



PLANNING NEWS

Conference Program

Sunday, April 12th

4:30-5:30

Mock Planning Board/ZBA Session

5:30-6:30

Reception for Hotel Guests

Monday, April 13th

8:30-9:30

Using Land Use Tools to Ensure Sustainable Communities as We Age

9:50-10:55

Introduction to Planning Board Duties

Introduction to Zoning Board Duties

An Hour with Sanford & Son: How to Control Junk

11:00-12:05

How to Make Your Case Article 78 Proof

Resiliency Planning

Understanding Form-Based Codes

12:10-1:30

Awards Lunch & Annual Meeting

1:30-3:00

Ethics

County Referrals A to Z

Using Illustrated Design Guidelines

3:15-4:45

Case Law Updates

How to Make the New SEQR Work for You

What's all that Noise? Noise Ordinances

5:00-6:00

Conflict Management Principles and Skills

Tuesday, April 14th

8:30-9:30

FOIL and the Open Meetings Law

9:50-10:55

Effective Enforcement

The Importance of Comprehensive Planning to Zoning Laws

Reading and Interpreting Subdivisions and Site Plans

11:00-12:05

Best Practices in Parking Lot Design: A Smart Growth Approach

Land Use Moratoria

The Clarence Greenprint Plan: Open Space Preservation

The 2015 Conference at a Glance

It's just a few short months till the 2015 NYPF Annual Planning & Zoning Conference begins in April. This will be our 77th year of providing training that not only helps new planning and zoning board members understand their responsibilities, but also goes well beyond the basics to discuss cutting edge topics that are presented by professionals in the fields of planning, law, engineering and municipal government.

This year we are offering two plenary sessions, each beginning at 8:30 am. Monday's program on April 13th, "Using Land Use Tools to Ensure Sustainable Communities as We Age" will be presented by Patricia Salkin, Dean of the Touro Law Center, while the plenary on Tuesday the 14th explains "FOIL and the Open Meetings Law," and will be led by Robert Freeman, Executive Director of the New York State Committee on Open Government. (*More details on Dean Salkin's topic can be found elsewhere in this newsletter.*) We will also be offering a plenary on "Conflict Management Principles and Skills" at 5:00 Monday afternoon.

Following is the full conference schedule. Please be aware that while we anticipate receiving accreditation for many sessions for Code Enforcement Officers, attorneys and professional planners, the process of accreditation may not be complete until late February. Please check with our office (nypf@nypf.org, or 518-512-5270) and/or website (www.nypf.org) for more details as they become available.

Our host hotel this year will be the historic Sagamore Resort in Bolton Landing at the northern end of beautiful Lake George. Separate conference and hotel reservation forms are in this newsletter, as well as on our website.

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From the Executive Director



Judith Breselor, AICP

I hope that by the time you receive this, you will have fully recuperated from the holiday season and are making plans for the 2015 Planning Federation annual conference. As we prepare the Winter 2015 newsletter, we are also working diligently on our annual conference in April. We will be hosting this yearly event at The Sagamore Resort, located on Lake George in Bolton Landing. Our entire staff had the opportunity to visit the conference hotel, and we are all very excited to think that we will be back there in April, so pack your bags and be prepared for an excellent training session in a beautiful, historic site.

I am sure you will find many interesting and relevant articles in this newsletter. Perhaps many of you are noticing that baby boomers are aging—however, this historic group is certainly very different from any other age group our country has ever encountered. Every day, some 10,000 people in the United States are turning 65. The NYPF felt that our members needed to know what to plan for and how this group will impact our communities. To explore the topic we reached out to Dean Patricia Salkin from the Touro Law School, who will be presenting a keynote session on Monday April 13th. As preparation, I urge you to read the article, “*We’re Not Getting Any Younger.*” Dean Salkin will also be presenting a program on ethical issues confronting boards and professional planners later Monday afternoon.

Yes, our baby boomers are very different from previous generations. They walk, jog and ride bikes for exercise, and want to remain in communities that provide safe opportunities to enjoy these activities as they age. The article “*Options for Bike Networks in Your Community*” will help you navigate the differences in various bike lanes that can be built in your municipality. I would like to thank Fisher Associates for allowing us to use an article that helps planning boards and ZBAs understand what they need to keep in mind when reviewing development proposals that come before them.

