

REBUILDING OUR INFRASTRUCTURE: GOT A SPARE BILLION?

Actions, dollars needed now



HUDSON VALLEY **PATTERN** *for* **PROGRESS**

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FOREWORD

The Hudson Valley's many attributes -- including natural beauty, world-renowned amenities and diverse populations -- have made it a terrific place to live and do business.

Over time, however, warnings started to appear for its municipalities. Their infrastructure, the often unseen bones of a community, were deteriorating. There were issues with roads, water quality, sewer pipelines, bridges and more.

While some components of infrastructure were dutifully attended to, lack of funds meant that others couldn't be immediately maintained. Delays added up. The passage of time brought to the fore critical situations and needs beyond normal wear and tear.

Infrastructure reliability is at a precarious juncture in valley history. Action is required -- and quickly.

Hudson Valley Pattern For Progress ("Pattern") does not question the recognition of this issue among the region's various stakeholders, but we are concerned that, following decades of disinvestment, that there is now the capacity to align a complete commitment of resources to solve the issue.

The issues are all too apparent: Many roads urgently need repair or upgrades. Communities have deep, persistent worries about water and wastewater management and safety -- or have plants and systems where repairs and upgrades can no longer wait. Commuter hubs in some spots are so heavily used that they are wearing down or simply not modern enough to handle contemporary and future demands. And through it all, population trends and clusters changed. That forced cities, towns and villages to attempt to adjust as they simultaneously tried to plan and schedule infrastructure improvements.

Indeed, the New York State Department of Transportation (NYSDOT) recently commented to Pattern regarding the state of repair. "Much of the roadway and bridge infrastructure in New York State, and in particular in the Hudson Valley, is aging and can be a challenge to manage," it said. NYSDOT further remarked, "The Hudson Valley has many roadways and bridges that were first constructed in the early part of the 20th century and at times lack the functionality afforded by current standards." The current team at NYSDOT has a remarkably difficult set of challenges.

The New York State Department of Environmental Conservation (NYSDEC) also has documented infrastructure concerns. Most of the 140 municipal wastewater-treatment plants between New York City and the Troy Dam are operating beyond their original design life, NYSDEC told Pattern. It also pointed out that 11% of sanitary-sewer pipes in the Hudson Valley, covering 2,600 miles, were installed before 1925. About 26% are over 65 years old. Not their doing, but now their concern.

Pattern wishes to acknowledge that the State of New York is trying to address these issues. For instance, Governor Andrew Cuomo was recently in the Hudson Valley to give a progress update on the \$542 million statewide Empire Bridge Program. Thirty-five of those projects are in the valley; 21 are complete. The 2017-2018 state budget provides \$2.5 billion to safeguard water sources and delivery, and \$27 billion for roads, bridges and related transportation infrastructure.

However, based on the long list of needs, while a good start, there is much yet to do. Accompanied with the massive price tag to remedy it, the need for increased action is both urgent and evident. To be clear, with so many elements of our infrastructure past their normal life expectancy, we are not crying that "the sky is falling," and yet, borrowing a line from a movie, "Houston, we have a problem." The governor took care of the worst-case example of crumbling infrastructure, the Tappan Zee Bridge, when he swiftly broke the logjam. Today, we are on our way to a new bridge. The governor showed us that sometimes there is a way to do the "impossible."

Today, the more likely threat to the valley from the continued failure to more heavily invest in our infrastructure would be the advent of another super storm like Lee, Sandy or Irene, where we witnessed the impact of chronically neglected infrastructure, or the growing catastrophe of not maintaining or safeguarding water quality as experienced in the City of Newburgh. Further, as most recently pointed out in The Wall Street Journal, the degree that permitting and environmental-review processes can contribute to years of delay, it is imperative that they be carefully amended to allow expeditious and timely reviews of critical infrastructure projects.

Strong infrastructure benefits economies, according to the International Monetary Fund (IMF). It reduces the inefficiencies in time lost in getting to work and aids the shipping of products, its report said. On a national scale, increasing infrastructure investment by 1 percent of Gross Domestic Product (GDP) can raise GDP 1.5% four years later, IMF reported.

Hudson Valley municipal budgets are stretched tight. Expenses rise far faster than revenue. Costs jump. Delayed repairs or maintenance mean even higher dollar price tags later. And while tax-cap limitations help residents' pocketbooks in the short term, lower tax revenue to pay for items like infrastructure -- critical to cities, villages, towns and counties -- may have longer-term impacts. Amending the tax cap to exempt infrastructure would be another critical step to making it easier to rebuild the region's infrastructure.

There also is a cautionary tale to be observed. Sprawl has a price tag. If growth years ago had been regulated and concentrated, infrastructure needs today would be focused on specific areas. Instead, there has been more growth everywhere. That expansion has come with a day to pick up the check for the cost of infrastructure. That day is today. Moving ahead, Pattern recommends a more skeptical view regarding the creation of new towns and villages. The need to maintain the infrastructure of hundreds of units of government has a price. The cost of creating them is not just today's costs, but in 20 to 30 years, there will be additional cost of having to rebuild infrastructure in those communities.

In short, the Hudson Valley's infrastructure, highlighted in this report by the needs of seven small and mid-sized urban communities, as well as the needs of the entire region, requires billions of dollars to fortify this vibrant region's future. The dollars need to be found, and quickly.

Jonathan Drapkin, president & CEO

INTRODUCTION

This report attempts to analyze, interpret and project efforts to revitalize the region's infrastructure with a lens placed on urban centers, balancing that against the overwhelming need to invest in the region's infrastructure. It examines seven financially challenged communities, known as Opportunity Areas, as designated by the Mid-Hudson Valley's Regional Economic Development Council (REDC). They are the villages of Brewster and Monticello and the cities of Kingston, Mount Vernon, Newburgh, Peekskill and Poughkeepsie. This report also provides a broader view of the Hudson Valley's infrastructure needs and offers strategies to address them.

In addition, the report provides municipalities with targeted strategies to pursue funding. It helps plan, strategize and sequence short- and long-term visions for repairs and upgrades. It lets elected leaders know that assistance, both money and expertise, is out there -- and that there are proven models of success.

In 2014, Pattern received a grant from New York State's Empire State Development (ESD) Corporation, which enabled:

- The formulation of infrastructure snapshots and strategies for the seven communities examined.
- The convening of three annual infrastructure conferences (2014-2016), which sought both the current state of infrastructure and how to address it.
- Two regional surveys (2014 and 2016) that assessed local and regional infrastructure conditions.
- Identifying "best-practices" suggestions, based on the experience of municipal leaders and officials, and how to apply them elsewhere.
- Providing annual assessments that provided information on Hudson Valley communities and tailored suggestions to better address, and the funding of, local infrastructure concerns and projects.
- And to develop a detailed list of barriers to maintenance and expansion of infrastructure in the Hudson Valley, accompanied by recommendations to address them.

To better serve the reader, the initial section of this document serves as the "report" and is devoted to recommendations. The items listed above are then detailed in a series of appendices.

DEFINITION

Pattern recognizes that the definition of infrastructure can be quite broad. In its 2016 report, "Infrastructure: An Investment in the Future," Pattern defines infrastructure as the physical and organizational structures maintained by public-works departments (including transportation infrastructure such as roads and bridges); public services (water supply and sewage); where applicable, natural-gas distribution; and broadband and cellular-service availability. Pattern does not incorporate some items that are often included within the definition of infrastructure, such as housing, municipal and educational facilities or "green" infrastructure.

THE VALLEY: WHERE WE ARE TODAY

The challenge of maintaining the Hudson Valley's infrastructure in a state of good repair is a daunting task. Despite the involvement of many governments, state agencies and public and private professionals, the need simply outpaces the capacity.

One assessment of the current situation is that New York State's infrastructure was rated a C- in 2015 by the American Society of Civil Engineers (ASCE).

Compounding the constant need to reinvest, The Great Recession worsened our current situation. Many levels of government are now spending a notably smaller share of their overall budget on infrastructure, compared to the middle of the last decade. Further, their staff capacity to address this critical issue was compromised, resulting in the need to rely on outside consultants or simply not address issues that weren't immediate priorities.

And therein is the conflict: Needs greatly outpace the dollars committed.

- From 2004-2014, valley counties, cities, towns and villages spent \$4.47 billion on public infrastructure, an average of just under \$447 million annually. Hudson Valley communities devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier. That one-percentage-point variation means millions of dollars of improvements were often postponed.
- Throughout the Hudson Valley, government expenditures for infrastructure have declined each year since 2010. However, spending levels still remain 7% above the corresponding 2004 figure.
- From 2004-2007, the region's counties assumed a greater proportion of municipal investment. Smaller communities have severely pulled back on spending, thereby increasing the counties' proportion of the total pie. In 2014, counties were the only level of government spending a higher percent of their budget on infrastructure than in 2004.
- The New York State tax cap, established in 2011, has limited municipalities' ability to use tax dollars. While reducing the burden upon taxpayers, it has meant less money to commit to infrastructure repair. Long-term budgeting and planning that pre-dated the tax cap suddenly lacked the projected flow of money. That meant altering maintenance and construction schedules, often defined in Capital Improvement Plans. Pattern research found, however, that some communities did not even have such plans, which help to identify priority capital projects, equipment purchases and maintenance. These plans sometimes fell to the wayside due to tighter budgets, lack of staffing and inability to line up money from other sources.

ADDRESSING THE PROBLEM

The issue of infrastructure has been prominent in the news. Bridge repair, water quality and crumbling roads are just a few of the headlines read on an almost daily basis. New York State has taken significant steps, including the most recent state-budget approval and other factors mentioned in the foreword of this report, to provide support. NYSDOT provided this statement to Pattern: "In recent years, both Governor Cuomo and members of the legislature have focused on the age and condition of the state's infrastructure. Therefore, the New York State Department of Transportation (NYSDOT) has received a record amount of funding to address our roads and bridges, and we've been able to address numerous bridges and roadways that were in need of repair."

ROADS/BRIDGES

Scorecards from a variety of independent sources document the depth of the needs in this area.

The American Society of Civil Engineers graded New York State roads as a D- in 2015. TRIP, a Washington, D.C., based national transportation organization, said in 2016 that 17 percent of roads were in poor or mediocre condition. That ranked it 10th-worst nationally.

Analyses of bridges similarly pointed out that action is necessary. A February 2017 report from the American Road & Transportation Builders Association said 37% of New York State's 17,462 bridges are structurally deficient or functionally obsolete. The American Society of Civil Engineers assessed bridges' condition as a D+ in 2015. NYSDOT ratings of bridges' conditions showed that almost half, 156 of 333, had a condition rating of 5 or under, indicating they needed repairs, many critically.

The wide breadth of infrastructure needs makes it difficult to bring us back to a "state of good repair." The DOT told Pattern: "Of course, the large inventory of roads and bridges in the region means our funding requirements can't always be met to address every need or potential improvement to the system. We still have many bridges and roadways that are in need of rehabilitation, replacement or upgrades to meet the needs of current traffic volumes and usage, but, if the trend to focus (dollars) on infrastructure continues, it can only benefit NYSDOT and the traveling public throughout the region, state and country."

NYSDOT also told Pattern For Progress that it urges continued focus and finances for infrastructure needs. "Maintenance work and capital improvements continue to keep the highways and bridges safe, but the condition of the nation's infrastructure and the backlog of infrastructure needs that need to be addressed have been well documented," it said. "Additional funding would allow the nation to address the unmet infrastructure needs, which would extend the service life of the infrastructure and improve the functionality of the system."

Dollars are indeed being put toward critical work. In 2016, the budget allocated \$22 billion over five years to improve state roads and bridges. The 2017-2018 budget raises that amount to \$27 billion to preserve and upgrade roads, bridges and other vital transportation infrastructure throughout the State. It is the largest transportation plan ever enacted in New York State.

WATER/SEWER

One example of the critical need to protect water infrastructure is demonstrated by the ongoing situation in the City of Newburgh, where residents, through their tap water, may have been exposed to perfluorooctane sulfonate, a chemical linked to cancer. Blood tests were offered to the city's 28,000 residents after the chemical -- used for years in firefighting foam at the nearby military air base -- was found in 2016 in the city's drinking-water reservoir at levels exceeding federal guidelines. Results showed levels of the chemical's presence were three times the national average.

That's just one example of the larger need to upgrade infrastructure. In October 2016, Hudson Valley conservation and business organizations called on New York State lawmakers to increase funding to pay for clean water and wastewater infrastructure improvements. The organizations, including Pattern For Progress, endorsed a report by The Construction Industry Council of Westchester & Hudson Valley, Inc., and the Construction Advancement Institute of Westchester & Mid-Hudson Region, Inc. The report identified nearly \$1 billion in public-works projects needed to control pollution and protect drinking water in the region.

The Hudson Valley's situation is not unique.

The federal Environmental Protection Agency's 2012 Clean Watersheds Needs Survey reported that New York State needed \$31.4 billion to replace, repair and rehabilitate wastewater infrastructure. That's \$2 billion more from a version of that report just four years earlier -- showing the accelerated cost of delaying improvements. The American Society of Civil Engineers' 2015 grade of wastewater systems in New York State was graded as a D.

Water-improvement needs statewide far outweigh dollars available.

The New York Environmental Facilities Corporation's 2017 Intended Use Plan "anticipates that the demand for financing will continue to exceed the amount of financial assistance that EFC can provide each year." It has identified clean-water infrastructure projects requiring over \$3 billion. "EFC anticipates that it will be able to provide zero-percent interest rate or low-cost financing for approximately \$830 million of projects costs, which comprises approximately 25% of the identified demand."

In Governor Cuomo's State of State address Jan. 10, 2017 at SUNY Purchase, he proposed spending \$2 billion over five years for water infrastructure and safety. The final state budget, approved April 7, included \$2.5 billion for the Clean Water Infrastructure Act, designed to protect public health, safeguard the environment, and preserve the state's water resources. These funds will help local governments address water emergencies, pay for local infrastructure construction projects, underwrite land acquisition for source - water protection, and investigate and mitigate emerging contaminants in drinking water.

This commitment of dollars is important. Over the next 20 years, the governor said, New York State will face the nation's third-largest need for drinking-water infrastructure investment at \$22 billion, and the

nation's largest need for wastewater-infrastructure investment at \$31.4 billion. This \$2.5 billion investment will improve municipal-drinking water systems via improved filtration; upgrading distribution and treatment systems, including replacing lines that have lead; connecting contaminated private wells to public systems; improving municipal wastewater-treatment systems with newer technology and additional capacity; protecting drinking water at its source by conserving open space and building green infrastructure to capture runoff and filter contaminants; and increasing the state Superfund to expedite the cleanup of hazardous waste that may impact sources of drinking water.

The 2015-2016 state budget provided \$200 million in grants to be doled out over the three next budget years. Communities were invited to apply for grants to fund wastewater and drinking-water pipeline upgrades.

In December 2015, Governor Cuomo announced \$75 million in grants to support 45 water and wastewater projects, part of a \$440 million infrastructure initiative. This included \$8,904,907 in grants as well as \$20,601,827 in loans for Hudson Valley municipalities.

Construction News, an industry publication, reported in summer 2016 that the state had invested \$9 billion in water and wastewater programs since 2011.

Overall, the fallout has been clear. The efforts to address New York's infrastructure must continue.

THE NATIONAL PERSPECTIVE

The Hudson Valley's issues concerning infrastructure are felt nationally. There is infrastructure deterioration and a lack of dollars to address it across the 50 states. The Army Corps of Engineers' 2017 assessment of the nation's infrastructure is D+, barely a passing grade.

The price to bring national infrastructure to a state of good repair by 2020 is \$3.6 trillion, according to the American Society of Civil Engineers. That level far outpaces current federal investments. The Federal Highway Administration estimated an annual investment of \$20.5 billion is needed over the next 16 years to repair and replace bridges. Rusting alone has rendered 15 percent of the country's bridges structurally deficient, according to the National Association of Corrosion Engineers.

Further, The American Water Works Association reported that the 237,600 water-line breaks that occur each year in the United States cost public-water utilities \$2.8 billion annually to address. Aging, leaky pipes lose 7 billion gallons each day from our water systems, according to the American Society of Civil Engineers. The bill for water-infrastructure modernization is \$600 billion alone in the next 20 years, The New York Times reported Dec. 24, 2016.

This graphic, based on ASCE data, illustrates the funding gap, in billions of dollars, that would have to be closed to bring infrastructure to a state of good repair. The ASCE uses a definition of infrastructure far broader than the one used in this report. The overall estimates remain the same.

Cumulative Infrastructure Needs By System Based On Current Trends, Extended to 2025

all values in constant billions of 2015 dollars

2016-2025 (10 years)			
Infrastructure Systems	Total Needs	Estimated Funding	Funding Gap
Surface Transportation ¹	\$2,042	\$941	\$1,101
Water/Wastewater Infrastructure ¹	\$150	\$45	\$105
Electricity ¹	\$934	\$757	\$177
Airports ¹	\$157	\$115	\$42
Inland Waterways & Marine Ports ¹	\$37	\$22	\$15
Dams ²	\$45	\$5.6	\$39.4
Hazardous & Solid Waste ³	\$7	\$4	\$3
Levees ⁴	\$80	\$10	\$70
Public Parks & Recreation ⁵	\$114.4	\$12.1	\$102.3
Rail ⁶	\$154.1	\$124.7	\$29.4
Schools ⁷	\$870	\$490	\$380
TOTALS	\$4,590	\$2,526	\$2,064

¹Data taken from ASCE's Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future (2016).

²Total needs are federal and non-federal high-hazard dams.

³Funding only includes publicly funded remediation, not funds from private sector.

⁴Total needs number based on discussions with the National Committee on Levee Safety.

⁵Does not include backlog and estimated spending for U.S. Army Corps of Engineers and city parks.

⁶Needs and funding estimates based on market projections and current investment trends.

⁷Data from State of Our Schools: America's K-12 Facilities (2016). 21st Century School Fund Inc., U.S. Green Building Council, Inc., and the National Council on School Facilities.

*Numbers may not add up due to rounding

Map reprint courtesy Construction Industry Council of Westchester & Hudson Valley, Inc.

Moreover, national infrastructure investment, as a percentage of Gross Domestic Product, has decreased 50% over the last 60 years, according to the United States Bureau of Economic Analysis. Between 2008 and 2013, the United States spent 2.4% of its annual GDP on infrastructure, according to Statista, Inc., a statistics service for businesses and academic institutions. That level of spending was only 15th globally, Statista reported. No. 1 was China, where it was 8.8%. India's expenditure was 5.2%, placing it third; Australia's 4.7% came in as fourth-most; and Canada was at 3.5%, in 10th place. As public assets age across the United States, shrinking investment in infrastructure will leave the nation with an older, less-efficient foundation for economic growth. The percent of investment shows how the United States prioritizes infrastructure compared to other nations. The United States' investment is shrinking, as the chart below indicates.

Government Gross Investment As A Share of Gross Domestic Product In the United States



That directly affects the nation's health and economic well-being. Inadequate and failing infrastructure reduces the likelihood of economic growth and business expansion. Businesses will have difficulties operating or expanding in areas where ports, railways and highways, to name just a few components, are insufficiently prepared.

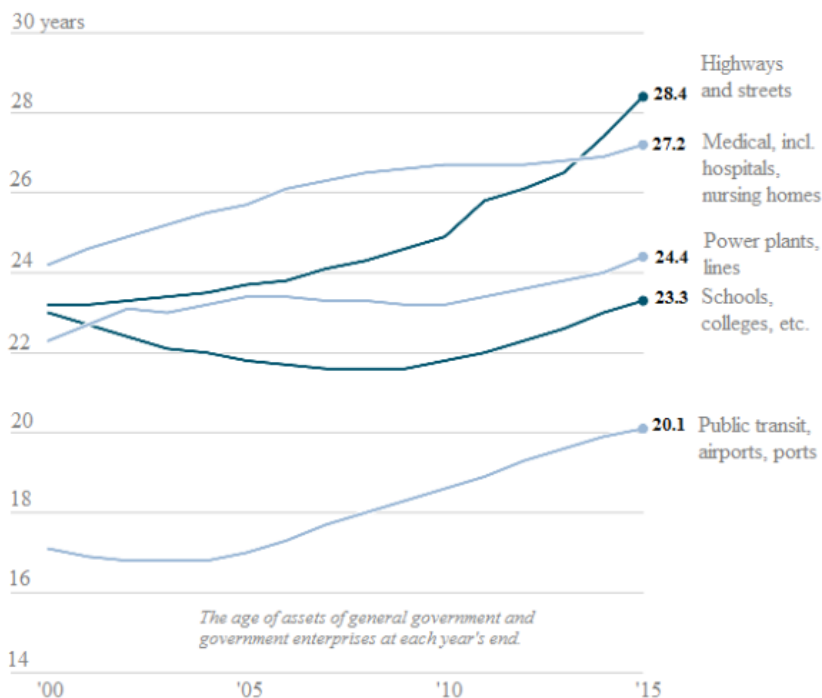
Factors other than funding can delay projects' start or completion. Regulatory reviews of projects, while a requirement of law and designed to safeguard a community, sometimes turn into a long, costly process. Laws relevant to project review include the 1970 National Environmental Policy Act, National Historic Preservation Act of 1966 and the Endangered Species Act of 1973. In addition, lawsuits filed by residents seeking answers or demanding additional oversight of a project can slow the review process. For instance, California's transportation department announced a project in the 1960s to extend a Los Angeles County freeway. Environmental reviews and neighbors' legal fights are ongoing -- and the project still is not complete. Though this may be an aberration, it shows the potential for long-term court disputes regarding aspects of infrastructure and to find a more expeditious approval process.

And then there is the "people factor." Deteriorating roads and bridges mean increased congestion. There are more costs. More time is lost. More people simply sit in traffic longer. Commuters are delayed in getting to work. Truckers are impacted in their ability to deliver goods.

Deteriorating water and sewer systems affect health, quality of life and the value of homes and neighborhoods, let alone the number of potential construction jobs from engaging in needed repairs.

The chart below demonstrates that the average age of infrastructure is increasing. The potential for damage and increased cost of repairs grows each year we do not reverse this trend.

Average Age of Infrastructure



It's why the issue of infrastructure took the national stage during what was one of the most contentious presidential races in history. Despite their vast differences, Hillary Clinton and Donald Trump agreed upon the critical need to rebuild the nation's infrastructure.

Their strategies, not surprisingly, differed. Candidate Trump pledged to invest \$1 trillion into national infrastructure. Candidate Clinton promised an injection of \$275 billion over five years.

