2017 Award Nomination

*Please email completed form to nygis77@gmail.com

Date: 9/7/17	**Category:** ☐ Lifetime Achievement ☐ Individual Contribution to the Profession ☐ GIS Champion ☐ You Tube Sensation ☐ UAV Innovation ☒ Geospatial Applications Program (*skip to entry form below*)

Nominee (please include name, address, phone, and email)
Geospatial Applications Program - See Attached.

Submitted by (please include name, address, phone, and email)
Syracuse Metropolitan Transportation Council
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Point of Contact: Andrew Frasier afrasier@smtcmpo.org

Sector: ☐ Local Government ☐ State Government ☐ Tribal Government ☐ Private (For Profit) ☐ Private (non-Profit) ☐ Academic	**Functional Area:** ☐ Transportation ☐ Urban Planning ☐ Emergency Response ☐ Environmental ☐ Infrastructure ☐ Other (please note)

Narrative Description of Contribution. (Attach separate file or pages as necessary. Please refer to the Narrative Guidance for additional information on the narrative description.)

Geospatial Applications Program - See Attached.

2017 NYS Geospatial Applications Awards Competition Entry Form

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Please use the below template to submit your entry for the **2017 NYS Geospatial Applications Awards Competition**. By entering the competition, you grant permission for the NYSGIS Association to publish and publicize your entry. Click here to view the 2016 submissions.

Required Information

Sponsoring Organization: Syracuse-Onondaga County Planning Agency (SOCPA)

Stakeholder/Participant List (by Organization):
Syracuse Metropolitan Transportation Council (SMTC)
Syracuse-Onondaga County Planning Agency (SOCPA)
City of Syracuse
NYS Department of Transportation (NYSDOT)
Onondaga County Department of Transportation (OCDOT)
Syracuse University

Title: Onondaga County Sustainable Streets Project: Sidewalks

Abstract:
In 2013, the Syracuse Metropolitan Transportation Council (SMTC) developed the region's first pedestrian demand model, designed to assist municipalities in prioritizing pedestrian infrastructure investments (sidewalks, pedestrian signals, etc.). This model uses geographic information systems (GIS) software to combine factors like distance to schools, population density and a variety of demographic features. Where these inputs overlap, the model produces higher scores, shown graphically as "hot" areas on a hot-cold map. These hotspots form the basis for the Priority Zones: areas identified as having a high potential for pedestrian activity. In the Priority Zones the costs of sidewalks, particularly on major roadways, are likely to be more than outweighed by their benefits.

Statement of the Problem:
SOCPA's request to the SMTC was for help in identifying where sidewalks are suitable and should be required as part of a project. SOCPA also asked for assistance with research into some of the aspects of sidewalk construction and maintenance that are ambiguous or complex, such as ownership and liability.

Response to the Problem:
As a planning tool at the city, town or village level, the Priority Zones developed from the Pedestrian Demand Model can be combined with the SMTC's sidewalk inventory to focus limited local resources on critical gaps in sidewalk infrastructure, for example along arterial or collector roadways, near schools or adjacent to major commercial areas.

Results:
SMTC's pedestrian demand model is based on similar models developed by counties and metropolitan planning organizations across the country. SMTC's model divides the planning area into a 10 meter grid (10m x 10m cells) and assigns a value to each cell based on the sum of the values of all layers present in that cell. The values assigned to each layer were determined by research on other similar models, professional judgment of SMTC staff and input from a Study Advisory Committee.

As a part of the project, SMTC staff digitized over 800 miles of sidewalk in the metropolitan planning area for use in the model. A total of 18 data layers were used for this analysis, which were grouped into three main categories: destinations, neighborhood characteristics and pedestrian detractors. The maximum score for any cell was 100. Higher scores represent areas that have a higher pedestrian demand. The model results showed the highest scores in the City of Syracuse. The next highest score were located in village centers and in larger multi-use corridors. Sidewalk priority zones were created based on high score areas, road functional classifications and adjacent land uses. The purpose of these priority zones is to identify places where it makes the most sense to focus resources to improve pedestrian access.

Sustainable Streets Sidewalk Reference Manual, Appendix A explains the structure and workings of the model:
http://walkbikecny.org/wp-content/uploads/2014/06/20140617_Final_Reference_Manual_a_A.pdf

The Greater Syracuse Pedestrian Planning Application can be found on ArcGIS Online at:
https://smtc.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=a3567f938c4c4aee9b1610065ed8ac66

Additionally, the Western Lights Pedestrian Access Study used the pedestrian demand model's Priority Zones to identify an area on the edge of the City of Syracuse that needed sidewalks. A detailed analysis of this area verified that, as the model predicts, this area is a magnet for pedestrian activity – particularly the residents of nearby senior housing. The Pedestrian Demand Model made it possible to identify this area's walkable "core," where improvements would provide the greatest safety benefits. The Model's online tool also included an inventory on existing sidewalks making it easier to see where there were likely to be many pedestrians and not enough sidewalks. The Western Lights Pedestrian Access Study can be found here:
http://www.smtcmpo.org/docs/reports/WesternLightsPedestrianAccessStudyFinal.pdf

Return on Investment/Cost-Benefit Analysis. Do your best to use the ROI benefit and cost formulas found at GISCalc. Your project can then be used to strengthen GISCalc metrics:

The SMTC projects that use of this tool will enable the taxpayers to see the highest possible return on investment when it comes to sidewalk construction. By identifying Priority Zones, local municipalities will be able to focus sidewalk construction and maintenance on areas that need it most and where the sidewalks will see the most use.

Key Participants: (Name, Organization, Title)
Aaron McKeon, SMTC, Senior Transportation Planner
Jason Deshaies, SMTC, Senior Transportation Analyst
Meghan Vitale, SMTC, Principal Transportation Planner
Danielle Krol, SMTC, Senior Transportation Planner
Megan Costa, SOCPA, Assistant Director for County Planning
Ilana Cantrell, SOCPA, Planner
Paul Mercurio, City of Syracuse, Transportation Planner
Owen Kerney, City of Syracuse, Assistant Director for City Planning
Matthew Jackson, City of Syracuse, Sidewalk Inspector
Erin Cole, NYSDOT, Landscape Architect
Chris Rauber, OCDOT, Civil Engineer
Jonnell Robinson, Syracuse University, Community Geographer

URL (if applicable):

Greater Syracuse Pedestrian Planning Application (Online Tool):
https://smtc.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=a3567f938c4c4aee9b1610065ed8ac66

Sustainable Streets – Sidewalks: Summary Report (This document summarizes all the other work done on the project – the inventory, the model, and the reference document):
http://www.smtcmpo.org/docs/reports/20140714_SustainableStreetsPhase1FinalReport.pdf

As noted above, Appendix A of the Reference Manual is the best explanation of the model:
http://walkbikecny.org/wp-content/uploads/2014/06/20140617_Final_Reference_Manual_a_A.pdf

Contact Information:

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Deadline & Submission Information

The deadline for entries is Friday, September 8th, 2017. Please email this completed template to the NYSGISA Awards Committee at nygis77@gmail.com, with **"GIS Applications: [Name of Submitting Organization]"** in the message Subject line.

Thank you for your submission and Good Luck!