Several members of the NYPF Board of Directors recently participated in a conference call on an energy saving program sponsored by NYSEERDA. We were so impressed with the program and how it may impact our communities statewide that we asked if they would attend our 2015 conference as an exhibitor; their staff will be on hand at The Sagamore to answer your questions about this exciting new program. Please be sure to read the contributed article in this newsletter that explains and offers guidance on the program.

By now, I am sure everyone is aware of the December 18, 2014 announcement that New York State has banned hydraulic fracturing. Residents and businesses both for and against waited over two years to hear the results of this decision. The New York Planning Federation does

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The New York Planning Federation also maintains a toll-free number for members at 1-800-366-6973 (NYPF).

NEW YORK PLANNING FEDERATION

is a non-profit membership organization established in 1937. Our mission is to promote sound planning and zoning practice throughout New York State. Membership, which currently includes nearly 10,000 individuals, is open and welcome to anyone supporting this mission. Membership categories include municipalities, counties, public organizations, private businesses, individuals and libraries.

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PLANNING NEWS

welcomes comments and articles from its readers. Manuscripts may be submitted for possible publication. Call NYPF to discuss your ideas. If published, such articles may be edited to conform with format requirements and become the property of Planning News. The opinions and views expressed in Planning News are those of the authors and do not necessarily represent the views of the NYPF.

The 2015 Conference

not lobby, nor do we support political decisions; however, we provide each and every member with information that may have an impact on their community. This was a very contentious issue, with many communities either for or against hydraulic fracturing. We understand that the decision will impact many of you, most particularly those communities in the Southern Tier.

Over the past few years we have all become very aware of the term “Green Infrastructure.” More and more planning boards have questions pertaining green projects that come before their boards. Much new research has been conducted on practices that include rain gardens, retention areas and pervious pavement. We are thankful that members of the New York State Water Resources Institute at Cornell University have provided us with an interesting article discussing lessons learned from this research. I am sure their article will help you understand more fully how to address green infrastructure issues that come before your municipality.

I would like to thank the dedicated NYPF staff members Lael Locke, Anne Rounds, Leila Jabour, and our fabulous interns for the work they do each day for our members. If you have any questions about our upcoming conference or your membership, please do not hesitate to contact us at 518 512 5270, or by email at nypf@nypf.org.

Have a great New Year. We'll see you in April at The Sagamore.

Judy Breselor, AICP

Executive Director

April 12th – April 14th, 2015

The Sagamore • Bolton Landing, NY



Continued from page 1

Please remember that the awards luncheon on Monday, April 13th was established to honor both individuals and innovative plans or laws in New York's communities. These award nominations come from our members and friends and are given in seven categories—the Allee Award for a ZBA Chair; the Cross Award for a Planning Board Chair; the Levine Award for Community Service; the Heissenbittel Award for Planning Excellence; the Pomeroy Award for Zoning Achievement; the NYPF Comprehensive Plan Award (County); and the NYPF Comprehensive Plan Award (Town or Village). If you are interested in seeing someone from your municipality honored for their good work, or if your community, county or organization has adopted an innovative law, comprehensive plan or plan update, please take the time to fill out the nomination form and send it to us. The deadline is February 15th.

We look forward to seeing you in April for another great conference.

NYSERDA Expands ENERGY STAR Program

Administered by the New York State Energy Research and Development Authority (NYSERDA), the New York ENERGY STAR® Certified Homes designation is synonymous with superior, above-code energy efficiency performance in new houses, townhouses and low-rise multi-family buildings. To earn the designation, a home must be built to consume less energy than it would if it had simply been built to code. The program started 13 years ago and, since then, more than 25,000 homes have been constructed that meet the ENERGY STAR Certified Home standards.

In recent years there has been great advancement in the market for energy efficient homes. In addition to forthcoming code changes that will improve the baseline to which a home must be constructed, innovations in insulation material and installation practices, air sealing, mechanical design and renewable energy applications have led to the emergence of several home builders who reach for new levels of energy performance that goes far beyond code. Many of these builders participate in the current New York ENERGY STAR programs as either a stand-alone effort or as a way to satisfy the energy components of other “green” certifications such as LEED for Homes, Passive House, etc.