Since Donald Trump's election as president, his administration has compiled a list of 50 top infrastructure projects, totaling \$137.5 billion, according to The Kansas City Star. The New York transportation-related presence on the list included \$14.2 billion for phases of the Second Avenue Subway; \$12 billion for the Gateway railroad project (serving New York City, but most work would be in New Jersey); and \$700 million for reconstruction of the Peace Bridge in the Buffalo area.

The president also has discussed a plan that would cost \$550 billion. Just days after taking office, he signed an executive order to streamline the environmental review process for “high-priority” infrastructure projects. The move, The Detroit News reported, allows state governors or department heads to request high-priority status for any infrastructure project, directing federal officials to then expedite environmental reviews for those projects.

Meanwhile, Capitol Hill Democrats proposed their own \$1 trillion plan, which would “invest federal capital to leverage private investment.” Bridges, schools and housing would benefit. About \$100 billion would go to “America’s Main Streets” and create 1.3 million jobs by focusing on cities, towns and rural communities. Results would include “smarter” downtowns due to better transportation technology, congestion reduction and improved safety and grade crossings. Housing would benefit as well, receiving lead remediation and blight removal. Another \$10 billion would be seed money for a new infrastructure finance entity that would “unlock pools of capital to provide low-cost loans, loan guarantees” and focus on transportation, energy and water infrastructure, the Democrats’ proposal said.

There have been previous large-scale efforts to invest in infrastructure. From the Works Progress Administration during the Great Recession to The American Recovery and Reinvestment Act (ARRA), created after the 2008 recession, infrastructure funds were made available to both stimulate the economy and address badly needed repairs. Unfortunately, ARRA fell far short of addressing the vast needs. One key detriment was a lack of “ready to go” projects. Pattern for Progress recognizes that need -- and this report hones in on how to align visions and projects that are ready for quick action. Please see the section labeled “Key Recommendations To Support Opportunity Areas and Other Municipalities in Their Efforts to Improve Infrastructure,” starting on page 18.

Unfortunately, the public sometimes does not appreciate the importance of solid infrastructure until a calamity occurs. A January 2017 nationwide poll by Reuters found that 51 percent of respondents did not want a higher tax bill to fund repairs, and 56 percent said they do not want the government to borrow money to pay for infrastructure. Whether the issue is a priority with the general public or not, the concerns do not dissipate. The poll reinforces the theory on public support: Until it is a crisis, it can wait.

Beyond the public, the attitude of “we can put it off” has until recently been prevalent among elected officials. There simply is nothing exciting about cutting the ribbon on a new sewer, or infrastructure to protect water. For decades, deferred maintenance was the preferred approach. How long can we extend the life of our communities’ infrastructure? As we move from not merely “it is getting old” to publicly watching numerous crises, spending on infrastructure is gaining in popularity.

THIS REPORT'S METHODOLOGY

This report provides an in-depth look at seven economically distressed valley communities identified as “Opportunity Areas” by the Regional Economic Development Council. The complete set of Opportunity Areas were selected by the REDC as a result of exhibiting at least one of the following criteria:

- An unemployment rate that exceeds the region’s rate by 25%
- A poverty rate above the county or 20% of national standards
- A homeowner rate less than 60%
- A subsidized school-lunch rate higher than 35%
- An income level less than 80% of the county’s median income (based on the five-year American Community Survey)
- A commercial vacancy rate over 15% of the designated area.

Brewster, Monticello, Kingston, Mount Vernon, Newburgh, Peekskill and Poughkeepsie were then selected for inclusion by Pattern in an effort to ensure they were dispersed throughout the territory covered by the REDC. Also, due to their criteria for the selection of an Opportunity Area, Pattern sought to understand the community's capacity to address its own infrastructure needs.

As part of this research, Pattern created infrastructure snapshots for each Opportunity Area. Pattern relied on:

- An examination of the built environment
- Budget data from 2010 to 2015
- General concerns as expressed by each community
- Barriers to maintenance and expansion
- Community "wish lists"
- The federal Environmental Protection Agency's Five-Year Needs Survey
- Funding recommendations.

Major NYSDOT projects for each community are listed under the Infrastructure and Community Development summary. Each profile includes a summation and comparison where applicable. This allowed Pattern to identify trends, provide recommendations and emphasize best practices. However, given the lack of staff in these communities, Pattern was not always able to obtain a complete set of data. Pattern attempted to supplement information by contacting each county's planning department. But the county planning departments did not always have the staff to drill down to the needs of each of their municipalities.

This report strongly advocates improving and reinvesting in infrastructure. It encourages long-term planning, examining funding mechanisms, maximizing shared services, consolidation to reduce the cost of infrastructure improvements, increasing use of technology, encouraging public-private partnerships and supporting growth and development in the Opportunity Areas throughout the region. The long-term impact of sprawl has never become so obvious as it did through the research for this report.

“OPPORTUNITY AREA” SNAPSHOTS

Pattern surveyed seven of 10 Opportunity Areas, and all seven responded. Below are summaries of Community Infrastructure Snapshots. **The full summaries can be found in Appendix D starting on page 62.**



BREWSTER: Trains and commuters key for growth

Water and sewer upgrades, now underway, are setting the stage for new residential units, retail and office space and parking adjacent to the heavily used train station. Recently, the village announced and credited Pattern for being among the advisors helping to advance a new vision for the downtown, which ultimately led to a \$2 million Consolidated Funding Application award to fund a significant Transit-Oriented Development (TOD) project. It now seeks \$10 million to \$20 million in infrastructure costs to support the initiative. The project would transform the Village of Brewster. Securing the funding for the necessary infrastructure will be a challenge.



KINGSTON: History, waterfront are springboards for future

It was once New York's capital. The city is now enjoying a renaissance due to new investment -- restaurants, shops, attractions and nightlife, especially along its historic waterfront. The city's waterfront-development plan is long overdue for an update and will need to incorporate the recent renaissance. The lighthouse is a tourist attraction that should be designated a historic landmark. Infrastructure to support these efforts is critical.



MONTICELLO: Water needs, population variations strain budgets

The small village of Monticello once thrived as part of The Catskills, America's vacationland. Now, Monticello -- with significantly reduced revenues and ever-growing needs -- requires help to rebuild its water systems, roads and ability to consistently serve residents. Concerns grow during the summer when Monticello's population vastly increases. The village government raised concerns about its capacity to plan and ability to obtain grants and loans to repair, replace and upgrade the infrastructure. Ideas for rehabilitating Broadway abound and the advent of a new casino nearby should help.



MOUNT VERNON: Many needs and finding money to fix them

The municipal leadership in the City of Mount Vernon has an optimistic vision for its future. The city understands the demands for additional housing, commercial and retail space; however, leaders also recognize the foundation to support the need is based on infrastructure. Like many urban centers, Mount Vernon requires substantial upgrades of the water and sewer systems and improvements in the surface transportation system. The city is working on this vision by creating a methodical system to obtain financing and synchronizing efforts internally, while simultaneously ensuring safety for residents and businesses.



CITY OF NEWBURGH: Many steps underway, but many concerns, too

The city along the Hudson River is facing significant water-quality issues and major surface-transportation challenges. Newburgh has fallen victim to severely declining revenues, suburban flight, real and perceived concerns about crime and a deteriorating downtown that once was its pride and joy -- and a magnet for visitors. The redevelopment of the waterfront represents positive momentum and needs to continue, expand and connect to the new investment and energy of lower Broadway, SUNY Orange and the Liberty Street Corridor. Methodical planning followed by additional investments through the creation of public and private partnerships investment are critical to restoring the city. Pattern's Center for Housing Solutions and Urban Initiatives is playing a key role in coordinating and partnering with planning staff, businesses and nonprofits to establish a Creative Neighborhood. The neighborhood seeks to attract and retain residents and businesses in the most challenged areas of the city. It seeks to also bridge connectivity with the thriving waterfront.



CITY OF PEEKSKILL: History sets the stage for the future

A destination for commuters who swarm into the Metro-North train station, Peekskill has challenges serving its residents and the business community. The city's water- and sewer-system infrastructure is in desperate need of major upgrades. The roads are in poor condition and there is a high demand for additional parking. Peekskill has great amenities and a strong foundation to build upon, including the Metro-North train station, an artists' district and a waterfront ripe for additional development. The city's Main Street has already attracted new investment with additional development on the horizon.



CITY OF POUGHKEEPSIE: Problems, potential and a vision for moving forward

Bursts of development from new restaurants to the presence of the popular tourist destination the Walkway Over the Hudson have Poughkeepsie primed for continued rebirth. The massive budget deficit, ongoing water-safety issues and perceptions of danger are all major concerns as the city looks to improve.

A new mayor with extensive legislative experience and ability to envision a future, along with a firm strategic plan, hold promise. Rethinking its transportation network is critical. Recent infrastructure grants will help.

Please see the detailed profiles in Appendix D starting on page 62. Also, Pattern currently meets with the mayors of three of these municipalities -- Kingston, Poughkeepsie and Newburgh -- on a regular basis, where issues such as infrastructure are discussed.

KEY RECOMMENDATIONS TO SUPPORT OPPORTUNITY AREAS AND OTHER MUNICIPALITIES IN THEIR EFFORTS TO IMPROVE INFRASTRUCTURE

Summaries are listed here; each community snapshot also offers suggestions for the Opportunity Areas. Given the unclear direction of the new federal government, Pattern For Progress highly recommends that all levels of government in New York State work together to achieve the goals in this report. With the recent approval of the state budget, one of infrastructure's building blocks is now in place.

KEY RECOMMENDATIONS: OPPORTUNITY AREAS

- 1. Public/private collaboration to manage municipal systems:** This relieves governments from substantial maintenance and ownership costs and generates revenues from sales of infrastructure such as water systems. Communities that privatize must consider costs and fees. An example: A Quebec pension-management firm, Caisse de Depot et Placement du Quebec, signed a deal last year with the province of Quebec to plan, finance and manage two new rail projects, including transit links to Trudeau International Airport and across Montreal's Champlain Bridge. The firm's cost is \$3.8 billion US. Quebec's government is in debt and could not have funded these efforts on its own, which led to the public/private partnership, according to Strategy & Business magazine.
- 2. Capacity-building grants:** Grants should be made available to assist with capacity building to address infrastructure needs. From grant writing to construction through maintenance, three-year "capacity grants" should be provided to designated Opportunity Areas.
- 3. Infrastructure punch list:** Meetings with infrastructure consultants for all Opportunity Areas, not just the seven specified in this report, could create a "punch list" of ideas for state assistance. Pattern For Progress intends to create a Hudson Valley list in 2017.
- 4. Focus on shovel-ready efforts:** County officials and Opportunity Area leaders should together establish projects that are shovel-ready. Opportunity Areas often lack staffing capacity. Teaming with a county to assist with priority projects can help provide staffing resources and identify best practices.
- 5. Prioritization of grants:** Due to Opportunity Areas' severe needs, Pattern recommends that their infrastructure-related grant requests receive priority consideration from New York State. This could help these communities rebound faster.
- 6. Prioritize grants over loans:** Grants are always more attractive than loans simply due to the lack of need to repay money, even if this means the amount is either smaller or must be a combination of grants and loans. However, one-time funding infusions often will cover assorted costs at the start, but the municipality must assess how those costs are covered longer-term after the grant is exhausted.

7. **Consolidated Funding Application training:** Workshops would aid understanding of the process, offer best practices and encourage municipalities to apply. Pattern For Progress intends to lead such classes in the Hudson Valley in 2017.
8. **Grant writing:** Municipalities should evaluate opportunities to team up to establish grant-writing expertise. If multiple communities each contributed toward a shared cost, they could pay for an expert to focus on grant writing in the area of infrastructure -- and help multiple communities. There also may be grant opportunities to fund this innovative approach.
9. **Water-leak sensors:** The City of Middletown is replacing water meters for homes and businesses, and will transmit data hourly to provide information to the city about water usage. New meters will be more accurate, will allow people to see exactly how much water they're using and will save on manpower because city workers won't need to drive by homes and businesses to pick up radio signals. The meters also will take note of low-flow rates that typically indicate leaks and drips, enabling notification of the need for repairs that will save water. The town of Olds in Alberta, Canada, placed acoustic sensors in water pipes. The sensors analyzed sound patterns every day. The software detected new, evolving and pre-existing leaks. Software pinpointed repair locations. Over time, an expanding database of sensor information provided an assessment of the entire system. In six months, 21 leaks were repaired, saving \$177,336 in lost water. (<http://bit.ly/1pilhSb>)
10. **Green-energy efforts:** Two cities in Ulster County are part of efforts to make their communities more attractive while modernizing their infrastructure. In Ellenville, Ulster County has installed nine electric car charging stations at county facilities available for public use. The energy is created through natural means such as solar. The county's cost of the service — about \$500 a year — is minimal. The county will install six additional stations in 2017. Ulster County, whose government base is in Kingston, was the first county in the state to become net-carbon neutral, County Executive Michael Hein said. "We're the only county to get 100 percent of our electricity from renewable resources." Ulster buys nearly 19 million kilowatt hours of green electricity from sustainable sources annually through a combination of renewable energy certificates and utility green-power products.

KEY RECOMMENDATIONS: FINANCING

While these recommendations can assist projects throughout the Hudson Valley, we strongly urge the Opportunity Area communities that lack funding to consider alternative approaches.

1. **Federal tax credits and public-private partnerships:** The Trump Administration, which has repeatedly emphasized the importance of infrastructure care, is examining these techniques as an alternative to using federal spending to pay for infrastructure. These approaches face congressional consideration by Democrats proposing federal spending as the primary money source.

2. **The Design-Build delivery method:** To save money, consultants team with contractors to deliver detailed design plans and construct the project. The New York State Legislature has provided NYSDOT with a two-year window to use this technique for highway and bridge projects. The traditional Design-Bid-Build method is still the primary means of delivering projects, but Design-Build allows NYSDOT flexibility and to realize those cost savings.
3. **Accelerated bridge construction:** NYSDOT said this process reduces the time it takes to replace a bridge, saves money and cuts down on construction delays for motorists. This approach was used on Interstate 84 in Putnam County in 2014 (please see photo below). Replacement bridges over Dingle Ridge Road were constructed adjacent to the highway without impacting traffic. Then, with traffic diverted over separate weekends, each existing bridge was demolished and new bridges were slid into place, the DOT said. This technique is gaining national use, and in New York, has been at locations including the Van Wyck Expressway in Queens, the Belt Parkway in Brooklyn, and on the old Tappan Zee Bridge.



4. **Private-sector funding:** Since the recession, asset-management companies, including some private - equity firms and hedge funds, have been active investors in multiyear infrastructure development efforts, according to Business & Strategy magazine. J.P. Morgan, Allianz Global Investors and BlackRock are among asset managers pouring hundreds of millions of dollars into capital projects in places such as Canada and Africa. They reap their return from repayment of loans or revenue that the project might generate, such as tolls on a bridge.
5. **Tax Increment Financing (TIF) legislation:** TIFs are techniques to borrow money to subsidize construction, including infrastructure work. They use, as collateral, future revenue and gains in real-estate taxes and equity on an improved or completed project. TIFs are intended to subsidize infrastructure improvements, spur redevelopment of areas in difficult economic straits or new developments or construction projects. Dollars also can also be used for acquiring land, paying for planning expenses such as legal and engineering fees, demolishing and rehabbing buildings, cleaning up contaminated areas or funding job-training programs. It's important to ensure that the municipality is transparent with the public about its use of this financing technique; years may elapse between the original financing and full repayment. Municipalities must study the impact of repayment obligations and balance this financing approach vs. other bonding approaches to ensure it is indeed the best choice.

- 6. Fairly allocating state money:** Each region of the state deserves a fair share of allocated funds. Baselines should consider demographic information, usage volume, age of infrastructure and regional variation in wage and material costs.
- 7. Annual infrastructure reports:** To track the status of infrastructure over time, and help track repair and replacement considerations, municipalities should be required to provide an annual assessment of infrastructure conditions to the Office of the NYS Comptroller. The Comptroller's Office should then publish annual assessments. Municipalities, in return, would receive consideration for state or federal funds for their participation.
- 8. Innovation in bonding:** In 2014, Denver sold “mini bonds” to the public to raise money. With prices as low as \$500, the public bought \$12 million in bonds – giving residents an investment in their community and educating them about the importance of infrastructure. The money went to 319 infrastructure projects. Two types of bonds were sold: a 9-year bond with a 50% maturity rate to yield \$750 (4.26% return) and a 14-year bond with a 100% maturity rate to yield \$1,000 (4.8% return). Though the city is paying more interest on these mini-bonds than it would on traditional bonds, the goal was to involve residents – a move seen as a longer-term win for the city. New York City has done this as well. Massachusetts started an online ordering system that gives individual investors direct access to new bonds. New York State should continue to do bond referendums for component parts of infrastructure, but on a more regular basis.
- 9. Foreign-government investment in infrastructure:** While an opportunity for new revenue, a foreign government's potential investment in infrastructure may bring complexities with regulatory issues. For example, China’s government formed the China Investment Corp. to pursue overseas, including American, investment opportunities. Chairman Ding Xuedong said in a Reuters report: “There's not sufficient capital from the U.S. government or private sector. It has to rely on foreign investments” for infrastructure investment.
- 10. Sales tax revenue allocated to infrastructure:** Los Angeles County voters approved a half-cent sales-tax increase to pay for \$120 billion in transportation projects. Atlanta's mass-transit system will get \$2.5 billion over 40 years for a light-rail project. Raleigh, North Carolina voters backed \$1 billion for a transit system via a sales-tax allocation.
- 11. Income tax allocated to infrastructure:** An income-tax increase of .25 percent in Indianapolis would help pay for a transit hub. It was approved by nearly 60 percent of voters and now is being considered by the Indianapolis council. The revenue is considered a long-term solution for city transportation concerns and an important investment toward growing commerce. The tax is 25 cents for every \$100 earned and would pay for a 70 percent increase in bus service routes. The annual tax revenue from the strategy is \$56 million.
- 12. Congestion toll pricing:** This is a growing financing source. Such toll collection is used in San Diego and Washington, D.C.'s suburbs to give paying drivers access to lanes with less traffic. Stockholm and London charge motorists a fee to enter what had been clogged business districts. New York City has considered higher tolls for bridges into Manhattan during peak-traffic periods. This should be considered for Hudson River bridges only if the revenue funds bridge repairs.

- 13. Budgeting:** At all levels of government, an assessment of annual maintenance needs should be built into the budget so that dollars are available when needed. Removal or transfer of such funds should come with penalty unless that municipality is in dire financial need. This would avoid the practice of deferred maintenance.
- 14. Gas taxes:** The federal gas tax has remained stagnant at 18.4 cents per gallon since 1993. This major source of revenue could be fortified by increasing the per-gallon rate. On a statewide level, New Jersey increased its rate by 23 cents to 37.5 cents on Nov. 1, 2016. It was the first gas tax hike for the state since 1988. The previous rate of 14.5 cents per gallon had been the second-lowest in the nation after Alaska, according to the Tax Foundation. Pennsylvania, Michigan, Nebraska, Georgia, North Carolina, Indiana and Florida increased their gas tax at the start of 2017, while New York reduced its rate 0.8 cents per gallon when 2017 began. A potential increase in New York's rate may be considered as a funding source for infrastructure needs.

KEY RECOMMENDATIONS: PLANNING

There is deep value in managing time, dollars, needs and results. Systematic approaches, with both a short- and long-term view, are critical tools, particularly in an era where dollars are tight and needs are multifaceted.

- 1. Coordination among levels of government:** Small municipalities are advised to work with counties, and the state when necessary, to maintain long-term planning and budgeting. Access to such expertise can strengthen short- and long-term planning approaches. For example, NYSDEC's Clean Watershed Need Survey is conducted every four years and projects municipal needs for 20 years. This ties into the state Environmental Facilities Corporation's annual Intended Use Plan, which lists projects ready for financing. DEC also plans long-term for water-quality improvement projects such as disinfection and nutrient removal.
- 2. Conduct build-out analyses:** Understanding the amount and location of development that may ultimately occur provides a clear view for larger-scale planning. These analyses help put a project in the context of municipal planning and zoning regulations. They help frame implications on the tax base, traffic, school enrollment, park needs, sewage and water facilities, natural and historic resources, farmland and rural landscapes, and overall quality of life. We do ask the state to re-examine the mandatory percentages for "projected" growth as it does increase the cost of projects.
- 3. Five-year plans:** Development of such long-term vision would serve current and future user needs, improve economic growth and minimize socioeconomic disparities. Officials should understand that the plan is a map, and that variations in funding or other factors may alter the vision. Still, communities should be aware and work to meet their goals.
- 4. Early warning system:** Establishing an objective recordkeeping system regarding tracking conditions, repair schedules, replacement timeframes and projected costs will enable a municipality to effectively budget and seek expertise as needed. It also would, in theory, de-politicize repair and replacement needs. It would also highlight potential trouble spots. We urge consideration be given that, as part of annual reports to the NYS Comptroller, the Comptroller issue "infrastructure alerts" as it does for municipal finances.

5. **Not paving some roads:** Where *appropriate*, this saves money. Transportation agencies in at least 27 states have unpaved roads, according to the National Highway Cooperative Highway Research program. Montpelier, Vermont, a town of 7,760, reverted to dirt roads to reduce maintenance costs and eliminate the need for petroleum-based asphalt. With the use of road reclaimers (specialized construction vehicles that grind the existing asphalt and smooth out the road's surface), the dirt and gravel are secured with geotextile. That is a sturdy, porous fabric used to increase soil stability, prevent erosion and help with drainage. Unpaved roads can certainly create problems for vehicles, especially considering polluted sediment, runoff and dust. However, unpaved roads can be treated with a dust-taming mixture of calcium chloride, vegetable oils, animal fats and organic petroleum to reduce the impact. In small towns that face budgetary constraints, fixing pothole-ridden roads can be burdensome. Unpaving less-traveled roads can be a cost-effective tactic to free money to fund other infrastructure projects. Unpaving saved Montpelier \$120,000 in its 2009 budget of \$1.3 million for street building and repairs.
6. **Rolling, not removing snow:** There once was a time when snow was rolled, pressed and sanded, and not salted and plowed over until the blacktop showed. The result: Sometimes equally safe road conditions without the detrimental impact of salt upon the condition of blacktop, and the environmental runoff. This requires rolling the clocks back. But in states with unpaved roads, let alone those that are paved but seldom used, this old approach should be evaluated to determine if there is a compromise to motorist safety as well as a reduction in cost. There are paved roads that are in such poor condition, that consideration should be given to this overall approach to low-trafficked routes.

