

# 2015 NYS Geospatial Applications Awards Competition Entry Form

Please use the below template to submit your entry for the **2105 NYS Geospatial Applications Awards Competition**. By entering the competition, you grant permission for the NYSGIS Association to publish and publicize your entry.

## Required Information

**Sponsoring Organization:** Westchester County GIS

## Stakeholder/Participant List (by Organization):

Westchester County  
Village of Rye Brook  
City of Rye  
Village of Larchmont  
Town of Eastchester  
Town of Greenburgh (Unincorporated)  
Village of Elmsford  
Village of Ardsley  
Village of Tarrytown  
Village of Irvington  
Village of Dobbs Ferry  
Village of Hastings-on-Hudson: 1333

**Title:** Mobile Mapping for Street Sign Inventories

## Abstract:

Supporting local government geospatial programs across Westchester County continues to be a priority for Westchester County GIS. GIS staff developed a smart phone mobile application for local governments which is used to inventory and map street signs. As designed, the application leverages the county's enterprise GIS infrastructure and does not require any software from local governments. Successful projects have already been completed with the Village of Larchmont, Town of Eastchester, City of Rye and Village of Rye Brook, with a large project involving the Town of Greenburgh (which includes six incorporated villages) nearing completion.

## Statement of the Problem:

With limited staff and financial resources, local governments have limited options for inventorying and mapping street signs which has become increasingly necessary to support new sign reflectivity standards. Other municipalities have initiated the inventorying of the signs to support the work of local court systems in response to residents claiming parking tickets are not

valid because signs were missing or unreadable and the municipality having no current inventory, with photographs, to contradict the claim. While most local governments recognize mobile mapping as an efficient means to inventory street signs, few have the hardware and software components to initiate the effort within a GIS environment.

### **Response to the Problem:**

Using ESRI's collector app provides municipal governments a cost effective way to collect, inventory and maintain street sign assets. To date, Westchester County GIS mobile data collection has been completed using Android smartphones. The normal workflow involves County GIS staff working with each municipality to design each street sign database to provide simple drop down menus to minimize coding errors. Time stamped pictures are also taken of each sign (which proves to be very useful for the court systems) and is included in the database. In some municipalities up to 79 different *types* of street signs have been inventoried.

The application requires the County to publish an editable feature service using ArcGIS Desktop (10.1 or later) and host the data using ArcGIS for Server (10.1 or later). The workflow to develop the street feature data collection mobile app includes:

- Design and implement street sign data model in ArcSDE
- Author the street feature data collection map (MXD) using ArcGIS for Desktop 10.1
- Publish a feature service for editing using ArcGIS for Server 10.1
- Create a web map in ArcGIS.com
- Download appropriate ESRI smart phone apps
- Registered ArcGIS.com users utilize smart phone app for mapping or data collection
- Data is stored as part of county's enterprise GIS database
- Repackage data as shapefiles or KML and return to involved agencies/municipalities for local use and data maintenance.

On a daily basis, data collected is then reviewed and validated back in the office using the same web map however, instead of accessing the web map using a smart phone it can be accessed using a web browser. The web map provides the person who collected the data with the tools to edit/move the locations of the signs, as needed, to their right relative location based on the picture that was taken and base map features in the web map.

Data collection is usually completed by a college interns who is a paid by the municipality. County GIS staff works closely with and monitors their work. Once the data collection is complete the data maintenance is turned over to the municipality who designates a staff member to update the data.

### **Results:**

To date **27,358** signs have been mapped in 11 Westchester County municipalities including:

Village of Rye Brook: **1,590**  
City of Rye: **3127**  
Village of Larchmont: **1867**  
Town of Eastchester: **4051**  
Town of Greenburgh (Unincorporated): **6587** (see attached pdf)  
Village of Elmsford: **1337**  
Village of Ardsley: **994**  
Village of Tarrytown: **2790**  
Village of Irvington: **1622**  
Village of Dobbs Ferry: **2060**  
Village of Hastings-on-Hudson: **1333** (to date)

#### **Return on Investment/Cost-Benefit Analysis:**

While no specific ROI has been prepared, there is consensus among the municipalities involved that this Westchester County GIS supported application can be best measured in cost avoidance/savings in the following areas:

1. Not having to contract the project to an outside firm
2. Purchasing necessary hardware and software components (all provided by County)
3. Not needing to dedicate local government staff to perform the collection; thus losing valuable time on other important municipal projects

#### **Key Participants: (Name, Organization, Title)**

Rich Fon, Town of Greenburgh, Deputy Commissioner, DPW  
Rick Vetere, Village of Larchmont, General Foreman DPW  
Margaret Uhle, Town of Eastchester, Director of Planning  
Ryan Coyne, City of Rye, City Engineer  
Michal Nowak, Village of Rye Brook, Superintend of Public Works  
Connor Lynch, Westchester County GIS, GIS Specialist  
Sam Wear, Westchester County GIS, Assistant CIO (GIS)

#### **Contact Information:**

Name	Phone #	Email
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#### ***Deadline & Submission Information***

**The deadline for entries is Tuesday, September 15, 2015.** Please E-mail this completed template to Ben Houston at [Benjamin.h.houston@gmail.com](mailto:Benjamin.h.houston@gmail.com), with "GIS Applications: [Name of Submitting Organization]" in the message Subject line.

Thank you for your submission and Good Luck!