more spatially accurate than other available map platforms since they are compiled at a very large scale.

### **Pedestrian Wayfinding Sign Projects**

There are no plans to place wayfinding signs as part of this project, but by publishing sidewalks and trails to the web using the County's Community Base Map as a platform, the public will have detailed information, including buildings and landmarks, available for navigating. The map can be made available now through iPhones using a freely available application and will soon be available to Androids. The map, in other words can be used in the field by anyone with one of these mobile devices.

### **Collaboration with Existing Non-profit Organizations and the Public**

Finally, collaboration tools are available in ArcGIS Explorer On-line, a program that is downloadable for free from the County's GIS software vendor. The tools allow anyone to add points, lines, polygons, and notes to the on-line map which can be imported directly into the GIS. As part of future planning exercises, such as the next update to the *Bicycle and Pedestrian Mobility Master Plan*, the site could be used to facilitate public input concerning planned trails and gaps in the network. In addition, the public could help to maintain the map by adding new sidewalks as they are built, and by mapping of amenities such as bike racks. Finally, although staff notes that the maintenance of most public sidewalks and trails is the responsibility of the Virginia Department of Transportation (VDOT), the tools could easily support the reporting of condition problems. This is especially true of sidewalks and trails which often do not have associated addresses that could be used to locate the problem. This information could then be forwarded on to VDOT for action.

While the 2010 CTP was completed just last year, and there are no imminent plans to update the *Bicycle and Pedestrian Mobility Master Plan*, staff could endeavor to conduct a pilot project, focusing solely on allowing the public to report condition problems. Since accepting citizen comments by map will necessarily cause some changes to procedures, OMAGI proposes a 120 day pilot to test processes and monitor results.