KEY RECOMMENDATIONS: COORDINATION

Shared services and planning: More municipalities sharing infrastructure services and related staffing, as well as frequently taking part in regional planning and coordination, could result in new revenue and savings. Governor Cuomo's 2017 State of the State address squarely targeted this potential. He directed county executives to lead municipalities through a process to identify areas to share services and save money. If nothing else, focus should be brought upon sharing/consolidation of infrastructure services beyond that which is already done today.

1. **Public-sector/private-sector coordination:** Regular communication among those responsible for urban infrastructure and those who offer consultation on construction and financing of infrastructure projects raises awareness of infrastructure needs. Participation in scheduled events such as mayoral forums, and updates regarding short- and long-term projects, are examples of ongoing models to continually share information. Pattern, for instance, strongly recommends the approach for improving the water quality and infrastructure employed in Westchester County along Long Island Sound. A partnership of contractors, union workers and environmental organizations banded together to expedite the critical infrastructure needs associated with improving water of the Sound.

2. **Bipartisan approaches:** Focusing on community needs and solutions in a bipartisan way is an essential tool in addressing infrastructure needs. The current polarized political environment creates obstacles that sometimes inhibit healthy, civil debate among those with differing viewpoints, even if both sides are deeply vested in the outcome of policy, projects or spending levels. The acute condition on infrastructure needs voices from all political perspectives to understand the larger goals of fortifying communities, encouraging business growth and attracting and retaining residents -- all of which can prosper when infrastructure is prioritized.
3. **Revenue generation:** The City of Middletown leveraged its infrastructure facilities to generate revenue from out-of-town sources to lessen the tax burden on taxpayers. The city signed an agreement with Competitive Power Ventures Holdings to purchase effluent from the new wastewater-treatment plant being constructed in Wawayanda. Middletown expects to generate \$500,000 annually once the plant is constructed. The Department of Public Works' Wastewater Treatment Plant has saved \$288,000 by accepting septic waste from outside the city. In addition, the city has an agreement with Port Jervis to share a Sewer Vac Truck, Sewer Cleaning Jet and underground inspection-camera system. The equipment was purchased using a state grant of approximately \$500,000 with a 20% local match. This agreement has saved both municipalities thousands of dollars. This "hub and spoke" helps finances while serving the infrastructure needs of surrounding communities. Middletown also has an agreement to provide up to 1 million gallons of water per day to Amy's Kitchen, a frozen-meal factory being constructed in Goshen. Together, this joint supply of infrastructure saves municipalities the cost of construction and creates significant revenues for the provider community.
4. **Technology efficiency:** Though NYSDOT staffing levels are lower than in the past, the department said project delivery and construction have not been affected. That is due to innovative project-development strategies, improvements in technology and the use of consultants that provide needed expertise. The state should share these approaches with local municipalities and offer grants to assist these municipalities that wish to employ these techniques.

KEY RECOMMENDATIONS: TECHNOLOGY

1. **Maximize software:** Deeper use of project-management software can yield savings and efficiency. NYSDOT's use of such computer programs enables designers to manage project schedules. It also allows regional and statewide managers to view and analyze capital-program priorities to support staffing and financial decision-making. If the cost is too high for smaller municipalities, that would become a great opportunity for shared services.
2. **Design efficiency:** Maximized use of Computer Aided Design (CAD) can offer extensive efficiencies that promise to become even better as technology evolves. Three-dimensional modeling software, for instance, enables designers of bridge abutments and piers to visualize potential conflicts with utilities and other objects in the right of way.

3. **GPS tools:** Implement more frequent use of Global Positioning System (GPS) technology. It is used by NYSDOT in surveying, asset-inventory collection, and in guiding construction equipment's use and movement.
4. **Drones:** Accelerating potential use of drones for aerial surveys and bridge inspections can be an efficient way to gauge conditions without time and safety investments from having crews climb the structures.
5. **Standardized reports:** Leveraging technology across different levels of government will aid coordination. NYSDEC plans to launch a pilot program in 2017 to work with 10 to 20 communities across New York State on developing a computerized template to assist each community in implementing an asset-management program. DEC also has been developing electronic reporting tools like NetDMR, electronic notices to announce projects, and electronic-reporting tools to acquire and track permitting and compliance information.
6. **Information access:** As software uses expand, digital platforms should take into account how to make information more publicly accessible to developers, municipal officials, consultants and the public.
7. **Traffic application:** Sitraffic SmartGuard is a web-based traffic-control center compatible with mobile devices, desktop computers and tablets. Created by Siemens, this app utilizes OpenStreetMap to provide an overview of the entire traffic system, displays locations of buses and emergency vehicles, and the status of traffic, parking and traffic lights in a list or on a map. Smaller communities, not just bigger ones, should invest in technology that can save money. Tyler, Texas (population 109,000) was experiencing growth downtown. But clogged traffic frustrated residents, and business owners suffering lost sales. Another Siemens traffic-control software product, ACS Lite Adaptive Control Solution, analyzed the congestion and coordinated traffic signals. Travel time is down by 22 percent; delays were cut in half. Savings in gas were about \$1.6 million and pollution was reduced because vehicles idled less. Businesses have seen more sales. (<http://sie.ag/2legOWV> or contact Siemens at (512) 837-8300.)
8. **Pavement application:** Total Pave software allows users to collect pavement conditions via smartphone technology. The Pavement Condition Index calculator determines the degree of “distress”. The International Roughness Index mobile app will determine the “roughness” as drivers pass by. The Sidewalk Liability Manager app documents sidewalk issues. All data can be shared through GIS, which can generate maps. It was first used in the City of Fredericton (population 50,000) in New Brunswick, Canada, in 2015. (TotalPave.com.)
9. **Grant-tracking program:** Developing a computerized system at the county level for monitoring the status of infrastructure grants can provide good coordination of efforts. It may be advantageous to offer greater shared services and coordination with smaller municipalities in return for additional funding.
10. **Mapping technology:** Such software is improving quickly. Expertise in this type of software can offer data on trends related to traffic, development and population shifts. The portability that such software offers encourages sharing among several municipalities. That can save money and provide a larger view of traffic that stretches, as traffic does, beyond municipal borders.

- 11. Digital coordination:** While traffic-signal coordination is not necessarily a new tool, it can tie together numerous digital solutions. Real-time analysis of traffic trends, and routing suggestions displayed on information signs, can aid use of high-traffic or bus-only lanes. It also can allow speed limits to be temporarily increased to aid traffic flow. The advent of technology provides other capabilities. All data can be communicated to drivers via cars' technology, social media, apps such as Waze and others. NYSDOT Region 8's Transportation Management Center in Hawthorne constantly monitors the region's transportation system, responding to incidents and taking action to minimize disruptions to travelers. It could be a hub for experimentation with this technology. Discussions should be taking place with car manufacturers to determine how packaging could be offered, and standardized and integrated into cars.
- 12. Connected cars:** The trend of more "connected cars" will grow. "Connected cars" refer to the presence of technology in a vehicle that can connect, via the Internet, to other vehicles, networks and services. These may include homes, offices or infrastructure, and can provide updates, in real time, on everything from severe weather to traffic backups to news bulletins or community alerts. Municipalities should have experts who understand how to maximize this technology. This expert, for instance, could help document traffic trends from collecting and analyzing data regarding precise counts of vehicles using particular roads or bridges, peak traffic times and shifts in commuting habits. Such estimates can then inform maintenance planning with more preciseness.
- 13. Water-management software:** Miami-Dade, Florida's parks department transformed its operations due to technology. It went from manually inspecting its pipelines to using IBM's Smarter Cities software to provide comprehensive management of a system that uses 360 million gallons a year. The software's immediate notifications of leaks and water-consumption rates provided more efficient use of repair crews, cut water usage 20 percent and saved \$860,000 per year. (<http://bit.ly/2kWJlJP>)
- 14. Drone inspections of sewer lines:** Floating drones use laser, sonar and high-definition photography to scan sewer pipes and provide reports on pipe condition. Potential blockages are currently being tested in Arlington, Texas. The Multi-Survey Inspection Profiler is manufactured by Redzone Robotics. Data will be compiled over time, helping frame repair schedules, costs and maintenance needs. (<http://bit.ly/2lPEd1p>)
- 15. Camera-truck monitoring:** In Mount Vernon, Indiana, a camera the size of a toy tank inspects city sewer lines. It provides a 360-degree view within a pipe. Live video is transmitted to employees at street level who perform visual inspections from the camera view. A recent leak 10 feet below the street surface was detected, giving early warning before a larger repair was needed. (<http://bit.ly/2kCnl9e>)

KEY RECOMMENDATIONS: LEGISLATION

- 1. Surface Transportation Bill:** Pattern believes it is important to encourage support for a five-year Surface Transportation Bill. Such an approach provides a longer-term strategy for improvements and can bring clarity to budgeting. President Obama signed such a bill into law, giving stability to funding expectations for municipalities. In an era of difficult budgeting on local levels, and an administration in Washington enacting change, a firm commitment can help attract and retain residents and businesses.
- 2. Infrastructure tax:** There is potential benefit in adopting the recommendation of City of Mount Vernon Mayor Richard Thomas, who called for a “local infrastructure tax,” similar to the New York State excise tax, of eight cents. Incremental approaches such as these offer sustained funding mechanisms. They do require clear communication to residents to reinforce the fee's need, value and long-term benefits. It is best to identify specific projects that would benefit, allowing the public to understand, and buy into, exactly how money will be spent.
- 3. Sales-tax allocation:** Legislation to consider sales-tax revenue for infrastructure needs, to complement money raised from toll collections, is recommended by the UCLA Institute of Transportation Studies. Toll collections, it says, extracts money from users. Sales taxes are a way to generate money from all who benefit, directly or indirectly, from the value of solid, reliable infrastructure.
- 4. Mileage fees:** Mileage fees, also known as mileage-based user fees, promise more stable revenue than fuel taxes. They also spread costs to users with greater precision. Paul Sorensen, associate director of the Transportation, Space and Technology Program at the RAND Corporation, in an article for Access magazine, suggests using GPS and wireless technology to track mileage. This, he says, would have the biggest users of roads pay the most. Less-frequent users would pay less. Tied to travel rather than fuel consumption, the revenue stream, he says, is immune to changes in vehicles' improving fuel economy or even fuel type. Mileage fees must still be increased periodically to account for inflation, but the increases wouldn't be as frequent or as large as with fuel taxes. New York City's planned DriveSmart initiative, Rand reports, envisions the deployment of sophisticated in-vehicle equipment that could be used to levy the fees. Trials are being done in places such as Washington state, Oregon and Minnesota. Concerns such as driver privacy and collection rates are being analyzed for solutions.

KEY RECOMMENDATIONS: IMPEDIMENTS

Pattern fully realizes that visions and priorities can be overtaken by unplanned circumstances or lack of resources. The list below is designed to arm municipal officials with caveats to consider.

- 1. Prioritize planning:** Staffing constraints limit the ability for smaller communities to establish long-term plans. However, long-term planning is a critically important tool and should be an ongoing priority. Managing infrastructure requires ongoing and long-term attention regarding scheduling of maintenance, costs, finding funding, navigating layers of government for requisite approvals, coordination and ensuring public notification. Effective prioritization and planning decrease the risk of surprise regarding emergency situations. Lack of planning complicates processes, results in delays, potentially increases costs and, for the public, can mean possibly dangerous roads and bridges, or unsafe water systems, that ordinarily would have been tended to.
- 2. Uniform definition of infrastructure:** Without a concise and consistent definition of infrastructure, it is difficult to promote funding for capital projects that may or may not be considered traditional infrastructure. A uniform understanding is important, as is the ability to separate categories and address each strategically.
- 3. Gas-tax future:** The federal gas tax has remained stagnant at 18.4 cents per gallon since 1993. It has not been adjusted for inflation but has been a major source of revenue for transportation projects since the passage of the Highway Trust Fund. However, the federal government has run an annual deficit since 1993; it has spent \$50 billion per year on transportation projects while receiving only \$34 billion from gas taxes. Municipalities should seek other funding sources to supplement money or projects paid for by the Highway Trust Fund, or, to ensure the gas tax as a future revenue source, be willing to support an increase in the per-gallon tax amount.
- 4. Population variations:** Seasonal populations in communities should be considered when anticipating the need for increased capacity for existing infrastructure systems. This should also play a role in funding projects.
- 5. Shifting tax base:** A decrease in the tax base and the resulting revenue loss pose a problem for smaller municipalities to fund large capital projects. Population shifts must be monitored, as well as numbers of local businesses, the migration patterns of residents and new trends in business types.
- 6. Resourcefulness in finding expertise:** If staffing and expertise must be reduced due to budget issues, find ways to obtain that expertise elsewhere. Otherwise, longer-term projects are at risk, endangering potential revenue and safety.
- 7. Technology access:** A lack of funding that prevents access to new technology can be a detriment over time. Smaller municipalities should creatively seek ways to access the technology to keep projects on track and to gain efficiencies.
- 8. Communication models:** Most county planning departments should be aware of smaller municipalities' efforts. Increased transparency could allow for more collaboration and shared services.

- 9. Federal review:** Submitting documented needs to the Environmental Protection Agency Five-Year Needs Survey is not mandated. Perhaps that warrants review. The information helps Congress, state legislatures, communities and others make informed investment decisions about clean-water infrastructure and pollution-control methods. Submissions also help municipalities stay in compliance with the Clean Water Act.
- 10. Problematic environmental reviews:** Inefficient permitting processes and environmental reviews create project delays and cost burdens. In an article by the Berkeley Political Review, report author Jeffrey Wirjo cited the Bayonne Bridge roadway project in New Jersey. He wrote that this project "had no significant environmental impact. Yet the government required what turned out to be a five-year, 20,000-page environmental assessment, only to be found after completion that the review was inadequate." (Source: <http://bit.ly/2oX0WpG>) Hudson Valley Pattern For Progress also has been advocating for efficiency in such reviews. NYSDEC announced draft modifications in January to the State Environmental Quality Review Act. The changes Pattern recommended (many of which were not included), and has worked on since 2009, can make New York State more business-friendly -- and speed up regulatory consideration of prospective projects without sacrificing meaningful environmental review. A comment period is now open on the proposals.

CONCLUSION

Hudson Valley Pattern For Progress hopes this information will be useful for municipal leaders and further our effort to discuss the importance of improving and advocating for our regional infrastructure, and identifying collaborative solutions to fortify it for the future.

APPENDIX A

2014

While the national debate over infrastructure spending and preparedness continues Pattern attempted to bring the discussion to a regional level. In 2014 Pattern held a conference on multiple infrastructure issues. Following are the highlights.

2014 Conference

INFRASTRUCTURE ISSUES:

Crumbling or Tumbling &
what can be done?



Monday, May 19 • 8 a.m. to 1:30 p.m. • Anthony's Pier 9-New Windsor

CONFERENCE AGENDA

8:30 Opening Remarks & Introduction

Larry Wolinsky, HV Pattern for Progress, Chairman
Jonathan Drapkin, HV Pattern for Progress, President

8:45 MORNING KEYNOTE

Hon. Sean Patrick Maloney
FEDERAL
INFRASTRUCTURE
RESOURCES
NYS Congressman



9:45 THE CRISIS WE ARE FACING

Pattern's Survey Results and What They Mean
March Gallagher, HV Pattern for Progress

10:00 Break

10:15 PLENARY SESSIONS

PLENARY SESSION 1
SHOW ME THE MONEY
Financing Public Infrastructure

Fred Testa - NYS Environmental Facilities Corporation
George Popp - U.S. Department of Agriculture
Pat Pomeroy - Hudson Valley Regional Council, EDA
Teno West, Pannone Lopes Devereaux & West
Dan Marsh, National Development Council

Moderator: *Joe Czajka*, HV Pattern for Progress

PLENARY SESSION 2

BRIDGE TO 2030
Planning for the Future

Graham Trelstad, AKRF
Kathy Kinsella, Town of Rhinebeck
Ann Singer, Office of NYS Comptroller
Stuart Mesinger, The Chazen Companies
Hon. Ed Kinowski, Town of Stillwater

Moderator: *Ron Hicks*, Dutchess County Planning

12:00 Lunch

12:30 LUNCHEON KEYNOTE

James R. Levine
Sr. Vice President & General
Counsel, NYS Environmental
Facilities Corporation



Photo: City of Newburgh

HUDSON VALLEY **PATTERN** *for* **PROGRESS**

2014 Conference Summary: Infrastructure Issues-Crumbling or Tumbling? What can be done?

Our 2014 infrastructure conference focused primarily on funding. Recommendations were provided to municipal officials, staff and engineering firms from state and federal agencies on grant programs and financing options, including no-interest or low-interest loans. The conference offered recommendations for municipalities in the Hudson Valley to prepare for future infrastructure needs. Local municipal officials and staff participated in question-and-answer discussions with expert panelists. Participants heard from funding agencies and municipal leaders who implemented effective strategies, insights and best practices. The conference had four sections:

Morning Keynote Federal Infrastructure Resources

Presented by Congressman Sean Patrick Maloney, 18th District

- Addressed the increasing need for federal action to assist in maintaining and upgrading national and regional infrastructure.
- Said infrastructure construction needed in the country by 2020 will cost roughly \$3.6 trillion, equivalent to 900 Tappan Zee Bridge projects (that project's cost: \$4 billion).

In addition to growing national and regional infrastructure concerns, Congressman Maloney spoke of several funding options that municipalities can utilize:

- Transportation Investment Generating Economic Recovery (TIGER) grant program. This highly competitive program supports innovative projects, including multi-modal and multi-jurisdictional projects, which are difficult to fund through traditional federal programs.
- The Transportation Infrastructure Finance and Innovation Act (TIFIA). This program provides credit assistance for qualified projects of regional and national significance. Many large-scale, surface transportation projects -- highway, transit, railroad, intermodal freight, and port access -- are eligible for assistance. Eligible applicants include state and local governments, transit agencies, railroad companies, special authorities, special districts and private entities.
- The Water Infrastructure Finance and Innovation Act (WIFIA). Similar to the TIFIA, this program provides assistance for qualified projects of regional and national significance related to water infrastructure. WIFIA provides low-interest financing for constructing water and wastewater infrastructure. Individual projects must be reasonably anticipated to cost no less than \$20 million.

The Crisis We Are Facing

*Presented by March Gallagher, former chief strategy officer,
Pattern for Progress*

- Provided 2014 results of a Pattern survey on the state of infrastructure in the Hudson Valley and its municipalities.
- The survey had a 53% response rate -- 126 out of 238 municipalities, allowing Pattern to gauge municipal sentiment on the condition of valley roads and bridges, water and sewer, cellular service and natural gas.
- Survey found the region's infrastructure requires upgrades, increased local planning and consistent maintenance.
- In 2014, the United States spent 2.6% of Gross Domestic Product (GDP) on infrastructure. In that same year, municipalities were struggling to finance infrastructure projects and remain within the New York State tax cap; these financial restrictions make it difficult to repair and replace outdated systems.
- New York State has the highest cost associated with bridges. Without the \$4 billion Tappan Zee Bridge project, New York State was still third in the nation for highest costs for bridge repair and replacement.
- Municipalities do not document their infrastructure needs using a digital platform; this makes it difficult to determine the exact location for development and underground infrastructure.

This presentation emphasized the importance of infrastructure investment and how to properly prepare for future developments and public demands. Moving forward, it is important that municipalities allocate funding properly based on needs assessment and documentation. Municipalities can establish long-term plans to address infrastructure needs by developing Capital Improvement Plans (CIP), which enable communities to set appropriate expectations for financing and completing infrastructure-related projects.

Show Me the Money

Moderator: Joe Czajka, Senior Vice President for Research, Development, and Community Planning, and Executive Director, Center for Housing Solutions and Urban Initiatives

Panelists: Fred Testa, Environmental Project Manager for NYS Environmental Facilities Corporation; George Popp, Area Specialist for the United States Department of Agriculture; Patricia Pomeroy, Executive Director for the Hudson Valley Regional Council; Teno West, Principal for Pannone Lopes Devereaux & West; Dan Marsh, Executive Vice President and President for the National Development Council.

This session discussed several funding options that municipalities can utilize:

- The Local Waterfront Revitalization Program (LWRP) is designed to provide technical assistance. It will match grants on a reimbursement basis to villages, towns, cities and counties along New York's coasts or designated inland waterways, to prepare or implement strategies for community and waterfront revitalization.
- The Appalachian Regional Commission (ARC) was established by Congress in 1965 to improve the economy and quality of life in Appalachia, which runs through part of New York's Southern Tier. The program provides financial and technical assistance to constituencies in the region to meet its unique issues, promote economic development and establish a framework for joint federal-state-local efforts toward these ends.
- The Clean Water State Revolving Fund (CWSRF) provides low-interest-rate financing to municipalities to construct water-quality protection projects such as sewers and wastewater-treatment facilities. A variety of publicly owned water-quality-improvement projects are eligible for financing. Projects include point-source projects such as wastewater-treatment facilities and nonpoint source projects, such as stormwater-management projects and landfill closures, as well as certain habitat restoration and protection projects in national estuary-program areas.
- The Drinking Water State Revolving Fund (DWSRF) provides a significant financial incentive for public and private water systems to finance drinking-water-infrastructure improvements (e.g. treatment plants, distribution mains, storage facilities, etc.). Similar to the Clean Water State Revolving Fund (CWSRF), the DWSRF provides market-rate financing, subsidized low-interest-rate financing and limited grants for construction of water-system projects.

Bridge to 2030, Planning for the Future

Moderator: *Ron Hicks, Assistant County Executive for Economic Development, Dutchess County*

Panelists: *Ed Kinowski of the Town of Stillwater; Kathy Kinsella of the Town of Rhinebeck; Stuart Mesinger from The Chazen Companies; Graham Trelstad from AKRF; Gabe Deyo from the Office of NYS Comptroller.*

- Collaborative discussion between municipal and private sector officials on personal experiences.
- Offered advice on how to effectively manage infrastructure in their communities.
- Unique dialogue between those responsible for urban infrastructure and those who offer consultation on the construction and financing of infrastructure projects.

Findings of the 2014 conference

- As infrastructure concerns continue to grow, municipalities will have to make a greater effort in prioritizing infrastructure needs to avoid future infrastructure breakdowns.
- Grants and loans exist for municipalities, but these programs are highly competitive, and municipalities will have to be proactive.
- As future demands continue to grow for infrastructure services, communities will need to establish long-term goals for addressing needs.