One path toward improving the energy efficiency of homes built in your own locale is by encouraging builders to participate in NYSERDA’s

Low-rise Residential New Construction Program. This program incorporates the New York ENERGY Star Certified Homes standards as the basis for performance, and also provides an offer of eligibility for certain gut rehabilitation projects to participate and receive the alternative New York Energy \$mart™ designation. This is particularly exciting news for developers who are involved with urban centers, adaptive reuse projects and/or historic restorations.

These NYSERDA programs are designed and intended to encourage the construction of single family homes and low-rise multifamily dwelling units that operate in a more energy efficient way, are more durable and provide a healthier environment for their occupants than would otherwise be achieved. In addition to making energy bills more affordable and providing all-season comfort for consumers, the programs also offer technical assistance and training for builders. Furthermore, the programs can help municipalities achieve Climate Smart sustainability, energy savings and conservation goals.

Until recently, New York ENERGY STAR Certified Homes offered a single performance designation, regardless of how significantly the home exceeded these requirements. Under the new performance structure, builders can elect to construct a home that meets current requirements (characterized as Tier 1); build to a more advanced

set of requirements (Tier 2); or construct a home that is truly designed to achieve net zero energy (Tier 3). The innovative Tier 3 requires that the home be made ready for solar photovoltaic (PV) installation during construction, and that a PV plan be in place which will ultimately result in the home achieving a level of energy use so low that the homeowner will not incur a charge for power from their utility company.

NYSERDA can assist municipal staff in becoming familiar with these programs by providing information in a format that will be most helpful. With new codes on the horizon and the housing market regaining its former vigor, now is a great time to familiarize municipal staff with the latest information and resources available. Please contact Conservation Services Group, the NYSERDA program implementation contractor, to arrange a meeting or webinar, and/or to receive literature on this topic. For more information, municipalities are invited to call Lisa Diffenback at 518 207 4532.

We're not getting any younger

Born in the years between 1946 and 1964, the Baby Boom generation—at more than 76 million individuals—represents the largest single population growth in United States history. And as they begin turning 65, their impact on local economies will be staggering.

According to 2012 projections by the U.S. Census Bureau, the numbers of those aged 65 and older is expected to more than double by 2060, while the increase in the number of “the oldest old” (85+ years of age) is projected to more than triple from 5.9 million to 18.2 million, or 4.3% of the total population.

Because this generation, like their parents before them, prefers to age in place in their own communities (the AARP reports that 84% of Boomers plan on staying in their current homes), there will be a greater demand on local municipalities to provide more senior services, additional public transportation and safe, wide, walkable sidewalks, just to name a few. Zoning codes that allow for accessory dwelling units (a/k/a “granny flats”) will help residents live in closer proximity to family and friends. Bike and walking paths will encourage exercising, while more public benches and rest rooms will help accommodate older visitors and residents.

The good news is that many of the qualities that go into creating an age-friendly community are the very same qualities that Smart Growth advocates have been promoting for years. A vibrant, walkable downtown with a good mix of shops, restaurants and services is just as essential for younger residents as it is for older ones. And affordable housing choices that encourage new families to locate to your community are also going to attract seniors whose income may have decreased due to retirement.

The impact of Baby Boomers on New York’s municipalities, and how to make sure that local land use tools ensure sustainable communities for the elderly, will be the focus of our plenary presentation at the 2015 NYPF Annual Conference in Lake George next spring. Patricia Salkin, Dean and Professor of Law at the Touro Law Center, and former Associate Dean and Raymond & Ella Smith Distinguished Professor Law at the Albany Law School, will lead the discussion about this important topic on Monday April 13th at 8:30 am. Later that day, Dean Salkin will also be presenting a program on ethical issues confronting boards and professional planners. More information and registration is at www.nypf.org under “Conference.”



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Options for bike networks in your community

By William M. Price, RLA ASLA

Now, more than ever, bicycling is becoming the chosen method of transportation for many individuals. Cycling as a transit mode has less impact on a household's monthly transportation budget, is a low-impact form of aerobic exercise, emits no greenhouse gases, and makes streets safer for everyone by slowing down the speed of vehicles on the road.

There are multiple types of bike lane configurations/designs, each with its own benefits and constraints.

Standard Bicycle Lanes

These lanes dedicate a portion of the roadway to bike movement separated from vehicular traffic. They occur on roads/streets with speed limits of 25+ mph, moderate traffic volume, and that are sufficiently wide for two separate travel lanes on both sides of the street.

Standard bicycle lanes are designated by signage and pavement markings. Colored pavement is also used in certain situations to distinguish bike lanes from those for motor vehicles. Bike lanes are typically four to six feet wide and are located next to the curb or adjacent to a parking lane.

Sharrows

Shared lane pavement markings (or sharrows) are bicycle symbols used to guide bicyclists to the best place to ride on the road, to help them avoid open car doors, and to remind motorists to share the road. Unlike bicycle lanes, sharrows do not designate a particular part of the street for the exclusive use of bicyclists. They are simply markings to guide bicyclists to the best place to ride.

Contra-Flow Bicycle Lanes

Riding the wrong way down a one-way street? For bicyclists, this is exactly what a contra-flow bike lane allows you to do. One-way streets can discourage bicycling by making trips longer and requiring additional travel through busy intersections. As a result, bicyclists often ignore the one-way travel and ride against traffic anyway. A contra-flow bike lane solves these problems by providing bicycle access. The best use is where traffic volumes are low and wrong-way bike use is already prevalent.

Make sure to place a contra-flow lane on the correct side of the street—to the motorist's left—and to provide double-yellow striping to separate lanes. Indicate that bike travel is permitted by placing a sign below the "Do Not Enter" one. Lastly, adding signs at intersecting alleys, major driveways and streets will let motorists know to expect two-way bicycle traffic.

Curbside Bicycle Lanes

These allow cyclist movement between parking lanes and sidewalk curbs, providing a strong buffer between moving cars and bike riders. Curbside lanes provide a unique solution for streets with alternate parking. If a physical separation is provided, snow removal may be a concern. Barrier types may include a rumble strip, wheel stops, slanted curb or just a painted line.