Pattern's 2014 infrastructure conference, *Infrastructure Issues: Crumbling or Tumbling? What Can Be Done?*, provided information regarding the importance of maintaining infrastructure in order to avoid costly replacements in the future. Major themes focused on funding at the federal level and the importance of making a greater effort to prioritize infrastructure needs as demand grows. This provided a basis for the discussion in Pattern's 2014 report, which focused on how municipalities can plan and invest in future infrastructure.

2014 Report Summary

Infrastructure Planning and Investment: A **W I D E N I N G** Gap



MAY 2014

HUDSON VALLEY

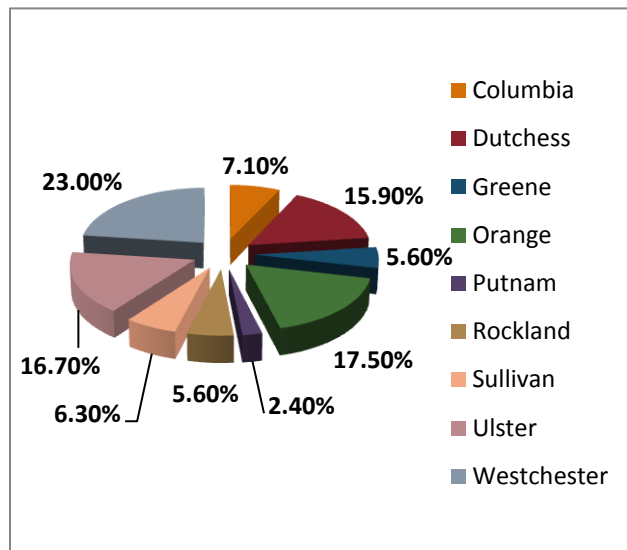
PATTERN FOR PROGRESS

Improving Hudson Valley Quality of Life Through Regional Solutions Since 1965

Report Summary: Infrastructure Planning and Investment: A Widening Gap

In 2014, Pattern surveyed 126 mayors, supervisors and municipal leaders from the nine-county region on the condition of infrastructure. The survey asked respondents to rate roads, bridges, public buildings, wastewater, water, sewer and storm-water systems. Additionally, the survey asked whether natural gas distribution, or broadband and cellular service availability, were an immediate concern. In addition to condition, the survey asked respondents for budget estimates for water, sewer, roads, bridges and public buildings, and the importance of securing local, state or federal funding for infrastructure needs. The survey also asked about the impact of Hurricane Irene and Sandy and Tropical Storm Lee had on each municipality, and if each municipality adopted a Hazard Mitigation Plan (HMP). Finally, the survey requested local status on implementing a Capital Improvement Plan (CIP), features of the plan, and if the municipality shares services or plans to share services with another municipality in the future. With a 52.9% response rate, Pattern gauged county-wide sentiments about water, sewer and transportation infrastructure and its management, while supplementing it with data from the Federal Highway Administration and the Federal Bureau of Economic Analysis.

Figure 1 - Survey Respondents By County



Source: Pattern for Progress, "Infrastructure Planning and Investment: A Widening Gap" survey results

Data from the Office of the New York State Comptroller indicated the relative share of infrastructure to total budget in cities dropped 41%. In towns, it decreased 16.9. In villages, it dropped 17%. In all cases, years surveyed were from 2002 to 2013. County budgets were the only area that saw an increase during this period -- 5.2%. From 2002 to 2012, municipal revenues also declined, meaning reduced investments in infrastructure, stagnant operations and maintenance expenditures. That led to the overall lack of investment in infrastructure.

Figure 2-Infrastructure Capital Expenditures

	Percent Change 2002-2012		
Hudson Valley Municipality Type	Total Infrastructure Capital Expenditures	Total Infrastructure Capital as % of Total Expenditures	Total Expenditures
Counties	56.1%	5.2%	48.4%
Cities	-13.4%	-41.2%	47.3%
Towns	24.0%	-16.9%	49.2%
Villages	23.3%	-17.0%	48.5%

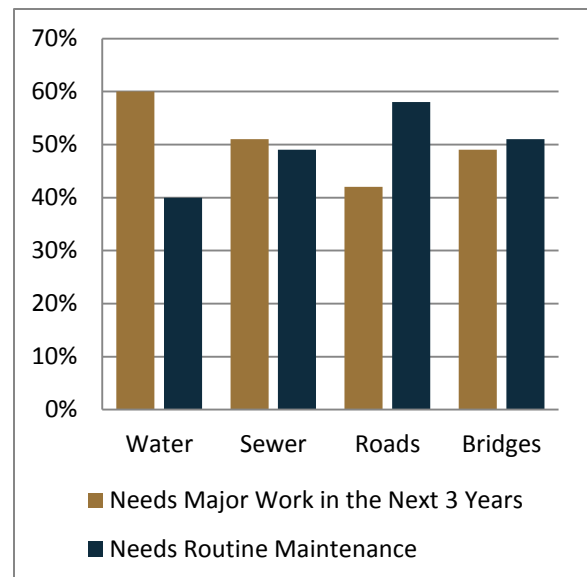
Source: Pattern for Progress, "Infrastructure Planning and Investment: A Widening Gap" survey results

Further, the restraint imposed by the tax cap was another notable concern of several survey respondents. One noted that it is “difficult to maintain infrastructure with the New York State imposed property tax levy cap,” while another suggested that “our capital investment is driven by the annual budget process and the 2% tax cap means we are doing very little capital projects.” In a similar fashion, another respondent stated that “capital projects [need] to be exempt from the tax-cap formula, as is the case with school districts” because “this has caused [municipalities] to bond a project... which might have been placed in the budget if not for the tax cap.” The limit that the tax cap places on municipalities is problematic because it creates reluctance to bond based on the possibility of future costs. The tax cap therefore can create an increase in debt service, making it difficult to make payments in addition to accrued interest.

Figure 3- Surveyed Leaders Rate Their Infrastructure

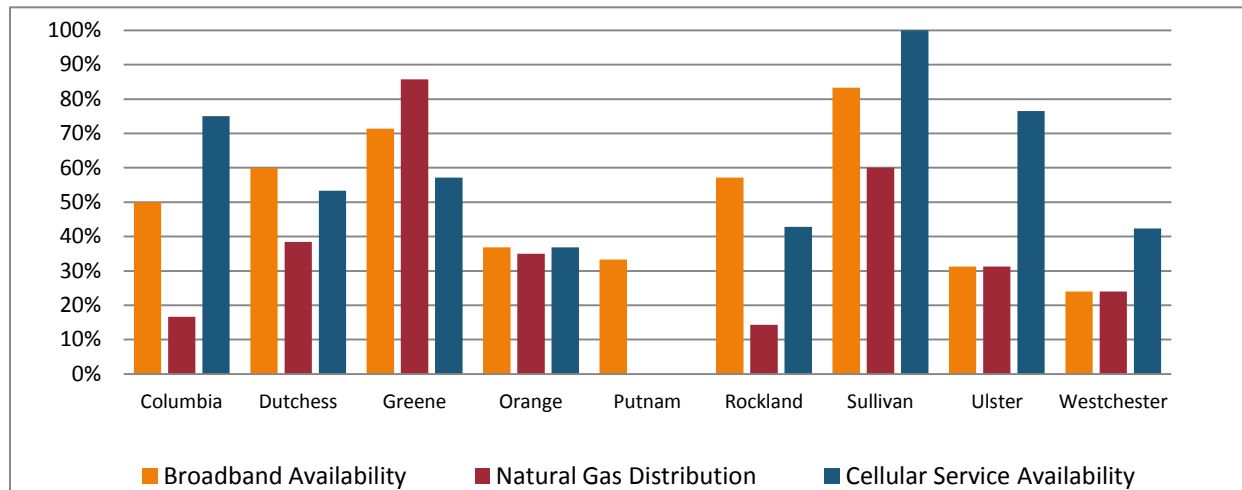
Some other notable findings from our report:

- Survey respondents lamented that capital expenditures count towards the municipal tax cap, unlike as with school districts.
- Hudson Valley cities, towns and villages spent substantially less of their budgets on infrastructure capital over the 10-year period from 2002 to 2012.
- 60% of respondents rated their water infrastructure as “needing work in the next three years” or “at risk of imminent failure”.
- 5-7% of municipal respondents have roads, bridges, water and sewer infrastructure at risk of imminent failure.
- 23% of respondents believe that they do not have sufficient water supply capacity to meet future demand.
- 13% of Hudson Valley’s bridges are deficient; 32% of Hudson Valley bridges are functionally obsolete.
- Town, village and city municipal leaders in the rural counties of Greene, Sullivan and Columbia expressed significant concern about cellular service, broadband availability and natural-gas distribution.
- Over the last three years, the region has seen \$39.2 million in infrastructure funding through the Regional Economic Development Council.
- A majority of the respondents (57%) do not have a Capital Improvement Plan; of the respondents who have a CIP, wastewater-treatment capital planning was the least common element of local capital-improvement plans (only 49% of respondents’ plans covered that topic).



Source: Pattern for Progress, “Infrastructure Planning and Investment: A Widening Gap” survey results

Figure 4-Other Infrastructure Concerns



Source: Pattern for Progress, "Infrastructure Planning and Investment: A Widening Gap" survey results

- When asked about the impact of Hurricane Irene and Sandy and Tropical Storm Lee, 81% experienced downed tree limbs, 78% had flooding, 70% had extended power outages and 56% saw damage to roads.
- An overwhelming majority of respondents (76.6%) have hazard-mitigation plans. Multiple communities noted they are part of multi-jurisdictional hazard mitigation plans.
- More than half of respondents (55%) said they are already collaborating with other local governments on infrastructure and related issues (47% are collaborating with county governments and 31% are collaborating with state agencies).

Based on the findings, Pattern concluded the report with recommendations for planning and financing infrastructure projects at the local and state level:

Figure 5 – Recommendations from 2014 Report

AT THE LOCAL MUNICIPAL GOVERNMENT LEVEL:	AT THE STATE POLICY LEVEL:
Asset Management as an Approach to Infrastructure - Municipalities must begin to take an asset-management approach to infrastructure. This includes creating an inventory of assets, assessing the life cycle of assets and prioritizing maintenance vs. major rehabilitation or replacement.	Design-Build Contracting - The Tappan Zee Bridge can serve as a model for design-build procurement, which allows design and construction teams to submit joint bids. But continued use of this tool will take state legislative change.
Institute Capital Project Planning and Budgeting - Hudson Valley communities need to prepare capital-improvement plans addressing roads, bridges and buildings, as well as water and sewer infrastructure. These plans will draw the connection between long-term strategies and annual budgets.	Tax Increment Financing (TIF) - Legislation to allow TIFs, which use future gains in real estate taxes to subsidize current infrastructure improvements, should be embraced in New York State. That would bring the state into alignment with the majority of states in the country.
Maintain Existing Infrastructure - Towns, villages and cities must work to maintain infrastructure by allocating capital-maintenance resources and articulating to taxpayers the long-term savings achieved through extending the life of assets.	Rewarding Maintenance of Assets - State funding for infrastructure should provide incentive for maintenance of existing assets by prioritizing funding for municipalities with capital-improvement plans.
Share Services and Embrace Regional Planning For Infrastructure - Larger organizations are able to leverage more resources toward asset management. Municipalities should look to share infrastructure services; the region should begin regional infrastructure planning.	
Use Private Capital Wisely - As municipalities seek additional resources that fall outside of the 2% tax cap, they should consider public/private partnerships. These agreements must ensure that privately developed infrastructure financially protects taxpayers.	

Source: Pattern for Progress, "Infrastructure Planning and Investment: A Widening Gap" survey results

APPENDIX B

2015

Pattern for Progress' 2015 infrastructure conference, *Let's Talk Infrastructure*, provided information for municipal officials and leaders on funding options. The major themes derived from the 2014 conference focused on funding at the federal level and provided a basis for the discussion in 2015. Our 2015 conference highlighted the importance of national goals and open communication between political and municipal officials. What follows is the highlights of those activities and is not a verbatim summary.

2015 Conference

LET'S TALK INFRASTRUCTURE

Monday May 18 • 8 a.m. to 1:30 p.m. • Anthony's Pier 9-New Windsor

PATTERN INFRASTRUCTURE CONFERENCE AGENDA

8:30 Opening Remarks & Introduction

Mike Quinn HV Pattern for Progress, Chairman
Jonathan Drapkin, HV Pattern for Progress, Pres.

8:40 Framing the Issues for the Day Ahead

Graham Trelstad, AKRF
March Gallagher, HV Pattern for Progress

9:00 FIRST PLENARY

Hon. Sean Maloney
Federal Infrastructure
Resources
U.S. Congressman, 18th District



10:00 SECOND PLENARY

Joan McDonald
Commissioner, NYSDOT



11:00 Break

11:10 PANEL SESSION

What's Working:

Clean Water & Drinking Water

Fran Dunwell, NYS DEC HR Estuary
Joseph Lanaro, The Chazen Companies
Adam Cummings, Barton & Loguidice
Hon. Matt Alexander, Village of Wappingers Falls
Hon. Jeanne Walsh, Town of Rosendale
Don Distant, United Water

Moderator: **David Church**, Orange County

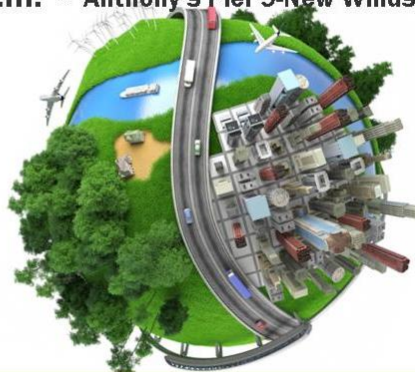
12:10 Lunch

12:30 LUNCHEON KEYNOTE

Thomas DiNapoli
NYS Comptroller



1:20 Wrap Up Discussion



Watch for These Events Happening Soon

Pattern's Quarterly Infrastructure Breakfast Series beginning this fall: The Benefits of Regionalizing: Water and Waste Water Infrastructure featuring Bridget Barclay and Joseph Lanaro

When: Tuesday—September 15, 2015, 8:30-10:00 am
Where: Pattern for Progress office, Newburgh, 12550

The series will continue in December, 2015 and March 2016 covering topics such as asset management for municipal structures and broadband.

Marketing Plans for Municipal Growth

When: Tuesday—June 9, 2015, 11:30 am -1:30 pm
Where: The Powelton Club, Newburgh, 12550

The 8th graduating class of Pattern for Progress Fellows will present their year long projects followed by a reaction panel of elected officials.

Downtown Turnaround:

Restoring the Promise of our Population Centers

When: Tuesday—June 23, 2015, 8:30 am -1:00 pm
Where: Rockland County Community College

Communities and municipal leaders from across the Hudson Valley are invited to talk about issues facing urban centers. Featuring keynote speaker Tom Murphy, Senior Fellow at the Urban Land Institute and former mayor of Pittsburgh from 1994 to 2006. During his time as mayor, Mr. Murphy oversaw the redevelopment of more than 1000 acres of blighted and abandoned property within the city and the creation of more than 25 miles of riverfront trails and green space. The event will also feature panels and experts on key urban issues such as housing and transportation.

2015 Conference Summary: Let's Talk Infrastructure

Pattern's second annual infrastructure conference, "Let's Talk Infrastructure," was May 18, 2015 at Anthony's Pier 9 in New Windsor.

Graham Trelstad, Director of Planning, AKRF, along with then-Pattern for Progress Chief Strategy Officer March Gallagher framed key topics: The most pressing issues facing the region: lack of infrastructure investment and the need for higher levels of maintenance. Gallagher asserted there is not enough money to address the infrastructure issues we see every day, due to reductions at all levels of government. This lack of investment can be dangerous and was an underpinning of the conference.

Keynote Speaker Congressman Sean Patrick Maloney, who serves on the House Transportation and Infrastructure Committee, provided recommendations from a federal perspective. Joan McDonald, commissioner of the New York State Department of Transportation, spoke on the importance of design-build policy in getting infrastructure projects done. Also, a panel of local municipal officials, engineering experts and water-resource specialists discussed water- and wastewater-infrastructure issues. Finally, New York State Comptroller Thomas DiNapoli, delivered the luncheon keynote on how government finances impacted infrastructure in New York State.

A summary of the statements made by the participants:

First Plenary Federal Infrastructure Resources

*Presented by Congressman
Sean Patrick Maloney, 18th District*

- Advocated for bipartisan, long-term solutions to help fix the nation's infrastructure.
- Stated that "the biggest failure of Washington today is not a lack of funding," but "a lack of imagination."
- That lack of imagination is the product of partisan politics and an ambiguous structure of priorities.
- Advocated for enhanced collaboration and establishing clear national goals.
- Suggested "value-added investments" in infrastructure should be among national priorities.
- Highlighted the importance of (governments and political parties at all levels) working together on the most volatile infrastructure issues nationally.



"Let's Talk Infrastructure" keynote: Congressman Sean Patrick Maloney

- Maloney and members of the Bipartisan Working Group (BWG), a 26-member organization dedicated to increasing inter-party collaboration, ended another stopgap extension for the Highway Trust Fund. The bill was set to expire July 31, but the BWG refused to vote for another short-term extension. Comparing this measure to the Medicare Sustainable Growth Rate (SGR) Doc Fix, Maloney insisted that our problem with infrastructure policy could also be solved by refusing another short-term solution (as was done with SGR).
- Would like to see a *capital budget* developed for the United States; establish a goal of spending 3-4% of Gross Domestic Product (GDP) on infrastructure for a 10-year period. He said investing more in infrastructure would create a new generation of wealth.
- One benefit of proposed initiatives is short-term job creation, but the bigger payoff is the investment in United States infrastructure.
- Plan to link repatriating corporate profits held overseas to investments in American infrastructure.
- Advocated for the use of more Public Private Partnerships (P3s), and called for the ability for states to access asset value they cannot access now.

LUNCHEON KEYNOTE

Presented by New York State Comptroller Thomas DiNapoli

The Comptroller explored not just the state of the region's infrastructure but how it is tied to the economy.

- Emphasized the region and the state need to work together to build a vibrant economy.
- Provided a description of the current state of New York infrastructure and several economic indicators.
- The state is in recovery mode, he said, but has a long way to go before we are a stable economy.
- 620,000 private-sector jobs had been created, but that 81% of those jobs were in New York City and Nassau and Suffolk County on Long Island.
- Pointing to the release of Pattern's 2015 infrastructure report, "Infrastructure Planning and Investment: A Widening Gap," DiNapoli pointed out that any amount of job creation is dependent on the maintenance and expansion of current infrastructure.
- We need safe roads and bridges, rail lines, as well as updated water and sewer, he said.
- Advocated for the other roads and bridges in the Hudson Valley, while acknowledging the importance of the new Tappan Zee Bridge.
- The United States Department of Transportation reported that one third of state highways are structurally deficient or functionally obsolete; that number will rise over the next 10 years.

- The above-mentioned setbacks restrain the efficiency of existing infrastructure, and create more costs in replacing or upgrading these systems.

The 2015 conference highlighted the importance of establishing a clear commitment to improving America's infrastructure as a way to support economic growth. Congressman Maloney used the construction of the Erie Canal to illustrate this commitment by referencing the impact that this project had on the country (that construction represented 1% of Gross Domestic Product). In addition to supporting the growth of the country, infrastructure investment would provide better access to markets, a better economy for the middle class, increase wealth creation, and allow citizens to get to and from work safely.

All speakers denounced the limited investment the country has in our aging infrastructure and use of short-term solutions to fix long-term problems. Congressman Maloney, Joan McDonald, the panelists and Thomas DiNapoli offered insightful advice for initiating more support for infrastructure investment at the federal and state level.

Findings of the 2015 conference

- Be more obstinate in the short-term to create long-term solutions.
- Encourage bipartisan support for multiple issues.
- Support a multiyear Surface Transportation Bill.
- Expand the use of private capital and Public Private Partnerships (P3s).
- Increase funding at the federal level (with new technologies and traditional revenue sources).
- Do not let short-term problems go unresolved; these problems will create longer-term crises.

After concluding our 2014 report, Pattern undertook a different approach in 2015 by focusing on three areas of immediate concern to the Hudson Valley. Though this report did not focus on sentiments of municipal leaders, Pattern addressed transportation infrastructure, fair-share allocation methods of funding, and an alternative way to display information.

2015 Report Summary

HUDSON VALLEY INFRASTRUCTURE: *IS IT SAFE? IS IT FAIR? IS IT INFORMED?*



RAIL SAFETY IN THE HUDSON VALLEY

EQUITABLE DISTRIBUTION OF TRANSPORTATION INVESTMENTS

WATER AND WASTEWATER: WHERE'S THE CAPACITY?

MAY 2015

HUDSON VALLEY **PATTERN** *for* **PROGRESS**

Report Summary: Hudson Valley Infrastructure: Is it Safe? Is it Fair? Is it Informed?

Rail safety in the Hudson Valley is important for both passenger rail and freight lines. Metro-North Railroad operates commuter rails on three routes east of the Hudson River, and Amtrak operates intercity train service on the Hudson and Harlem lines. As part of this comprehensive look at infrastructure, Pattern published another report, focusing on three key areas:

1. Rail safety
2. Fair-share allocation of state transportation resources
3. Capacity of regional water and sewer systems to handle development

Rail Safety

In 2015, Metro-North carried approximately 86.6 million passengers. With more people commuting to work on Metro-North, and more crude oil passing through the Hudson Valley each week, rail safety should be consistently monitored.

Some notable findings from Pattern's report:

- Crude oil transport by rail has increased tenfold from 1999-2013.
- In 2015, the Hudson Valley had seen 14 fatalities associated with rail accidents in the previous two years. That included worker and pedestrian accidents, a major derailment and a car/train collision¹.
- Between 15 and 30 trains carried at least 1 million gallons of North Dakota Bakken crude oil through the Hudson Valley weekly.
- Between 2012 and 2013, the East Coast saw a 76.7% increase in crude-oil transports.
- An audit conducted by the Office of the New York State Comptroller found that NYS' Department of Transportation does not monitor submission of railroad bridge self-inspection certifications, or have the appropriate resources to enable this function.