Bike Boxes

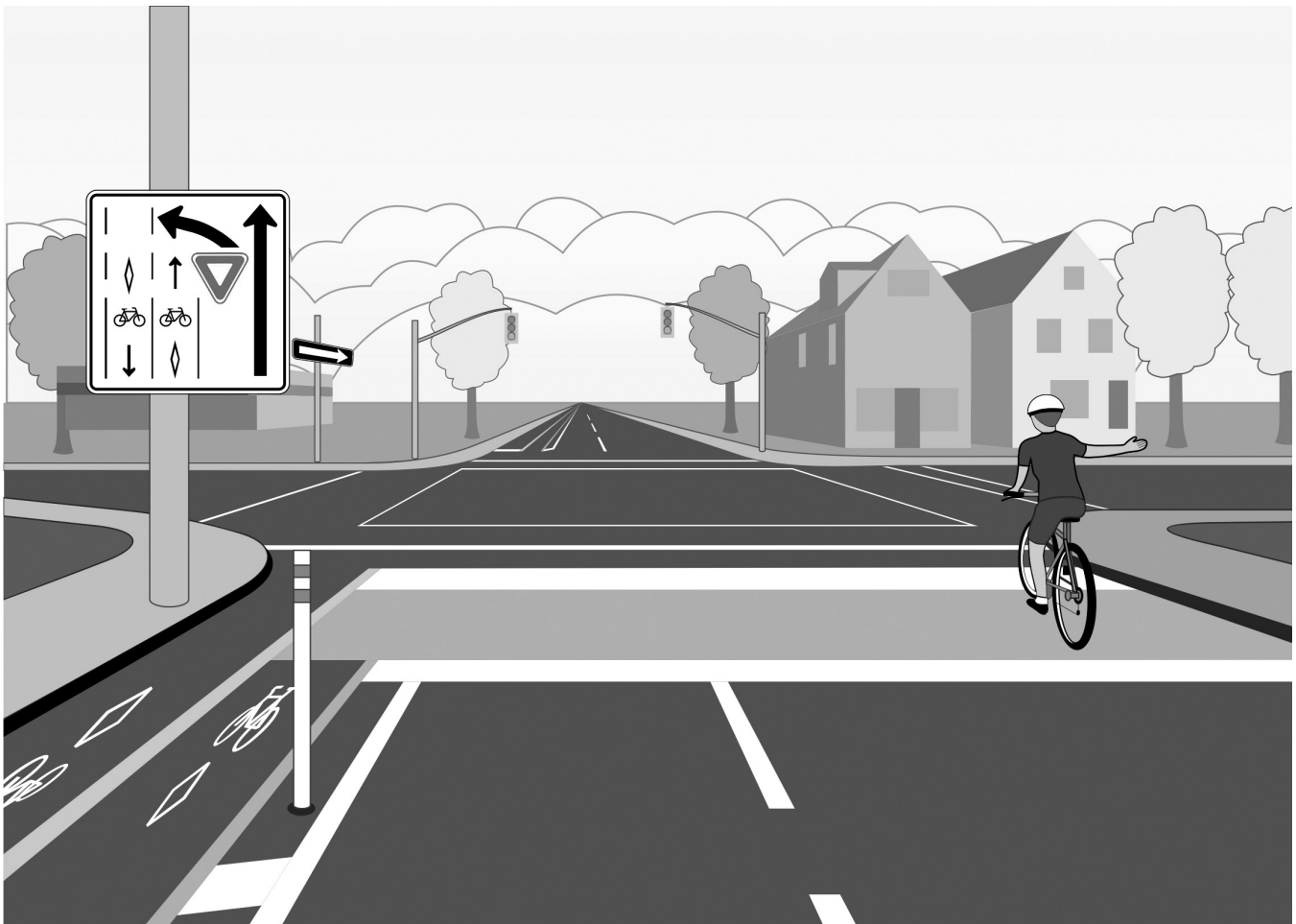
Also called "advanced stop lines" because of the protection they provide bicyclists at intersections, bike boxes designate an area where bicyclists can wait for traffic signals ahead of vehicular traffic. They are mainly used at intersections where "right on red" safety conflicts exist. By placing bike riders in front of traffic at the stop light, drivers are more likely to see them. The City of Rochester has installed a number of bike boxes in the past year.

Cycle Tracks

Cycle tracks are one- or two-way bicycle paths integrated into the urban streetscape, but separated from vehicular traffic and on-street parking. This separation is achieved through raised medians (some landscaped), on-street parking buffers or bollards. The lane is often designated by consistent and visible road markings, signage and painted lanes. Cycle tracks are most often seen on streets where bicycle lanes feel unsafe from such conditions as high traffic volumes, multiple lanes and high speed traffic.

Summary

You will want to develop your own, unique bicycle network, choosing the designs that best meet the needs of your community. Cost will be a factor in design since, for example, the cost of a five-foot



An example of a bike box.

bicycle lane can range from \$5,000-\$535,000 per mile, with an average cost of around \$130,000 per mile, depending on which treatment is used. However, the long term payoff can be significant; a bike-friendly municipality will increase the number of visitors, improve the health of cycling citizens, and decrease the number of bike and vehicular conflicts.

Bike lanes speak to a community's acceptance of cycling. The more lane miles there are, the more

ridership increases. Bike networks are typically integrated with pedestrian network improvements as part of an overall multi-modal transportation strategy.

The author is a Landscape Architect and Vice President of Land Development at Fisher Associates in Rochester, NY. This article was reprinted from Issue 36 of "Site Development Alert," the firm's newsletter.

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A Success Story: Open Space Preservation through Incentive Zoning

By Peter Vars, P.E.

The summer of 2014 saw completion of the last phase of a land planning project in the Town of Pittsford that can serve as a model for open space preservation and planned residential development throughout New York State.

At the center of this project was the state's Incentive Zoning Law, which provided the basis and flexibility for the community to achieve open space preservation, while protecting the rights of property owners and providing flexibility in housing, in order to meet the ever-changing demands of market demographics. The project is an undeniable success for all parties involved, and resulted in the preservation of over 160 acres of highly desirable green space and agricultural lands at no cost to the Town.