Fair-Share Allocation of State Transportation Resources

Region 8 (which covers all counties in Pattern's focus area, except Greene and Sullivan counties) fell short of its fair-share allocation from the state Department of Transportation by \$143 million over a two-year period. There are two methods used to determine fair-share allocation: proportionality and envy-free. A proportional allocation method provides an equal distribution to each participant. An envy-free allocation method attempts to provide participants with the money requested. However, the

¹ In 2016, there have been two major rail disasters. 1) In New Jersey, a commuter train crashed at Hoboken Terminal. 2) A Long Island Rail Road commuter train sideswiped a work train performing track maintenance, causing the commuter train to derail and injure 33 people.

DOT has not stated a clear allocation method, making it difficult to evaluate fairness. It is useful to evaluate the distribution of transportation funding between regions throughout the state because it would increase transparency and allow each region to evaluate for fairness. Pattern used state system mileage and the number of bridges maintained by the DOT to determine the distribution of funding. The results: The Hudson Valley received 14% of DOT assets. Therefore, if DOT adopted a proportional allocation system, Region 8 would have received an additional \$143.4M from 2013-2014 and 2014-2015. To promote more transparency for transportation infrastructure, and ensure each region receives a fair share of funding, Pattern offered the following recommendation:

- Establish a baseline for fair-share analysis and adjust for volume, density, age of infrastructure and regional variation in wage and material cost to provide each region with a fair share of state funds.

In addition to insufficient funding, bridges in Region 8 are older (statewide, only 3% of bridges are circa 2011 or later) and have a greater percentage of structurally deficient and functionally obsolete bridges classified by the United States Department of Transportation Federal Highway Administration National Bridge Inventory. According to a report published by Transportation for America, the average age of bridges in Region 8 is 52 years, the state average is 48 years. Bridges in Region 8 are in significantly poorer condition than bridges throughout New York State (with the exception of Greene County, where 6% of bridges have been replaced since Hurricane Irene), as seen in the following chart:

Figure 6-Hudson Valley State of Bridges

County	Total # of Bridges in County	# Structurally Deficient	% Structurally Deficient	# Functionally Obsolete	% Functionally Obsolete	Total # Deficient/ Obsolete	Total % Deficient/ Obsolete
Columbia	242	44	18%	57	24%	101	42%
Dutchess	336	45	13%	111	33%	156	46%
Greene	227	25	11%	48	21%	73	32%
Orange	471	63	13%	117	25%	180	38%
Putnam	104	10	10%	37	36%	47	45%
Rockland	243	20	8%	103	42%	123	51%
Ulster	384	67	17%	98	26%	165	43%
Westchester	767	47	6%	389	51%	436	57%
HV Totals	2,774	321	12%	960	35%	1,281	46%

Source: Federal Highway Administration National Bridge Inventory

Every county in the Hudson Valley, except Greene, has a higher percentage of bridges considered deficient than the statewide average.

Capacity of Regional Water and Sewer Systems to Handle Development

Improving wastewater and water resources are restricted by lack of funding. Upon reviewing the U.S. Environmental Protection Agency Clean Watershed Needs Survey of 2008 and 2011, some key findings include:

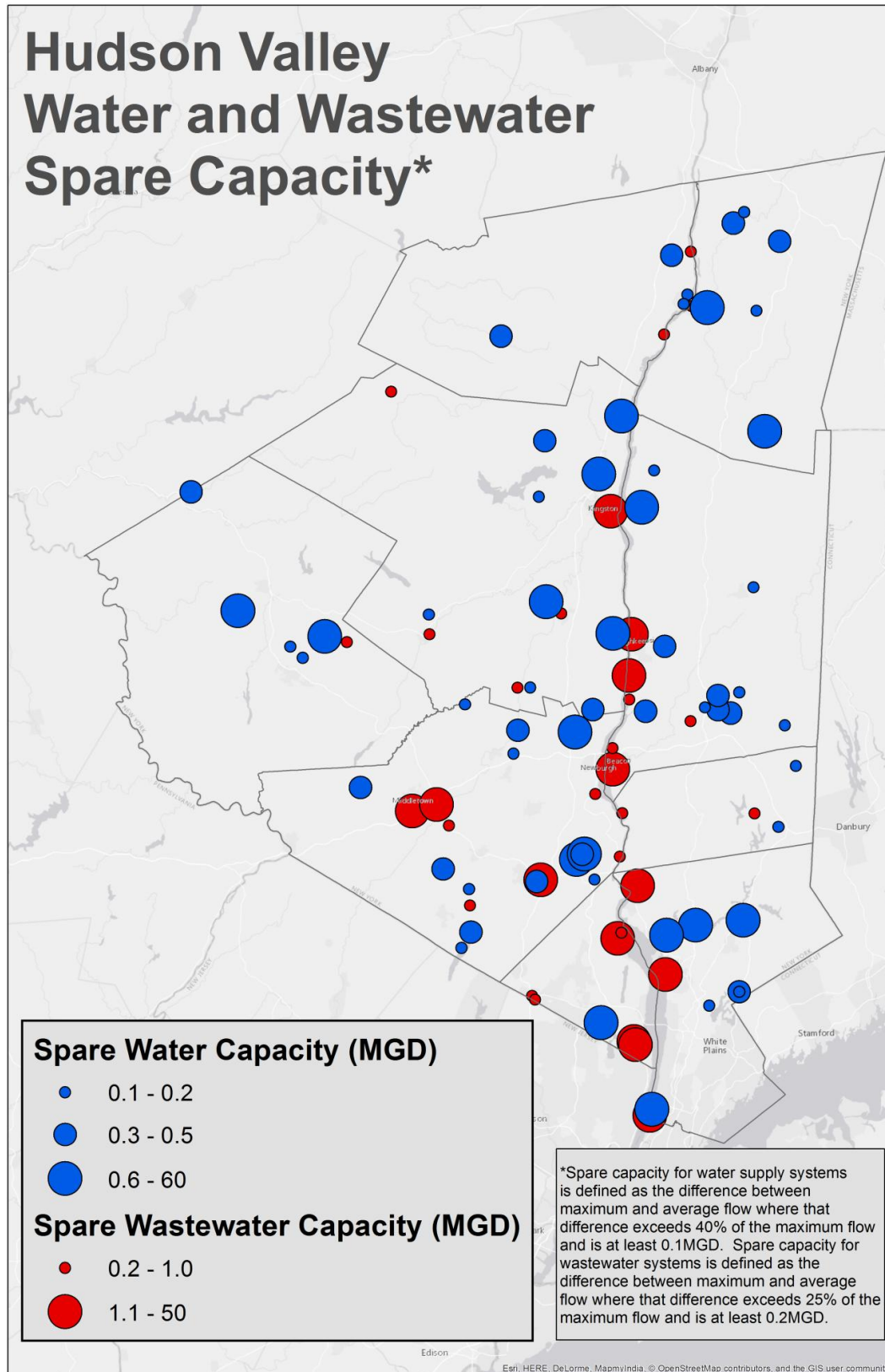
- The Drinking Water Needs Survey (2011) revealed New York State had capital needs that totaled over \$22B in water and wastewater infrastructure (only second to California).
- The latest Clean Water Needs Survey (2008) indicated that 57% of documented need in New York State was for secondary waste water treatment and advanced wastewater treatment capital improvement.

Pattern's final recommendation calls attention to these facts, and a solution for informing developmental decisions. Pattern recommends water and wastewater systems, their capacity (and spare capacity), as well as location, be made publicly available to municipal officials and economic-development officials through a comprehensive, user-friendly platform².

An example of this platform is an interactive map created by Pattern for Progress (see image below). This map allows its users to view spare water and spare wastewater capacity in the Hudson Valley. Using data from the Department of Environmental Conservation, GIS Clearinghouse for NYS Water Withdrawals and the State Pollution Discharge Elimination System records, this map was intended to be informative, and not determinative. However, this is the first step to increase transparency and ensure targeted development occurs in areas where infrastructure and spare capacity already exists and can therefore support it.

² Given recent water-safety issues in the City of Newburgh and elsewhere statewide, the capacity issue should be expanded to not simply be impacted by development, but by the age of the system or simply the need to avoid contamination.

Figure 6-Hudson Valley Water and Wastewater Spare Capacity *



APPENDIX C

2016

Pattern hosted its third annual infrastructure conference with an emphasis on grant funding and best practices. Every conference from 2014 through 2016 attracted more than 175 attendees and garnered press coverage from the Times Herald-Record and The Poughkeepsie Journal.

2016 Conference

THE WORLD OF INFRASTRUCTURE



Friday, May 20, 2016

8 a.m. to 1:30 p.m. Anthony's Pier 9-New Windsor

PATTERN INFRASTRUCTURE CONFERENCE AGENDA

8:30 Opening Remarks & Introduction

Mike Quinn HV Pattern for Progress, Chairman
Joe Czajka, HV Pattern for Progress, Senior Vice President

8:40 Framing the Issues for the Day Ahead

Graham Trelstad, AKRF

9:00 Morning Presentation

MAINTAINING the NATION'S LARGEST UNFILTERED WATER SUPPLY

NYC DEP Adam Bosch and *Sean McAndrew, P.E.*

A presentation on the Bypass Tunnel

A rare opportunity to see and hear about one of the region's largest infrastructure projects

10:00 PANEL SESSION

SHOW ME THE MONEY

Moderator: *Meghan Taylor*, *Empire State Development*

Panelists: *Lisa Vasilakos*, Department of State

Heather Clark, Environmental Facilities Corporation

Scott LaMountain, Office of Community Renewal

This panel will describe programs for funding infrastructure

11:00 Break

11:10 PANEL SESSION

PROBLEMS & SOLUTIONS : EXPERTS HELP OUT

Moderator: *Graham Trelstad*, AKRF

A unique dialogue between those responsible for urban infrastructure and those who consult on the construction and financing

Featuring:

Municipal Panelists: *Mayor Richard Thomas* - City of Mt. Vernon, *Jacob Tawil*, DPW

Commissioner - City of Middletown, *Jason Morris*, City Engineer - City of Newburgh

and *Chris Gent*, Commissioner of Public Works - City of Poughkeepsie

Industry Panelists: *Richard Straut* of Barton & Loguidice, *Chris Round* of The Chazen Companies and *Ben Syden*, of The Laberge Group

12:10 Lunch

12:30 LUNCHEON PRESENTATION

Hon. Sean Patrick Maloney

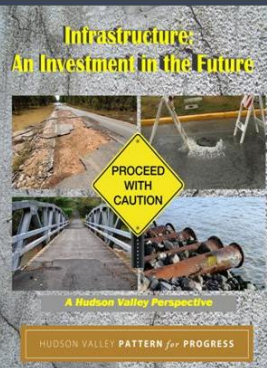
FEDERAL INFRASTRUCTURE RESOURCES

Congressman, 18th District

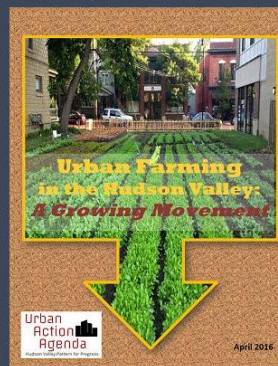


1:20 Wrap Up Discussion

RECENT PATTERN REPORTS



Pattern's third annual infrastructure report was released today with highlights of the regional survey.



Pattern's report on Urban Farming discusses the expansion and modernization of agriculture within population centers.

2016 Conference Summary: The World of Infrastructure

Pattern's third annual infrastructure conference, "The World of Infrastructure," was May 20, 2016 at Anthony's Pier 9. Attendees were municipal leaders and officials, engineers and planning consultants who discussed regional infrastructure issues facing the Hudson Valley.

The conference focused on methods for municipal governments to access and obtain infrastructure funds through grants and loans offered by the state and federal government. Municipal leaders and regional officials who have had success in implementing effective infrastructure strategies were panelists. Discussions included adopting new techniques for prolonged maintenance and accessing funds for structural upgrades and expansions. The conference had four sections:

Morning Session Maintaining the Nation's Largest Unfiltered Water Supply

Presented By: Adam Bosch and Sean McAndrew from the New York City Department of Environmental Protection (DEP)

- Overview on the construction of water tunnel number 3, the largest capital project in New York City's history.
- Water tunnel number 3 will be responsible for the transportation of New York City's water supply.
- Detailed how NYC receives water from aqueducts and reservoirs: New Croton Aqueduct, Catskill Aqueduct, Delaware Aqueduct, Kensico Reservoir and the Hillview Reservoir.
- Explained how the completion of water tunnel number 3 will give the city an opportunity to repair water tunnels number 1 and number 2 (which leaks 36 million gallons of water a day).
- Detailed how improvements in efficiency of water usage, water-conservation measures and water metering reduced demand by approximately one-third.

First Panel Session Show Me the Money

Moderator: Meghan Taylor, Director, Mid-Hudson Region for Empire State Development Corp.

Panelists: Lisa Vasilakos, Coastal Resources Specialist for New York State Department of State, Heather Clark, Financial Development Manager for the Environmental Facilities Corporation and Scott LaMountain, Community Developer for the NYS Office of Homes and Community Renewal.

This panel discussed funding options for municipal leaders.

Lisa Vasilakos outlined the services and grants offered by the Department of State:

- Local Government Efficiency (LGE) Program: designed to provide technical assistance and grants to local governments for the development of projects that will achieve savings and improve municipal efficiency through shared services, cooperative agreements, mergers, consolidations and dissolutions.

- The Local Waterfront Revitalization Program (LWRP): designed to provide technical assistance; will match grants on a reimbursement basis to villages, towns, cities and counties along New York's coasts or designated inland waterways to prepare or implement strategies for community and waterfront revitalization.
- The Appalachian Regional Commission (ARC): established by Congress in 1965 to improve the economy and quality of life in Appalachia, which runs through part of New York's Southern Tier. The program provides financial and technical assistance to meet its unique issues, promote economic development and establish a framework for joint federal-state-local efforts.

Heather Clark of the Environmental Facilities Corporation discussed water and sewer grants available to municipalities:

- The Clean Water State Revolving Fund (CWSRF): provides low-interest-rate financing to municipalities to construct water-protection projects such as sewer and wastewater treatment facilities. A variety of publicly owned water-improvement projects are eligible for financing. They include point-source projects such as wastewater-treatment facilities and nonpoint source projects such as stormwater-management projects and landfill closures, as well as certain habitat-restoration and protection projects in national estuary program areas.
- The Drinking Water State Revolving Fund (DWSRF): provides a significant financial incentive for public and private water systems to finance needed drinking water infrastructure improvements (e.g. treatment plants, distribution mains, storage facilities, etc.). Similar to the Clean Water State Revolving Fund (CWSRF), the DWSRF provides market-rate financing, subsidized low-interest-rate financing and limited grants for construction.
- The second round of state water grants awarded by Governor Cuomo were awarded to 102 communities in August 2016. About \$33 million of that was awarded to the Hudson Valley.

Scott LaMountain, Community Developer for the NYS Office of Homes and Community Renewal discussed grant opportunities available to municipalities:

- The Consolidated Funding Application (CFA) process makes accessing funds more efficient.
- The Community Development Block Grants (CDBG) program provides financial assistance to cities, towns, and villages with populations below 50,000 and counties with an area population under 200,000. The program seeks to address community-development needs that possess a serious and imminent threat to the community's health or welfare such as failing infrastructure.

Problems and Solutions: Experts Help Out.

Moderator: *Graham Trelstad, Director of Planning with AKRF, Inc.*

Panelists: *Mayor Richard Thomas, City of Mt. Vernon; Jason Morris, City Engineer, City of Middletown; Chris Gent, City Engineer, City of Newburgh; Richard Straut, Principal, Barton & Loguidice; Chris Round, Vice President of Planning Services, The Chazen Companies; Ben Syden, Vice President, The Laberge Group.*

This panel was designed to present how municipalities and consultants successfully pursued grant funding to address infrastructure needs.

- Focused on the collaboration between municipal and private-sector officials on ways to manage infrastructure.
- The importance of unique dialogue between those responsible for urban infrastructure and those who consult on construction and financing.

Federal Infrastructure Resources

Presented by Congressman Sean Patrick Maloney, 18th District³

- Addressed the increasing need for federal action to assist in maintaining and upgrading national and regional infrastructure.
- Discussed the national letter grade that New York received by the American Society of Civil Engineers on its infrastructure: C-.
- Stressed that more investment has to be made by the state and federal government to aid municipalities before preventative concerns become major concerns.

In addition to growing national and regional infrastructure concerns, Congressman Maloney spoke about infrastructure-related funding available to municipalities:

- Transportation Investment Generating Economic Recovery (TIGER) grant program. This highly competitive TIGER grant program supports innovative projects, including multi-modal and multi-jurisdictional projects, which are difficult to fund through traditional federal programs.
- The Transportation Infrastructure Finance and Innovation Act (TIFIA). This program provides credit assistance for qualified projects of regional and national significance. Many large-scale surface-transportation projects -- highway, transit, railroad, intermodal freight, and port access -- are eligible for assistance. Applicants may include state and local governments, transit agencies, railroad companies, special authorities, special districts and private entities.

³ During its three conferences, Pattern relied upon Maloney due to his knowledge of the Hudson Valley and experience on multiple government committees and subcommittees. They included: Committee on Agriculture, Subcommittee on General Farm Commodities and Risk Management, Subcommittee on Horticulture, Research, Biotechnology, and Foreign Agriculture, Committee on Transportation and Infrastructure, Subcommittee on Aviation, Subcommittee on Highways and Transit and Subcommittee on Water Resources and Environment.

- The Water Infrastructure Finance and Innovation Act (WIFIA). Structured identically to the Transportation Infrastructure Finance and Innovation Act (TIFIA), this program provides assistance for qualified projects of regional and national significance related to water infrastructure. WIFIA program provides low-interest-rate financing for construction of water and wastewater infrastructure. Funded projects must be nationally or regionally significant. Individual projects must be reasonably anticipated to cost no less than \$20 million.

Findings of the 2016 Conference

- There are various funds available for municipalities to use for local infrastructure.
- Grant programs available to municipalities can assist with transportation and water infrastructure, and funding for economic development and poverty assistance.
- More emphasis should be placed on providing adequate funding to address infrastructure concerns in smaller municipalities.

Pattern's 2016 Report, *Infrastructure: An Investment in the Future*, sought to gauge the condition of infrastructure in the Hudson Valley by conducting a regional survey similar to the one conducted and reported on by Pattern in 2014. The 2016 report evaluated the findings and made recommendations for how municipalities can fund and address infrastructure needs.

2016 Report Summary

Infrastructure: An Investment in the Future



A Hudson Valley Perspective

HUDSON VALLEY **PATTERN** *for* **PROGRESS**

Report Summary: Infrastructure: An Investment in the Future

Survey Results and Report

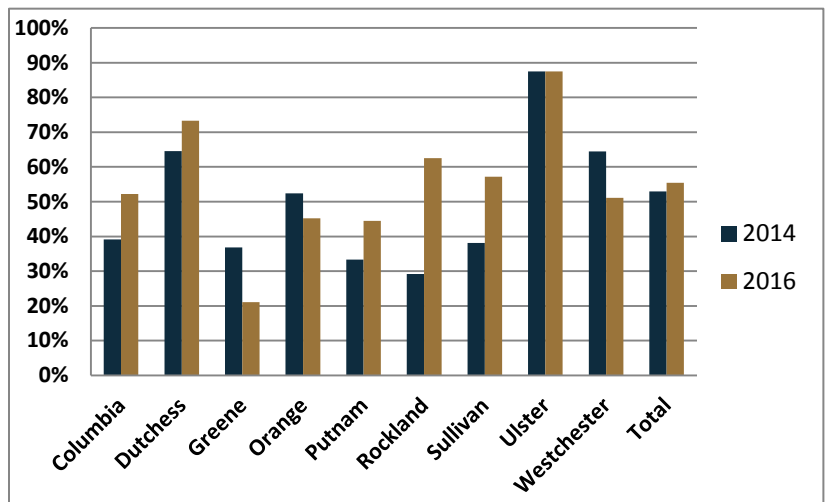
To assess the durability and longevity of existing infrastructure in the Hudson Valley in 2016, Pattern for Progress replicated its 2014 infrastructure survey. The survey asked municipal officials from the nine-county region about the condition of their water supply, sewer systems, roads, bridges, public facilities, annual maintenance, funding preferences and efforts to share services with neighboring municipalities. The results contributed to completion of a detailed report published and distributed by Pattern prior to its 2016 annual infrastructure conference. The results of the regional survey, and notable findings from the published report, are outlined here.

Pattern's 2016 survey replicated the one conducted by Pattern in 2014. The response rate was 56% with 132 of the 238 municipalities participating in the Hudson Valley, though participation rates varied between counties from survey to survey.⁴

In the 2016 survey, respondents were again asked to rate overall conditions of existing roads, bridges and public buildings as either good (requires only routine maintenance), fair (will require substantial work in the next three years), or poor (at risk of imminent failure). Responses indicated the region's bridges and roads remain concerns. In 2016, of the 83 municipalities that answered the question about bridges, only 37% described the state of their community's bridges as "good", while 41% responded that at least some bridges would require substantial work in the next three years. Eighteen communities (22%) reported at least some bridges were at risk of imminent failure.

A combined 55% of respondents listed their road condition as either poor or fair; 6% of respondents indicated the state of their road infrastructure is "poor". Fifty percent of respondents in Columbia, Greene, Orange, Ulster and Westchester listed the condition of their roads as "good." These results suggest ongoing maintenance will be required for municipal road systems in most Hudson Valley counties.

Figure 7 -2016 Survey Responses by County



Source: Pattern for Progress, "Infrastructure: An Investment in the Future" survey results

⁴ Despite the high response rate, one observation should be noted when examining the 2014 and 2016 survey results. In many cases, the same individual did not respond to the survey in both years, and different areas may have been prioritized. Therefore, survey results should be regarded as snapshots of respondents' opinions.

The majority of municipalities surveyed by Pattern in 2016 (77 out of 132, or 58%) expressed concern over the sustainability of sanitary-sewer systems. In Westchester County, 52% of respondents stated they were "concerned" or "very concerned" about their sewer system. The majority of respondents surveyed confirmed between 76% and 100% of their population is served by a water system or district. Therefore, the potential failure of these systems would have a significant impact on the overall population.