The total acreage involved in the project was 295 acres: the properties were located in an area of Pittsford that had become very desirable for residential subdivision development, and the Town had recognized that if current development trends continued unchecked, this trend would convert the remaining lands to a mix of suburban homes and unrelated, nondescript open space parcels. (Note: the Town did have an open space requirement as part of its zoning code, but did not have any criteria in designating the open space.) In order to

address this concern, the Town prepared an open space inventory, ranking parcels and adopting their "Greenprint for the Future." which identified undeveloped parcels of potential value either for ecological or agricultural reasons. The "Greenprint" would become a key component of land use planning for the municipality.



Town of Pittsford Greenprint Analysis Map

A local developer assembled seven non-contiguous parcels (two of which were ranked in the top ten of Pittsford's open space inventory) that comprised the 295 acres and, instead of developing them individually and piecemeal, worked with the Town on a comprehensive use plan for the property. Both the developer and Town recognized that an approach which looked at the parcels as a whole, instead of individually, would be the best route to achieve both their goals—the developer's being to provide in-demand housing, and the Town's being the preservation of meaningful and highly desirable open space.

The question became how to achieve these goals while working within both the Town's zoning code and New York Town Law. Traditional planning tools of cluster subdivision or transfer of development rights (TDR) would not work. Cluster subdivision design per Town Law Section 278 didn't apply, as the parcels in question were not contiguous. It was also determined that a TDR program would not provide the flexibility required by the project; also that a TDR would present an upset to landowners and the market in general, based upon whether the parcels in question were in receiving or sending zones.

Enter Incentive Zoning—the right planning tool to provide the developer flexibility to design subdivisions that would meet a changing market, and also allow the Town to realize its own open space preservation goals. In its most basic definition, Incentive Zoning allows landowners and/or developers to seek relief from a municipality's zoning criteria in return for the municipality receiving benefits beyond those that would have been provided through code-compliant development. In the case of Pittsford, the key factor for using Incentive Zoning was that the Town had already identified open space preservation (via its "Greenprint") as having a community-wide benefit. Their pursuit of this benefit would be accomplished through property acquisition via Purchase of Development Rights (PDR). However, the use of Incentive Zoning would allow the Town to obtain property rights without having to purchase them.

The process involved the Town identifying the key parts of the subject properties that were of value to Pittsford, either for recreational purposes, trail connections, woodlot preservation, or to protect prime agricultural lands. Each parcel was reviewed in order to identify its natural resources of value,

based upon the criteria established in the Town's open space ranking system. Once these areas were identified, planning then helped determine how these potential open spaces fit within the larger context of Pittsford's overall "Greenprint" plan, and were ranked accordingly. The process was acceptable to the developer because of the Town's established ranking system that allowed ready identification of land that was of high value. There were no surprises, no sense that the developer was losing density or that the landowners were losing any of their property rights.

The next step was for the developer to plan his development and work with the Town to determine the overall density of residential homes that would be constructed on the seven parcels. In order to protect the rights of the landowners, the first step was to identify the allowed density on each individual property, based on its underlying zoning. Proper site planning would determine the final yields, as well as how the lots were distributed among the seven parcels in question. The developer indicated the different types of homes he wished to build: he was looking to move away from the standard, single family suburban lot typical of this part of Pittsford and, instead, provide patio homes for the ever-growing empty nest population, estate lots that would take advantage of scenic views, and introduce neo-traditional communities in the form of hamlets on two of the parcels. This mix of housing and various lot standards would not have been possible, given the current zoning of the individual properties.

Once each party's goals were established, the mutual planning process got underway. The density of housing was placed on those pieces of land where municipal infrastructure (sewers, water and road network) was already in place to support new housing. This provided the added benefit of not encouraging sprawl through an extension of existing infrastructure. The highly desirable open areas were preserved, along with key open space corridors, future parklands and agricultural resources.

Density was clustered into the areas suitable for development with minimal impact to natural resources. Minimal impact was achieved because no restriction was placed on the maximum number of units allowed on the individual parcels—thus, those parcels with little or no valuable natural

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resources were the ones where development was concentrated, while those parcels with highly ranked open space areas had larger portions of the property preserved than would have been achieved via conventional zoning subdivision development.