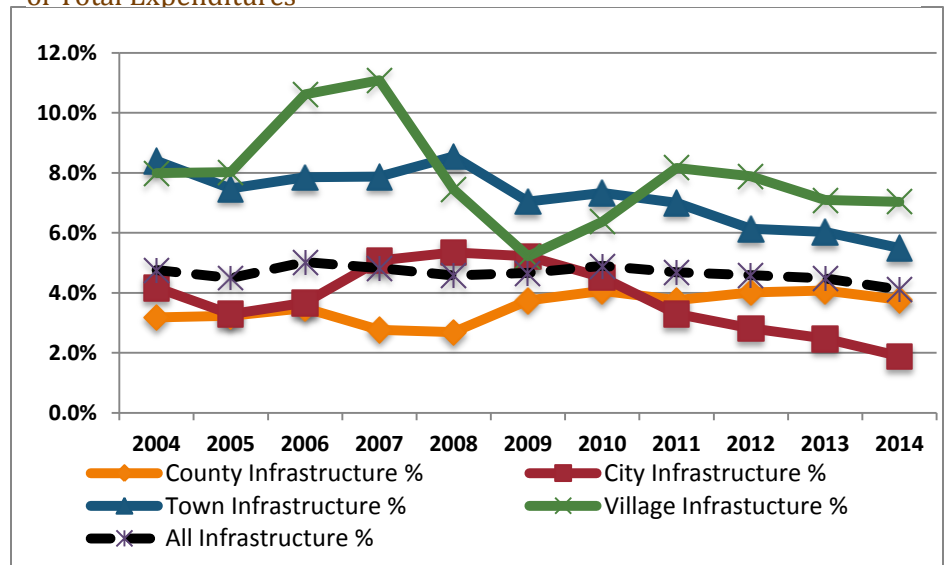
Respondents were asked how they intend to fund water and sewer infrastructure needs: 43% of respondents said they would use federal and state loans and grants to fund water and sewer infrastructure. Thirteen percent (13%) of those surveyed said they would use local funds for water infrastructure; 16% of survey respondents said they would use local funds for their sewer infrastructure.

In contrast, general fund revenue appears to be the most widely used source of funding for roads and bridges. Sixty-four percent (64%) of communities said they would use that revenue to pay for roads, well above the second-most-popular funding source, federal/state loans or grants, which 46% of communities planned to use. Thirty-eight percent (38%) of respondents said they would use municipal bonds to help pay for new road infrastructure. Fewer communities listed their plans to fund bridges, but those that did cited general fund revenue more often than other funding sources.

Concerns over the condition of public buildings were less widespread; 58% of respondents confirmed the state of their public buildings were in "good condition" with Orange, Sullivan and Westchester reporting the highest percentage of "good" responses. Several municipalities indicated new town/village halls or other public buildings had recently been constructed. Forty two percent (42%) of communities rated the state of their public buildings as either "fair" or "poor". As a result, this indicated that some municipalities may need to be addressing the maintenance of their aging public buildings, sooner than later.

To assist municipalities with revitalizing their aging public buildings, Empire State Development Corporation has enacted the Restore New York Communities Initiative. This is the second time the initiative has been enacted; the past program provided \$300 million for revitalization of commercial and residential properties owned by municipalities.

Figure 8-Infrastructure Expenditures in Hudson Valley as a Percentage of Total Expenditures



Source: Office of the New York State Comptroller

Pattern's 2016 report, "Infrastructure: An Investment in the Future" utilized survey data, as well as data from the Office of the New York State Comptroller and the United States Department of Transportation Federal Highway Administration. From 2004-2014, counties, cities, towns and villages in the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$407 million annually.

Despite sustained public investment, the region's aging infrastructure requires routine maintenance, repairs and in extreme cases, replacement. Though infrastructure spending for the region's nine counties spiked in 2009-2010 (due to the influx of federal funds from the American Recovery and Reinvestment Act of 2009) and stayed above pre-recession levels through 2014, in inflation-adjusted dollars, infrastructure spending by cities, towns and villages fell during the recession. It declined every year from 2011-2014. As a result, the region's counties, from 2004-2007, accounted for 38% of regional infrastructure spending as compared to 51% infrastructure spending from 2011-2014.

Hudson Valley cities devoted only 2% of budgets to infrastructure in 2014, a decrease of approximately 50% in 2004. Towns devoted 5.5% of the budget to infrastructure in 2014 as compared to 8.4% in 2004. Villages spent 7% in 2014 as compared to 8% a decade earlier. In 2014, counties were the only level of government spending a higher percent of their budget on infrastructure than in 2004. The New York State tax cap, established in 2011, impacted local municipal budgets and as a result, infrastructure investment declined. This would argue for the elimination of the tax cap as it relates to infrastructure spending.

At \$389 million, total regional infrastructure spending in 2014 was 8% lower than in 2004, and 21% below the 2010 peak, in inflation-adjusted dollars. Government expenditures in the region peaked in 2010 (at \$10.13 billion) and have declined each year since, though unlike infrastructure, overall 2014 spending levels remain 7% above the 2004 figure. As a result, many levels of government are now spending a notably smaller share of their overall budget on infrastructure than in the middle of the last decade.

Best Practices

- Use private capital wisely: As municipalities seek additional resources that fall outside of the tax cap, they should consider public-private partnerships. These agreements must ensure that privately developed infrastructure protects taxpayers.
- Leverage private capital and expertise to enhance and expand infrastructure: Partnerships between the public and private sector incentivize long-term thinking about projects' operations and maintenance.⁵
- Establish reporting system in exchange for state or federal funds: Municipalities should be required to provide an annual assessment of infrastructure conditions to the Office of the NYS Comptroller.

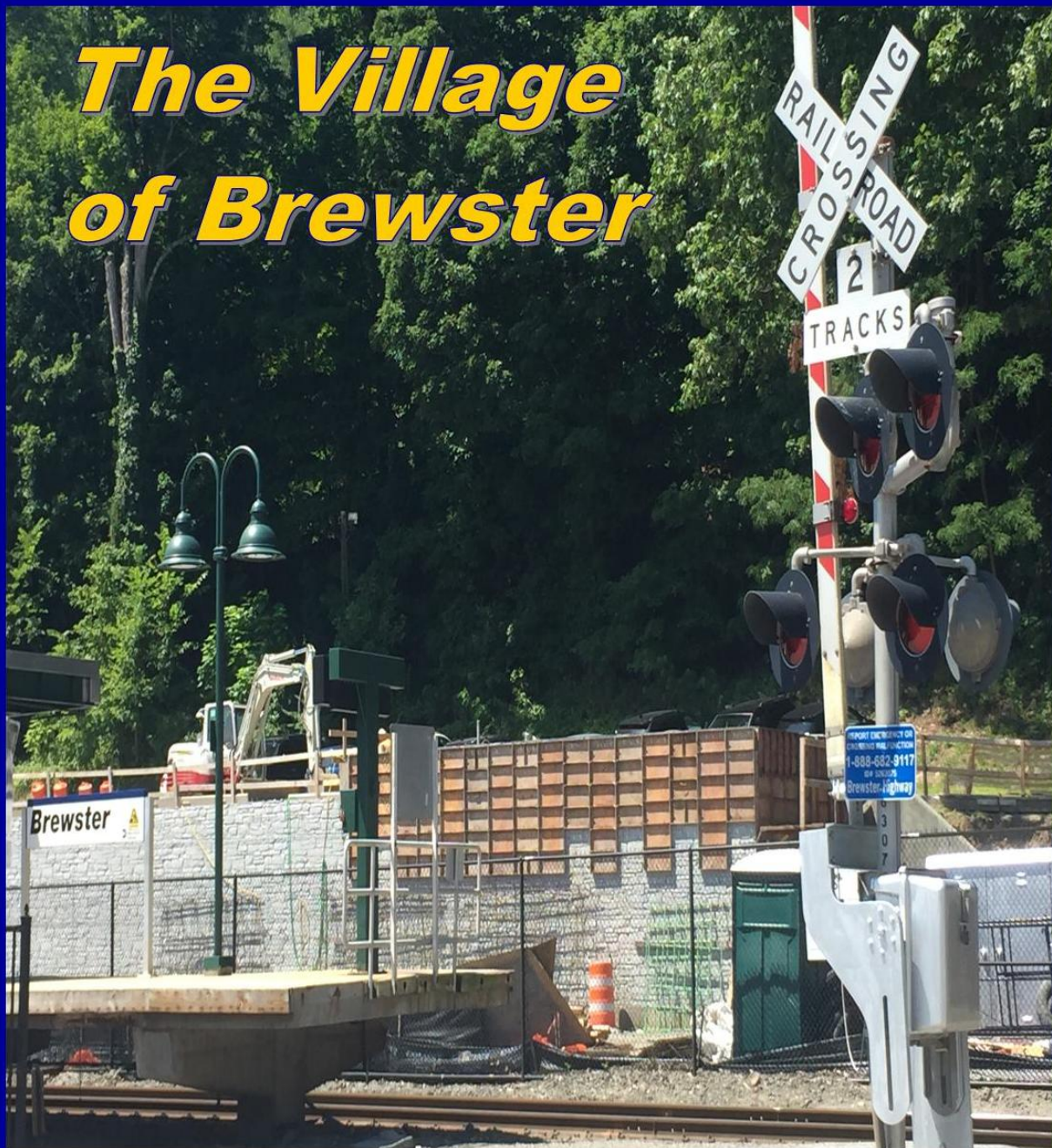
⁵ Detroit Free Press, 2016

- Conduct build-out analyses as part of long-term capital planning based on major project pipelines and on current and projected capacities.
- Continue the prioritization of funding for projects that encourage smart growth and reduce sprawl in a program that helps rebuild urban areas. Existing infrastructure in small cities and population centers can help attract new residents and incentivize growth. The region has learned the true cost of rebuilding infrastructure in the multitude of municipalities that have been created.
- Municipalities should begin planning out their infrastructure projects so they're "shovel ready" and can take immediate advantage of campaign promises made by President-elect Donald Trump. Having infrastructure plans ready to begin will help communities in two ways: It will allow communities to qualify for funds sooner and will put laborers to work faster. Both will allow the state and the country to avoid some of the unfulfilled potential of the American Recovery and Reinvestment Act.

Appendix D:

Profiles: Communities, challenges

The Village of Brewster



An Infrastructure Snapshot

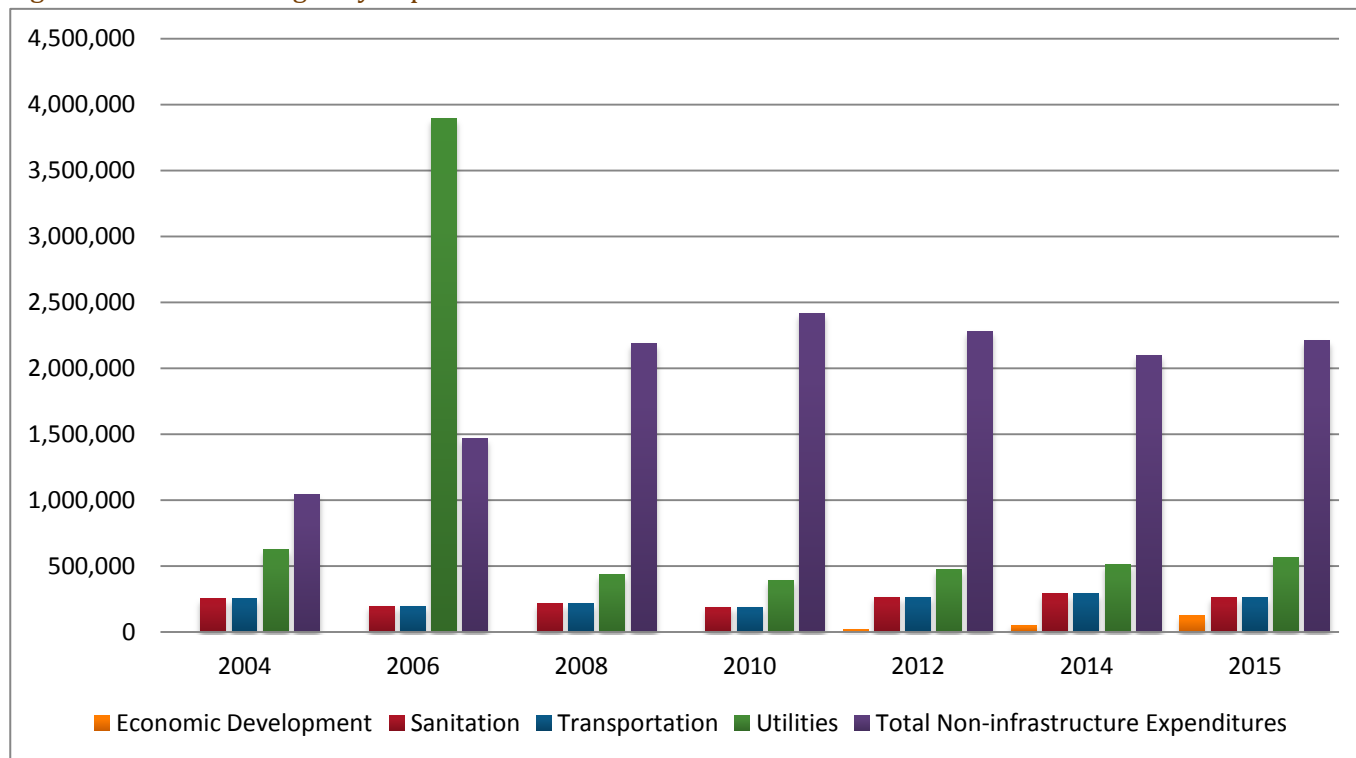
OFFICE OF THE NYS COMPTROLLER

From 2004-2014, counties, cities, towns and villages of the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$447 million annually. While the need for infrastructure investment remains high, spending on infrastructure shows a potentially troubling trend. Hudson Valley villages devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier.

Throughout the Hudson Valley, government expenditures for infrastructure have declined each year since 2010. Unlike infrastructure spending, overall spending remains 7% above the 2004 figure.

- In Brewster, infrastructure expenditures have increased 8.9% since 2004; non-infrastructure expenditures increased 113.1% since 2004.
- In 2004 infrastructure expenditures (economic development, sanitation, transportation, and utilities) accounted for 67.1% of total expenditures, decreasing by 24% in 2015, where they accounted for 51% of total expenditures.

Figure 9-Brewster Budgetary Expenditures



Source: Office of the NYS Comptroller

INTERVIEW HIGHLIGHTS

After surveying Brewster's village manager and public works superintendent, funding and regulations appear to be the main barrier to maintenance and expansion. With a fluctuating population, Brewster has plans to update its aging systems in order to increase capacity and adequately plan for the future. With these changes underway, potential concerns have been mitigated.


BREWSTER INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

Recent investment into water and sewer systems helped mitigate mounting concerns for the community. The village has been able to remedy previous concerns by updating aging infrastructure, ensuring water quality and preventing contamination. Upcoming projects include:

- Transit Oriented Development (TOD) to replace existing buildings between Main Street, Railroad Avenue and Marvin Avenue, and the Southeast Museum to the east.
 - A shared subsurface parking structure for 540 cars, with two mixed-use buildings above and built around a central open space plaza is part of Brewster Revitalization Phase I; the buildings will accommodate 290 apartments and 32,000 sq. ft. of retail and commercial space.⁶
- Underground parking (to accommodate 200+ commuters).
- Station improvement (to be complete in 2017) will increase capability of running more trains and increase power supply (larger transformers would support electrification of trains).
- Consider a sewer upgrade; \$10 million in water infrastructure paid by the village through bonds.
- CFA Grant for Interstate Sewer and Water Line Extension to US Route 6.
- Address problems with sewer overflow; wastewater infiltration from storm water (correlation between precipitation and flow).
- As part of the MTA's \$26.1 billion capital plan, the train station will receive roof work, window upgrades and rehabilitation of the ticket office and restrooms (2017).

COMMUNITY WISH LIST

Q. If funding were not an issue, what would you do to provide enhanced services to your residents?

- Heated sidewalks, street lights.
- 3-4 level parking garage.
- Walk-over bridge to cut down on pedestrians crossing t  will also connect bike trail to North County Rail Trail).
- Bury power lines.
- Alternate energy (solar and wind); changing zoning process to enable solar installation.
- Upgrading/expanding sewer plant (in connection with DEP).

⁶ <http://hudsonvalleynewsnetwork.com/2016/08/08/odell-unveils-5-proposed-infrastructure-projects/>

RECOMMENDATIONS

Village Manager, Peter Hansen's wish list contains the desire to implement heated sidewalks in the village. Pattern recommends contacting Sasaki Associates, Inc., which entered into a design contract with SUNY New Paltz Facilities Management to complete Mohonk Walk West, which has been fitted with an underground heating system beneath the new stairway and the sloped sidewalk along Mohonk Avenue.

INFRASTRUCTURE FUNDING OPTIONS

Funding is always a concern for municipalities when it comes to large infrastructure community projects. Having to remain within the state's 2% tax cap (or the rate of inflation) is not always easy for smaller municipalities. However, there are many forms of funding available to municipalities at the state and federal level. The most difficult aspect of finding funding for municipal projects is knowing where to look.

There are multiple forms of funding, from Community Development Block Grants, low- to zero-percent interest loans, or receiving aid from New York State. The trouble is knowing where to look, but in the words of Tom Murphy, former mayor of the city of Pittsburgh, "There is always a way to find funding."

TYPES OF FUNDING AVAILABLE

- Community Development Block Grants (CDBG): One of the longest-running programs of the U.S. Department of Housing and Urban Development; funds local community development activities such as affordable housing, anti-poverty programs and infrastructure development
- Environmental Facilities Corporation (EFC) loans: These loans can usually be issued at below-market or zero-percent interest rates.
- New York State Water Grants Program: This year, Governor Cuomo announced a \$75 million directed at updating and restoring water-related infrastructure.
- Certified Local Government Grants (CLG): Each federal fiscal year, New York State sets aside 10 percent of the state's allocation of federal historic preservation funds for pass-through to Certified Local Governments. Funding may be applied to many kinds of projects that address the goals of identifying, evaluating, nominating and protecting a community's cultural resources.
- Consolidated Local Street and Highway Improvement Program (CHIPS): These grants are specifically designed for aiding in municipal roads and highways.

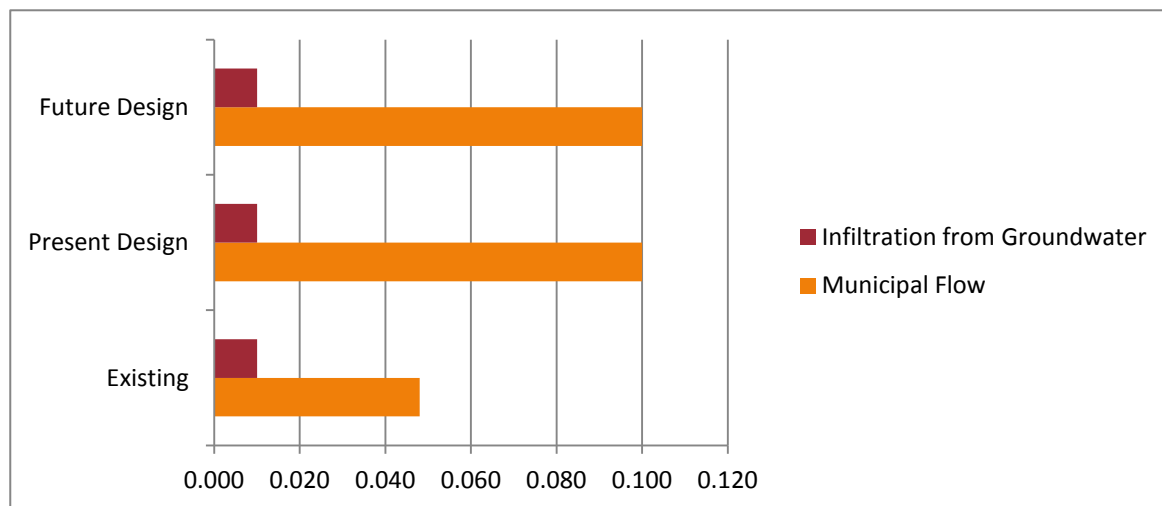
EPA FIVE-YEAR NEEDS SURVEY

The Environmental Protection Agency (EPA) Clean Watersheds Needs Survey (CWNS) is an evaluation of reported capital-investment needs for publically owned wastewater collection and treatment facilities. These needs must be met to remain within compliance standards set by the Clean Water Act. The last survey was completed in 2012 and is scheduled to be reissued in 2016.

Although Brewster did not document any needs for 2012, the town of Southeast reported it would need \$947,522 for new collector sewers. The village of Brewster did report that they have municipal pollution and bio-solid and wastewater disposal concerns.

Flow data describe the quantity of wastewater moving through the facility, or the present or planned design capacity of that facility. In Brewster, 2,162 residents were served within the service area of this facility. In 2012, it was projected that 2,400 residents would be served within the service area in the future. The data is measured in units of millions gallons per day (MGD). The reported data can help estimate wastewater treatment cost curve needs.

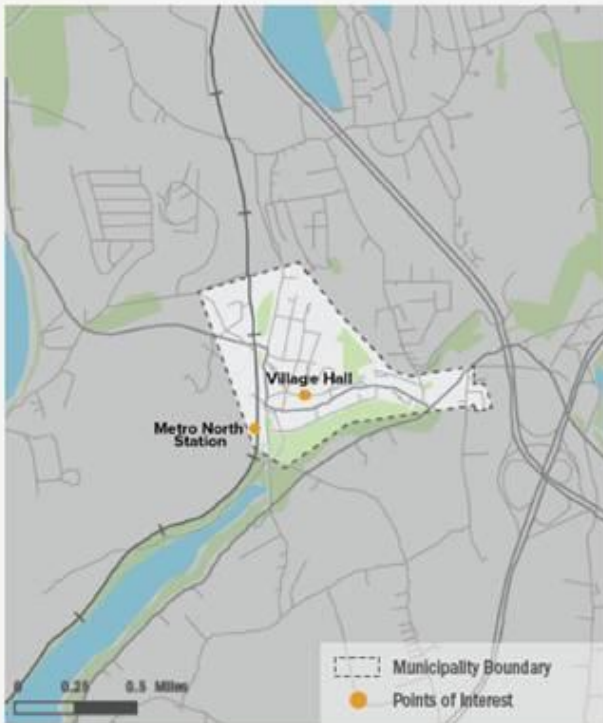
Figure 10-Brewster Flow Data 2012



Source: EPA Clean Watershed Needs Survey

URBAN ACTION AGENDA **2015**

**VILLAGE OF
BREWSTER**



2,447 Population

17% of units are owner occupied

74% of units are renter occupied

10% of units are vacant

20% of residents receive food assistance benefits

52% of households pay greater than 30% of their household income towards housing

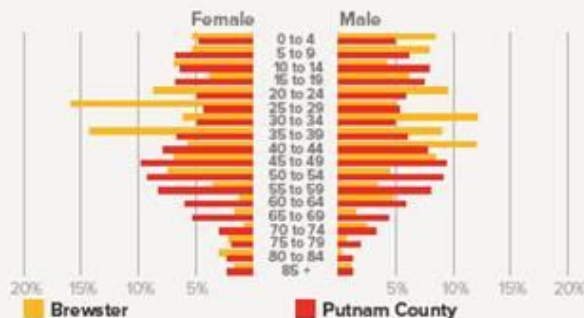
17% of residents have a bachelor's degree or higher

\$51,776 is the median household income

38% of residents work within the municipality

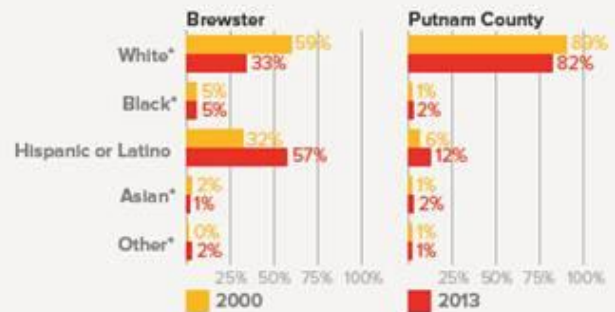
Share of Population by Age and Sex

source: 2009-13 American Community Survey



Population by Race and Ethnicity

source: 2009-13 American Community Survey, 2000 Decennial Census



* not Hispanic or Latino

BREWSTER

HOUSING

The metrics on this page provide information about housing in the community - the number of owner-occupied, renter-occupied, and vacant units as compared to the county overall; the change in home values since 2000; and the age of the housing stock. Housing wage looks at the amount of money a person working a full-time job would have to make in order to afford rental housing (in this case a one or two bedroom unit) without having to pay more than 30% of their income. Finally, housing cost as a percent of income shows the percentage of renters and owners in the community whose housing costs are considered affordable, unaffordable, and severely unaffordable.

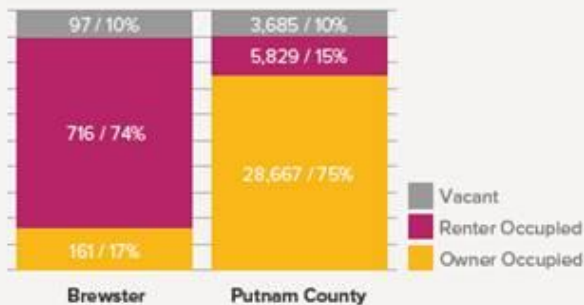
Housing Wage

source: National Low Income Housing Coalition

Housing wage for a one bedroom apartment in Putnam County:	23.90	per hour
	\$47,808	per year
Housing wage for a two bedroom apartment in Putnam County:	28.35	per hour
	\$56,692	per year

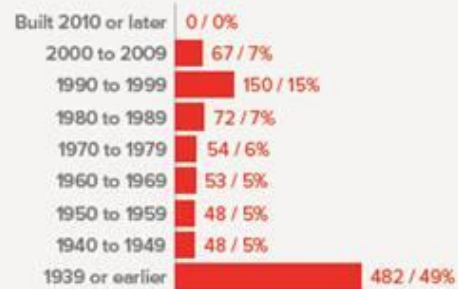
Housing Tenure

source: 2009-13 American Community Survey



Age of Housing Stock

source: 2009-13 American Community Survey



Changing Home Values

source: 2009-13 American Community Survey, 2000 Census



Housing Cost as Percent of Income

source: 2008-2012 HUD CHAS



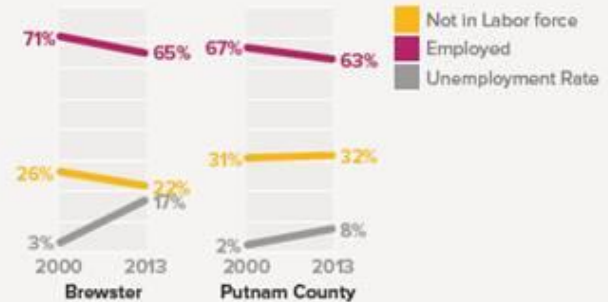
BREWSTER

INCOME AND POVERTY

The metrics on this page provide information about income and poverty in the community. Median household income, income distribution, and the percentage of households in poverty in 2000 and 2013 for the community and the county are shown. The employment rate, the percentage of residents not in the labor force, and the unemployment rate in 2000 and 2013 for the community and the county are also shown. Finally, the percentage of households receiving food assistance for the community and the county is based on the distribution of USDA Supplemental Nutrition Assistance Program (SNAP) benefits.

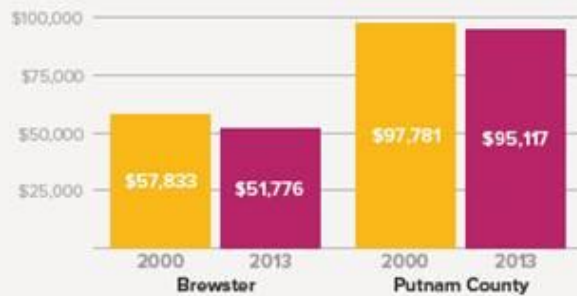
Labor Force Participation

source: 2009-13 American Community Survey, 2000 Census
Percent of Residents Ages 16 and Over



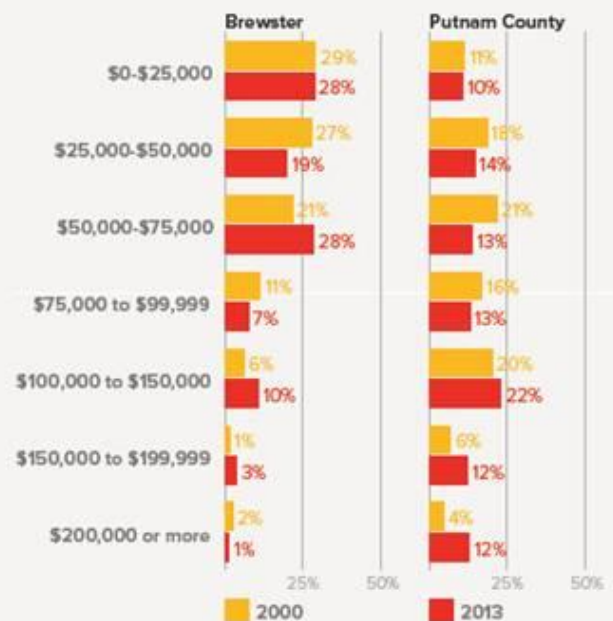
Median Household Income

source: 2009-13 American Community Survey, Census 2000 (adjusted to 2013 dollars)



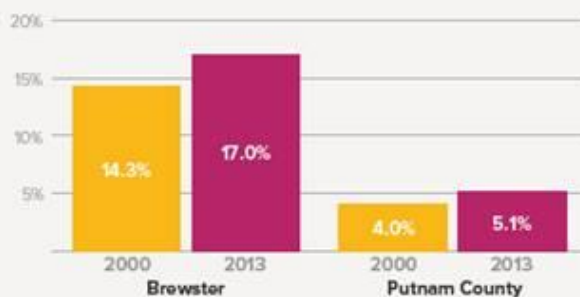
Income Distribution

source: 2009-13 American Community Survey, 2000 Census



Households in Poverty

source: 2009-13 American Community Survey, Census 2000



Households Receiving Food Assistance

source: 2009-13 American Community Survey, Snap Benefits

	2013
Village of Brewster	20%
Putnam County	4%

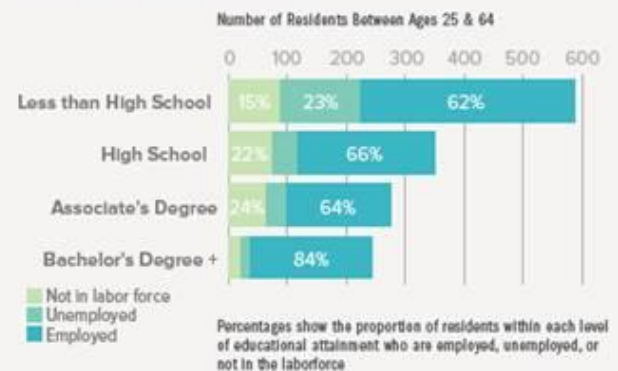
BREWSTER

EDUCATION

The metrics on this page provide information about education in the community. The school district or districts that are located in the community are illustrated on the map; and annual spending per pupil for years 2005-2013 is shown for each of the school districts. Communitywide educational attainment and its relation to employment for those aged 25-64 is shown. Select demographics for each school district – enrollment, the percentage of students who are eligible for free or reduced lunch, and the number of students with limited English proficiency – are shown. Finally, annual school performance for each district is demonstrated by the graduation rate and a college and career readiness measure established by the NYS Department of Education starting in 2010.

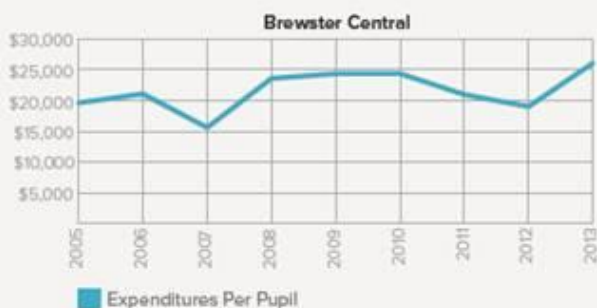
Employment and Education

source: 2009-2013 American Community Survey



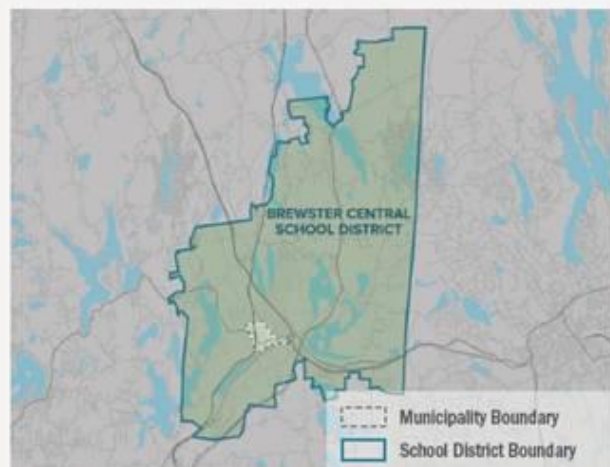
Expenditures Per Pupil

source: New York State Department of Education



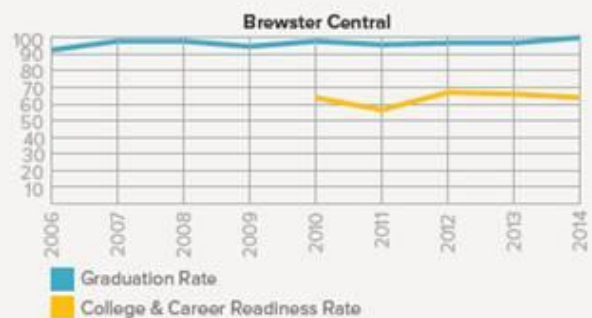
School District Student Characteristics

source: New York State Department of Education



Graduation Rate & Career Readiness

source: New York State Department of Education
note: College and career readiness data only available for 2010-2014



BREWSTER

QUALITY OF LIFE

Indicators on this page provide information about the quality of life in the community. The annual number of reported crimes going back to 1990 is broken down into two categories – violent and property crimes. Obesity prevalence by zip code in comparison to the county provides an indicator of public health. The percent of the population that lives within walking distance of a park as well as the total acres of parks in close proximity of the municipality are expressed. And finally, access to quality food looks at the proximity of people in low-income neighborhoods to the nearest supermarket, supercenter, or large grocery store. Areas that are highlighted demonstrate poor access to quality food.

Access to Parks

source: open space data from The Nature Conservancy

Access To Parks

82% of Brewster Residents live within 1/2 mile of a park

Acres of Parks

Brewster has 9 acres of parkland within 1/2 mile of the municipal boundary*

* The full area for all parks was counted here even if some portion of the park lies further than 1/2 mile from the municipality

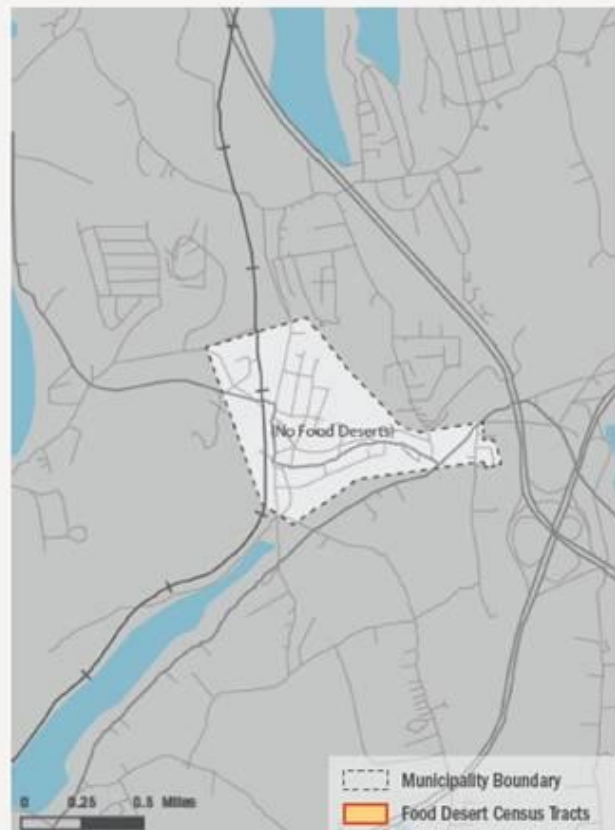
Number of Crimes

source: New York State Division of Criminal Justice Services
agency: Brewster Village Police Department



Access to Quality Food

source: USDA, Food Environment Atlas. Low-income tracts with at least 500 people or 33 percent of the population living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.



Obesity Prevalence

source: D-Atlas with data from the 2000-2010 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey



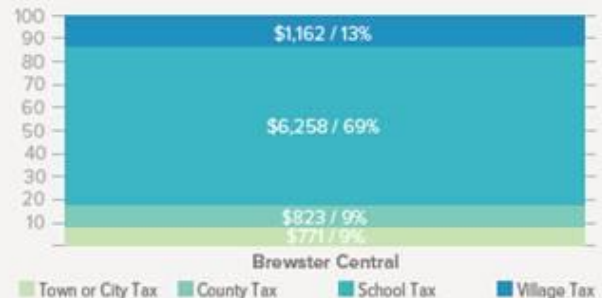
BREWSTER

ECONOMY

The metrics on this page provide information about the local economy. The estimated amount and distribution of property taxes among taxing jurisdictions (local, county, and school district) is shown for a home with the community's median home value. Employment by industry is shown for the years 2000 and 2013. The annual number of residential building permits (in terms of both buildings and units) from 2000 to 2014, and the total annual value of residential building permits is provided. And finally, the top five places of employment for residents of the community are listed along with the primary modes of transportation to work and the average commute time for all workers who live in the community.

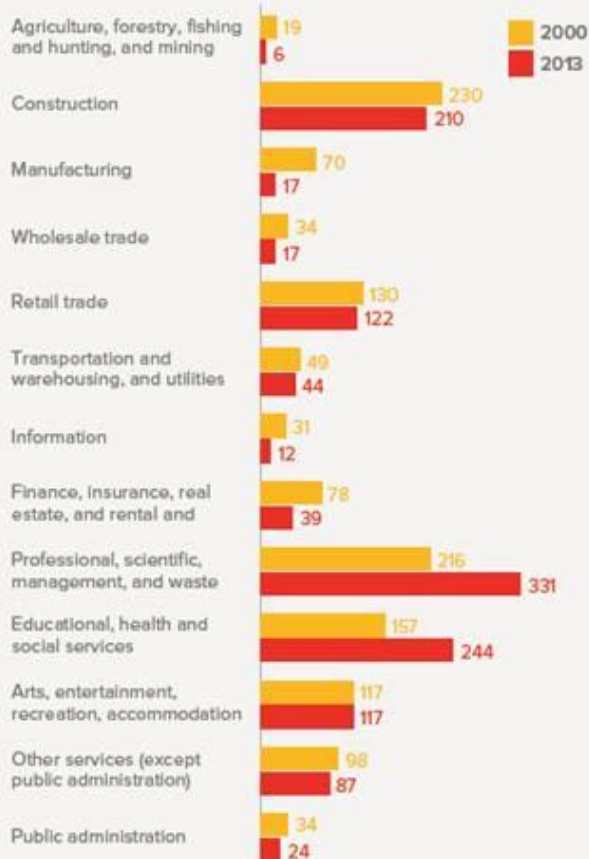
Taxes based on \$286,800 Home

source: New York State Office of Real Property Tax Services 2013
note: Excludes local fire and other special taxing districts.



Employment by Industry

source: 2000 Census, 2009-13 American Community Survey



Annual Residential Building Permits

source: Census, 2000-2014 Building Permits Survey
Building permits and expenditures for new residential construction

Building permit data not reported to the U.S. Census Bureau.

Place of Work & Mode of Travel

source: 2014 CTPR 2009-13 American Community Survey

Top 5 Places of Employment	Percent of Total Workers
Putnam County, New York	49.4%
Westchester County, New York	32.1%
New York City, New York	8.4%
Fairfield County, Connecticut	4.0%
Dutchess County, New York	3.2%

Mode of Travel to Work	Percent of Total Workers
Drove Alone in a Car, Truck or Van	52.9%
Carpooled in a Car, Truck or Van	18.5%
Used Public Transportation	18.1%

Average Commute Time	34 minutes
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ABOUT THIS PROJECT

The Urban Action Agenda (UAA) is a three-year initiative led by Hudson Valley Pattern for Progress (Pattern) to promote the revitalization of urban centers throughout the nine-county Hudson Valley Region. Though it is part of the larger NYC Metropolitan Region, the Hudson Valley does not have a single urban center that acts as the region's heart but instead consists of a constellation of urban centers, large and small, located along the Hudson River and other historic transportation corridors. Today, these places face a number of challenges; but some of the Hudson Valley's urban centers are starting to turn the corner. Nationally, trends show a renewed interest in urban living. Vibrant downtowns and waterfronts, walkable neighborhoods, access to high quality public spaces and other amenities are bringing people back to cities and other urban places.

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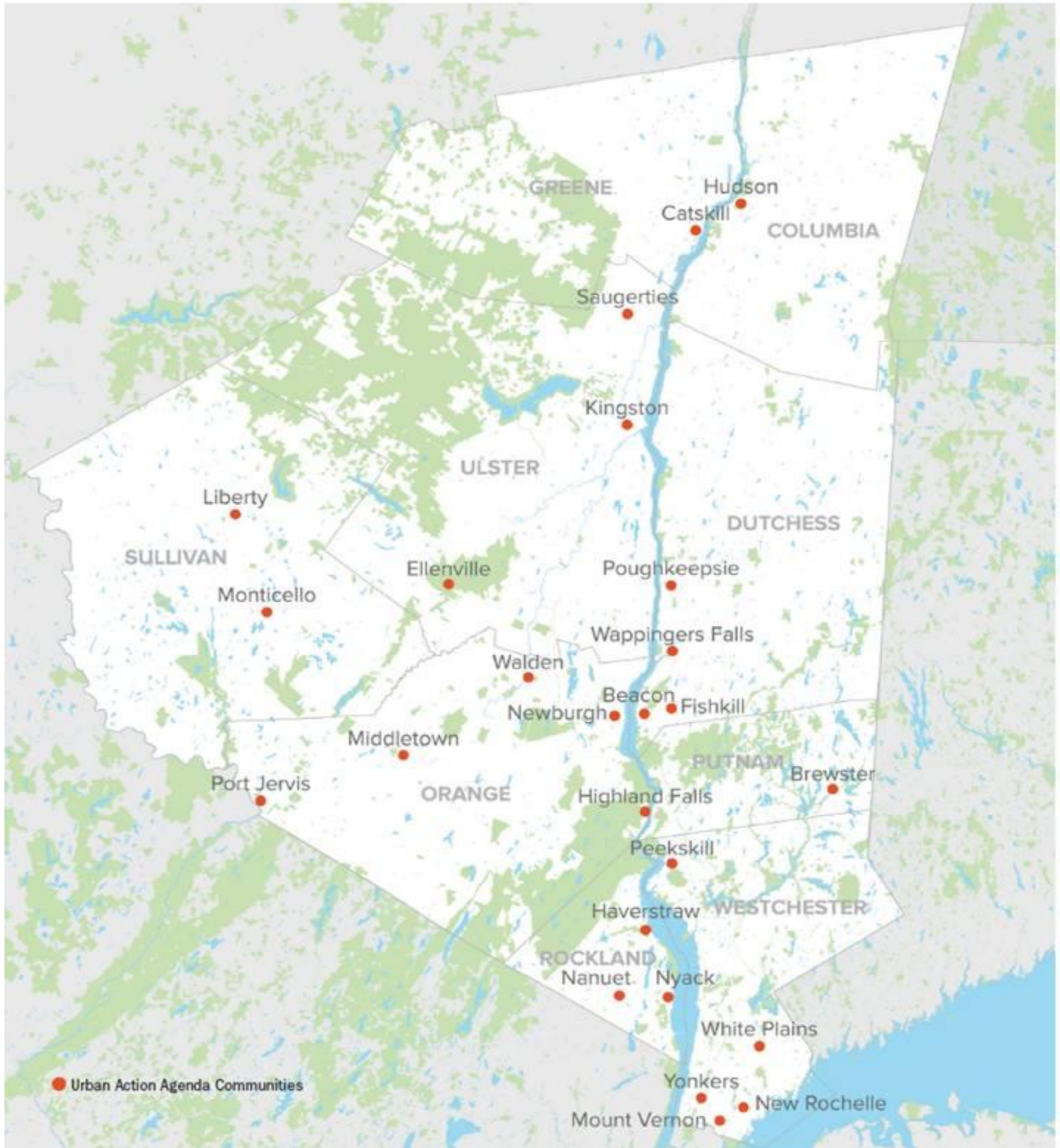
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Citation