The community of Pittsford achieved its stated goal of preserving critical open space, while the developer achieved his goal of providing a variety of housing options. The rights of property owners were protected, since each realized full value of his/her property regardless of whether or not it was developed to its full potential. The application of Incentive Zoning and collective planning removed pressure on individual property owners to develop their land to its full density; moreover, it made sure that these properties were developed with the community's stated goals of quality open space preservation as the driving factor.

The project was a success because the Town of Pittsford identified what was important to its residents, and because it was willing to work with landowners and developers to achieve these goals. They realized that they could not accomplish their goals by themselves, and that all stakeholders would need to participate in order for the plan to be successful. The result was the preservation of more than 160 acres of quality open space that met the goals of the Town's overall open space plan, as identified in its "Greenprint for the Future." Pittsford also gained a mix of housing that it wouldn't have been able to realize through the application of conventional zoning tools.

The author is President of BME Associates in Fairport, NY. He will be presenting a session on "Reading and Interpreting Subdivision and Site Plans" at the 2015 NYPF Annual Planning & Zoning Conference. Information on the Town of Pittsford "Greenprint for Pittsford's Future" is on the Town website, www.townofpittsford.org/home-greenprint-index.

NYPF Excellence Awards



Every year at its annual conference, the New York Planning Federation presents awards in six categories, each recognizing excellence and achievement in an area of land use in New York State. Recipients of these awards have been nominated by their peers in local municipalities, or by planning consultants who have worked with a community to achieve a notable new law, comprehensive plan or plan update.

David Allee Award

presented to an outstanding *chair of a Zoning Board of Appeals*;

John O. Cross Award

presented to an outstanding *chair of a Planning Board*;

Heissenbuttel Award

presented to an individual, municipality or agency for outstanding *accomplishment in the field of planning*;

Levine Community Service Award

presented to an *appointed member of a municipal board or committee who has done an outstanding job for his/her community*;

NYPF Comprehensive Plan Award

presented to a municipality or agency for an *outstanding and/or innovative comprehensive plan or plan update adopted by the municipality's legislative body within the past 3 years*;

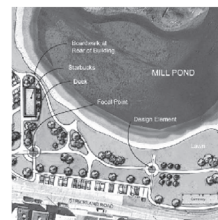
Pomeroy Award

presented to an individual, municipality or agency for consistent high quality work and/or an outstanding *accomplishment in the field of zoning*.

Awards will be presented at the awards luncheon on Monday April 13th at the annual conference being held at the Sagamore Resort, April 12th – 14th, 2015. Nominations in digital format are due by 2/15/15. Award nomination forms are on our website at www.nypf.org on our conference page. Please call 518-512-5270 for more information.

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Growing Green Infrastructure: Lessons from New Research

By Brian G. Rahm, Emily Vail, Sridhar Vedachalam, David Kay

Background

Polluted stormwater runoff leads to problems with water quality and quantity in rivers, streams, lakes and wetlands throughout New York State. Although “gray infrastructure” continues to be employed for stormwater management in some cases, municipalities and planners are increasingly using new “green infrastructure” approaches that can be both effective and competitive.

Green infrastructure (GI) refers to stormwater management techniques that take advantage of natural processes to reduce peak flow during rainfall events and, in some cases, reduce pollutant loads in storm discharge. Such practices include rain gardens, bioretention areas, pervious pavement and green roofs, among others. For new development, the green infrastructure process includes planning to protect natural areas and reduce impervious surfaces such as parking lots, roads and driveways. Over the past several years, research and outreach on GI has been initiated as a part of the NYS Water Resources Institute (WRI) at Cornell University’s ongoing focus on infrastructure resilience.

Research on Green Infrastructure

Across New York State, colleges and universities are using GI to address campus stormwater issues. Many incorporate green infrastructure projects into student curriculum and faculty research, also highlighting GI as a demonstration for the broader community on benefits (and possible limitations) of green infrastructure.

Recent research shows that GI approaches have benefits when used properly, but can also suffer from lack of rigorous design or maintenance. Cornell instructor Todd Walter and his students examined water quality impacts of stormwater bioretention basins associated with campus parking lots and buildings. They found that GI practices were delivering mixed service on removing pollutants; some were reducing contaminant concentrations, while others were actually increasing them. If bioretention basins do not drain correctly, they could also emit elevated levels of greenhouse gases. Overall, more monitoring is needed to determine which design factors most strongly influence performance.



Stream daylighting at the Peace Park in New Paltz, across from Village Hall

Campus GI projects can also serve as the focal point for cooperation between academic institutions, municipalities and local watershed groups. At SUNY New Paltz, recent green infrastructure projects undertaken in partnership with the Village of New Paltz include a pervious parking lot, a bioswale (a long, channeled depression or trench that receives rainwater runoff and contains vegetation and organic matter to slow water infiltration and filter out pollutants), rain gardens, cisterns to harvest rainwater, and stream daylighting (an applicable technique to help communities reduce polluted runoff, address flash flooding concerns and improve the livability of the built environment). SUNY is the largest landowner in the Saw Mill Brook watershed, and researchers are monitoring in-stream quality in order to study impacts over time. According to Kathleen Tobin, Associate Director of the SUNY New Paltz Center for Research, Regional Education and Outreach, this project “...will begin the long-range transition to sustainable stormwater and watershed management by laying a foundation for relying on green infrastructure in public works projects.”

At Siena College in Albany County, researchers are studying flood response in a small urban watershed and evaluating the effectiveness of green infrastructure. Lead researcher Kate Meierdiercks says “In our local watershed, the Kromma Kill, other elements of the urban landscape, particularly those associated with urban infrastructure and the drainage system (such as watershed slope and outfall density), may play an equally important role as percent imperviousness in predicting water quality and flooding.”



Green roof at SUNY Orange in Newburgh

Planning for Green Infrastructure

Obviously, local municipalities play a key role in implementing green infrastructure. Jeff LeJava of the Land Use Law Center at Pace Law School in White Plains is working with the City of Newburgh’s Conservation Advisory Council (CAC) to integrate green infrastructure into Newburgh’s land use regulatory process. Under the State’s land use system, CACs “advise on the development, management and protection of local natural resources.” Through this role, CACs may champion the use of green infrastructure to mitigate stormwater impacts generated by a proposed development.

LeJava’s work indicates that CACs play an important part in educating project proponents and land use boards about the ecological and economic benefits of GI. They can also identify appropriate locations for GI projects within a community and identify such areas on a municipality’s Natural Resource Inventory and Open Space Index. By doing so, the CAC may inform local land use boards of the need to incorporate GI into project reviews. As an advisory body, however, LeJava notes “the ability of the CAC to influence the use of green infrastructure is limited. Ultimately, GI must become more integrated into the regulatory fabric of the land use approval process, particularly through site plan requirements administered by planning boards, and by continued municipal review of stormwater pollution prevention plans.”

Implications for how we View Land Use

In general, adoption of green infrastructure as a viable alternative for stormwater management within the planning process may help shift the way in which people think about land use and its relationship to water resources. Kathleen

Tobin suggests that coordinated GI projects on campuses such as SUNY New Paltz could provide “an opportunity to utilize and plan at a watershed scale, as opposed to the more commonly seen site-specific scale.” Students and staff from SUNY New Paltz have used their campus-based projects to interact with local officials, designers and other stakeholders by providing tours and education on GI best practices.



SUNY New Paltz student Caitlyn Maceli gives a green infrastructure tour

Kate Meierdiercks of Siena adds “The results of (our) research imply that watershed plans which rely only on reducing the percentage of effective imperviousness (the traditional stormwater metric), are not a ‘one size fits all’ solution.” It is up to local stakeholders to identify appropriate management objectives and be strategic about planning green infrastructure to best achieve these goals. Incorporating GI approaches into municipal planning at multiple scales will help local boards review proposed site plans and get more green infrastructure projects implemented. From natural science to social science, this research can provide important information to help communities make the most of their infrastructure.

New York State Water Resources Institute at Cornell University is a federally- and state-designed institution whose mission is to improve the management of water resources in New York State and the nation. In collaboration with the Hudson River Estuary Program of NYSDEC, WRI conducts and funds research of interest to a broad set of stakeholders, both at Cornell and across New York State. The authors of this article are all based at Cornell University—Rahm, Vail and Vedachalam at WRI, and Kay at the university’s Community and Regional Development Institute.

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