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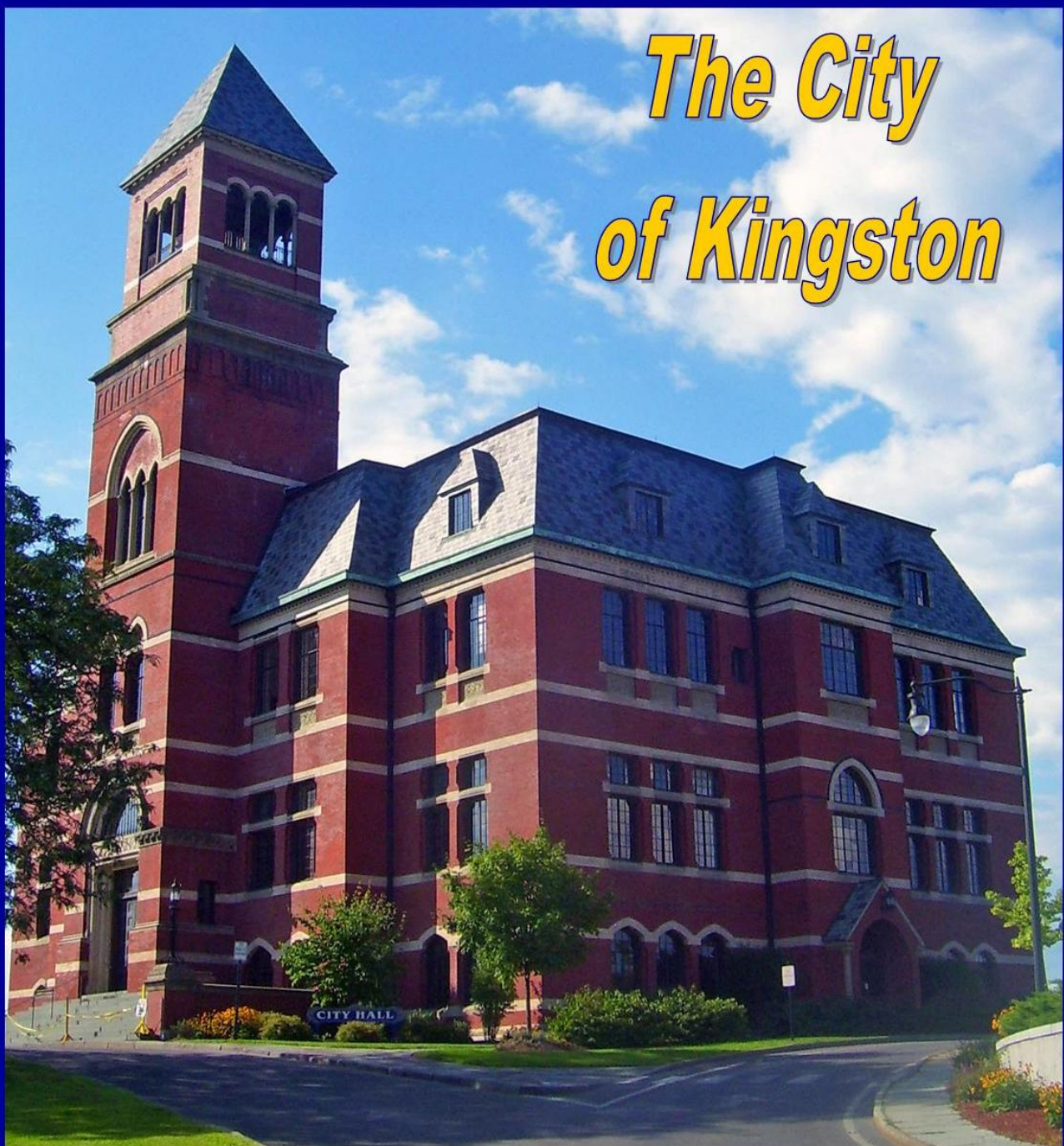
URBAN ACTION AGENDA COMMUNITIES



BREWSTER 8 OF 8

HUDSON VALLEY **PATTERN** *for* **PROGRESS**

The City of Kingston



An Infrastructure Snapshot

OPPORTUNITY AREA INFRASTRUCTURE SNAPSHOT

The seven Community Infrastructure Snapshots were made possible through funding provided by the Mid-Hudson Regional Economic Development Council (REDC) to continue Pattern's work in infrastructure research and future planning for the REDC. The REDC identified a number of communities within its economic-development region as "Opportunity Areas" based upon specific criteria and levels of distress. The criteria include high levels of poverty, vacancy rates and unemployment. Pattern surveyed municipalities across the Hudson Valley to assess the capacity and barriers to infrastructure investment. Pattern also focused specifically on seven "Opportunity Areas" and developed these Community Infrastructure Snapshots to assist in identifying local needs. Infrastructure, such as aspects of public works, transportation (roads and bridges) and water (both water supply and sewage), were among the areas included.

THE BUILT ENVIRONMENT

The City of Kingston is in Ulster County and serves as county seat. The city is comprised of three districts: the Uptown Stockade District, the primary location for the city's service-based industries; the Midtown District (mid-Broadway); and the Downtown District (the Strand and lower Broadway) contains the city's waterfront. The city has a population of approximately 23,707 (2014 American Community Survey).

According to the Pattern survey, Kingston has one public water supply system serving 76-100% of its population. The city is concerned the water supply cannot accommodate future needs and an increased capacity. The city is currently upgrading multiple public buildings and utilizing new technology to increase broadband access.

The survey further indicates Kingston has one public sanitary sewer system serving 76-100% of the population. The system does not have the capacity to meet future demands and the collection system is nearing the end of its useful life. Although the facility is serviceable, the high flow/ deep conduits need to be replaced. As a result of poor condition, and at risk of imminent failure, the city received a Hasbrouck CSO I/I Planning Grant for the Broadway/Grand sewer separation Project and the Jacob's Valley Storm Sewer Replacement; \$2.1m to complete a sewer separation project. The project will also replace the Jacob's Valley Storm Sewer, which is part of the Combined Sewer Overflow Long Term Control Plan.

The City of Kingston recently adopted a new Comprehensive Plan, which had not been updated in the last 50 years. The newly adopted plan will be revisited every 5 years.

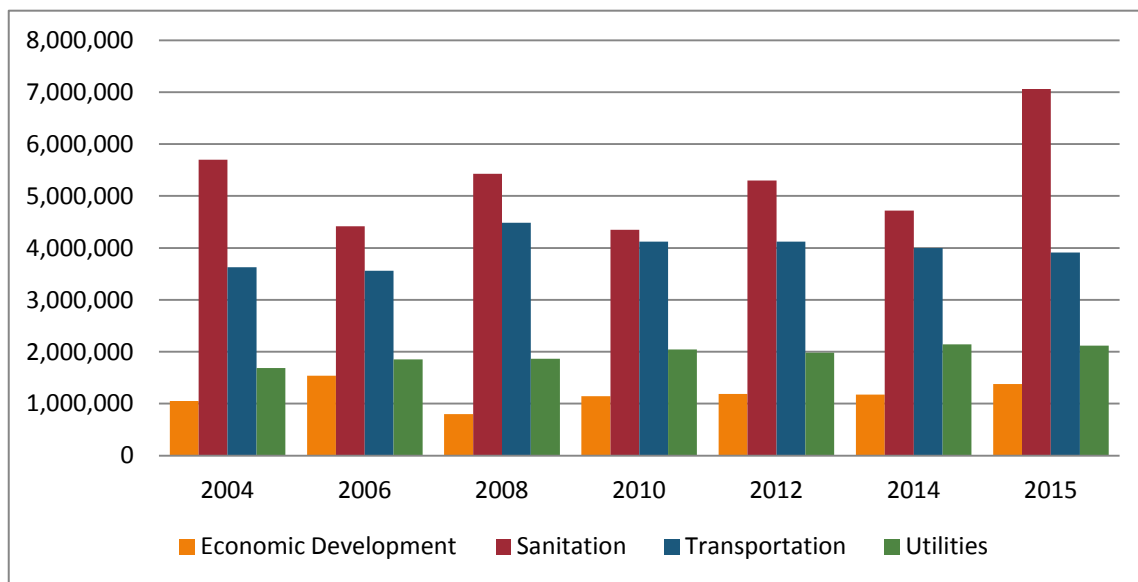
OFFICE OF THE NYS COMPTROLLER

From 2004-2014, the counties, cities, towns, and villages of the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$447 million annually. While the need for infrastructure investment remains high, spending on infrastructure shows a potentially troubling trend. Hudson Valley villages devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier.

Throughout the Hudson Valley, government expenditures for infrastructure have declined each year since 2010. Unlike infrastructure spending, overall spending levels remain 7% above the 2004 figure.

- Infrastructure expenditures have increased 19.9% since 2004, whereas non-infrastructure expenditures have increased 42% since 2004.

Figure 11-Kingston Budgetary Expenditures



Source: Office of the NYS Comptroller

INTERVIEW HIGHLIGHTS

After interviewing the city engineer, funding and workforce challenges appear to be the main barrier to maintenance and expansion. With concerns over the future of their water supply and sanitary sewer systems, Kingston will need to secure more funding to increase capacity.

KINGSTON INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

- Midtown sewer and storm-water pipeline replacement:
 - Replacement of 900 feet of sewer pipes and 900 feet of storm-water pipes on Grand Street.
 - 500 feet of new liner installed in the new combined system on Prince Street.
- The Kingston-Port Ewen Suspension Bridge: Rehabilitation of the bridge over the Rondout Creek and Dock Street is in development. Bid opening is expected to be in fall 2021. Project costs are estimated at \$20 million, with grant funding provided by federal and state sources.
- Operational and safety improvements to be made at the intersection of I-587 commencing in Fall 2018. Costs are estimated at \$5.2 million with grant funding provided by Federal and State resources. The intersection includes Colonel Chandler Drive, Broadway and Route 32 (Albany Avenue).
- Kingston will be a part of the Region 8 bridge study funded by NYS DOT to provide recommendations for preventive or corrective maintenance, rehabilitation or replacements for bridges within Region 8 (Columbia, Dutchess, Ulster, Orange, Putnam, Rockland and Westchester counties).
- Kingston Point Rail Trail: Joint project between the City of Kingston and the Kingston Land Trust to construct a Rail Trail that would connect midtown to the waterfront.
- Hudson Landing Promenade: A planned two-mile long promenade would connect Ponchhockie to East Kingston (2017).
- Complete Streets: Saratoga Associates is taking the lead in this initiative, connecting Cornell Street and the Kingston Point Rail Trail with Anchor Arts Initiatives such as Lace Mill, the Ulster Performing Arts Center and the Shirt Factory. The project is in the design phase and will commence fall 2016.
- Long-Term Capital Planning for the Wastewater Treatment Plant: The city is developing a capital plan with engineering consultants Barton & Loguidice.

COMMUNITY WISH LIST

Q. If funding were not an issue, what would you do to provide enhanced services to your residents?

- Develop and maximize use of waterfront.
- Update city's zoning code.
- Increase public parking by constructing a parking garage.
- Encourage staff development and address workforce challenges.
- Increase funding for lighthouse: Establish water and sanitation connection; update electrical; fix flooding damage; replace heating and hot water systems.



RECOMMENDATIONS

Kingston would like to take full advantage of its waterfront. Pattern recommends the city update its former Local Waterfront Revitalization Program (LWRP) that was last completed in 1992. An updated LWRP may qualify the city for funding to use toward further development of its waterfront. Pattern also recommends Kingston have its Rondout Lighthouse registered as an historic place. Should the lighthouse be deemed an historic landmark, then grant funding may be available through the State Historic Preservation Office (SHPO); the funding provided could then be used to upgrade the lighthouse's condition.

INFRASTRUCTURE FUNDING OPTIONS

Funding is always a concern for municipalities when it comes to large community projects. Having to remain within the state's 2% tax cap (or the rate of inflation) is not always easy for smaller municipalities or even cities such as Kingston. However, there are many forms of funding available to municipalities at the state and federal level. There are multiple forms of funding, from Community Development Block Grants, low- to zero-percent interest loans, or receiving aid from New York State. The trouble is knowing where to look, but in the words of Tom Murphy, former Mayor of the city of Pittsburgh, "There is always a way to find funding."

TYPES OF FUNDING AVAILABLE

- Community Development Block Grants (CDBG): One of the longest-running programs of the U.S. Department of Housing and Urban Development; funds local community development activities such as affordable housing, anti-poverty programs, and infrastructure development.
- Environmental Facilities Corporation (EFC) loans: These loans can usually be issued at below-market or zero-percent interest rates.
- New York State Water Grants Program: This year, Governor Cuomo announced a \$75 million directed at updating and restoring water-related infrastructure.
- Certified Local Government Grants (CLG): Each federal fiscal year, New York State sets aside 10 percent of the state's allocation of federal historic preservation funds for pass-through to Certified Local Governments. Funding may be applied to many kinds of projects that address goals of identifying, evaluating, nominating and protecting a community's cultural resources.
- Consolidated Local Street and Highway Improvement Program (CHIPS): These grants are specifically designed for aiding in municipal roads and highways.

EPA FIVE-YEAR NEEDS STUDY

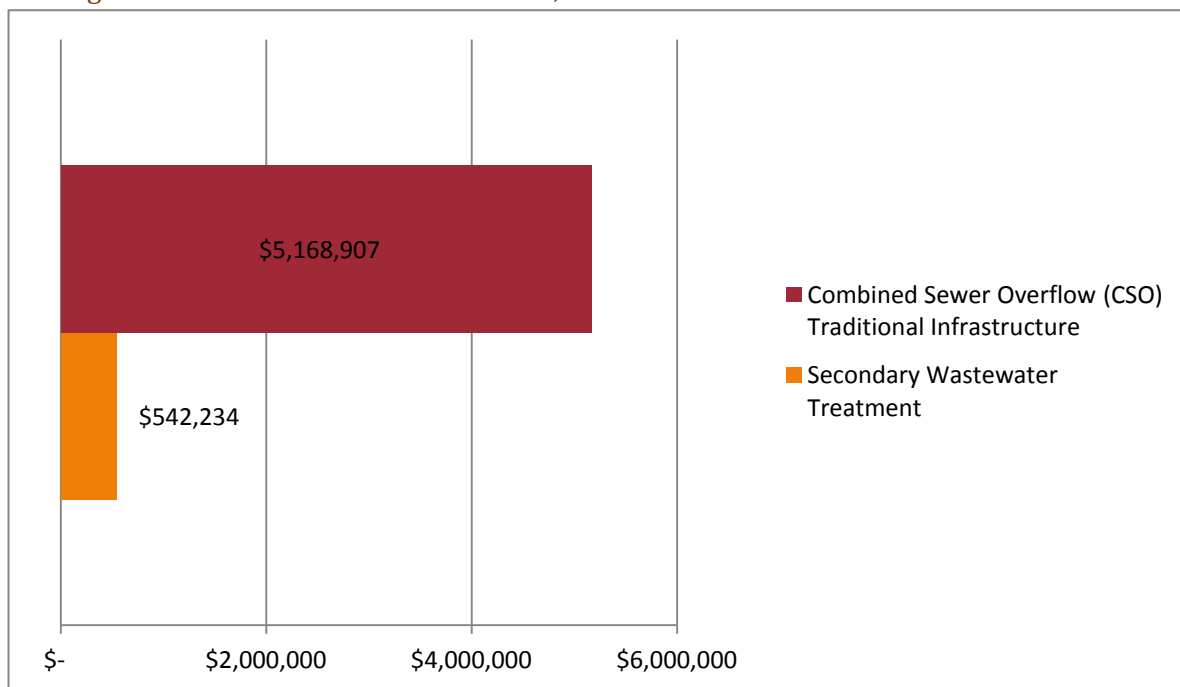
The Environmental Protection Agency (EPA) Clean Watersheds Needs Survey (CWNS) is an evaluation of reported capital investment needs for publically owned wastewater collection and treatment facilities. These needs must be met to remain within compliance standards set by the Clean Water Act. The last survey was completed in 2012 and will be reissued in 2016.

Kingston reported capital investments will be appropriated for the Combined Sewer Overflow (CSO) and Secondary Wastewater Treatment, which includes “needs and costs necessary to meet the minimum level of treatment” for all treatment facilities. Kingston’s documented needs totaled \$5,711,141 to rehabilitate the collection system and improve the treatment plant.

A combined sewer is designed to collect surface runoff. Combined sewers can cause wastewater infiltration when the combination of stormwater and wastewater cause the treatment plant to exceed its capacity.

Secondary treatment typically requires a treatment level that produces 30 mg/l of both BOD5 (the amount of oxygen required to break down organic material in a given water sample) and total suspended solids (solids in water that can be trapped by a filter).

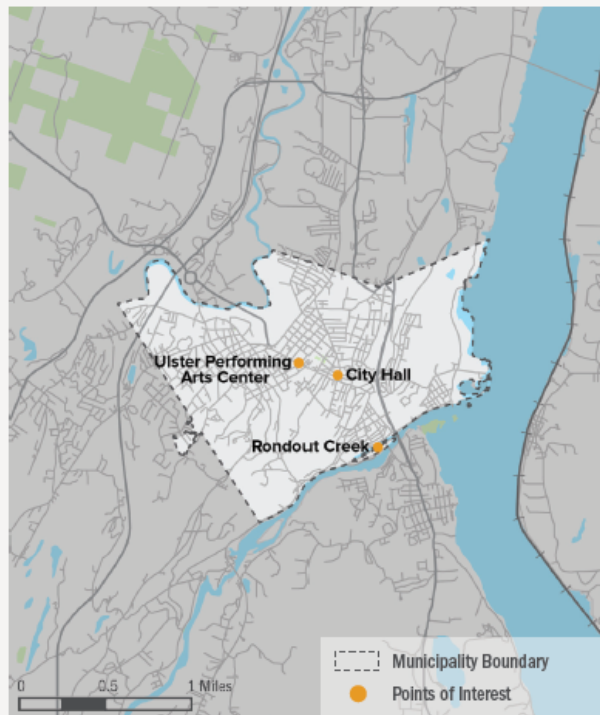
Figure 12-Kingston 5-Year EPA Documented Needs, 2012



Source: EPA Clean Watershed Needs Survey (2012)

URBAN ACTION AGENDA 2015

CITY OF KINGSTON



23,823 Population

42% of units are owner occupied

48% of units are renter occupied

11% of units are vacant

24% of residents receive food assistance benefits

46% of households pay greater than 30% of their household income towards housing

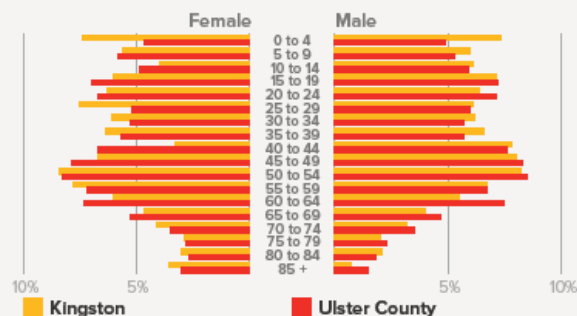
20% of residents have a bachelor's degree or higher

\$43,680 is the median household income

65% of residents work within the municipality

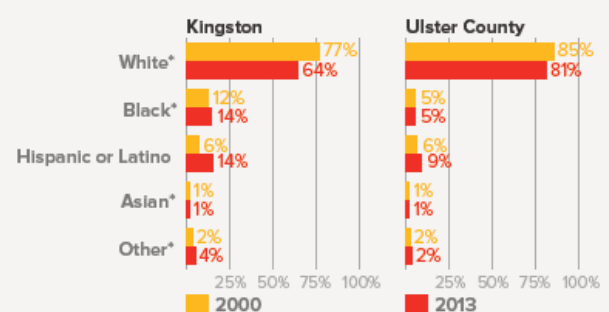
Share of Population by Age and Sex

source: 2009-13 American Community Survey



Population by Race and Ethnicity

source: 2009-13 American Community Survey, 2000 Decennial Census



* not Hispanic or Latino

KINGSTON

HOUSING

The metrics on this page provide information about housing in the community - the number of owner-occupied, renter-occupied, and vacant units as compared to the county overall; the change in home values since 2000; and the age of the housing stock. Housing wage looks at the amount of money a person working a full-time job would have to make in order to afford rental housing (in this case a one or two bedroom unit) without having to pay more than 30% of their income. Finally, housing cost as a percent of income shows the percentage of renters and owners in the community whose housing costs are considered affordable, unaffordable, and severely unaffordable.

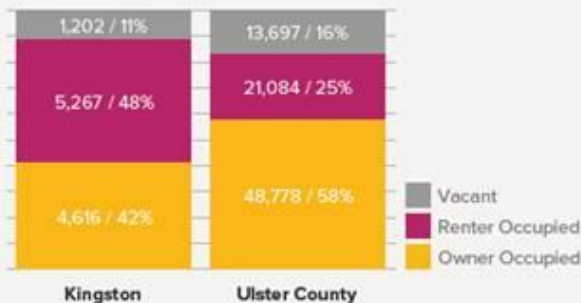
Housing Wage

source: National Low Income Housing Coalition

Housing wage for a one bedroom apartment in Ulster County:	17.77	per hour
	\$35,538	per year
Housing wage for a two bedroom apartment in Ulster County:	23.02	per hour
	\$46,038	per year

Housing Tenure

source: 2009-13 American Community Survey



Age of Housing Stock

source: 2009-13 American Community Survey



Changing Home Values

source: 2009-13 American Community Survey, 2000 Census



Housing Cost as Percent of Income

source: 2008-2012 HUD CHAS



KINGSTON

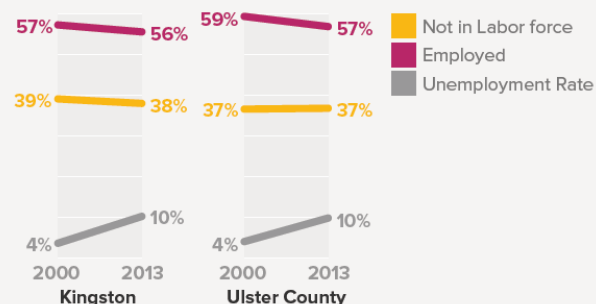
INCOME AND POVERTY

The metrics on this page provide information about income and poverty in the community. Median household income, income distribution, and the percentage of households in poverty in 2000 and 2013 for the community and the county are shown. The employment rate, the percentage of residents not in the labor force, and the unemployment rate in 2000 and 2013 for the community and the county are also shown. Finally, the percentage of households receiving food assistance for the community and the county is based on the distribution of USDA Supplemental Nutrition Assistance Program (SNAP) benefits.

Labor Force Participation

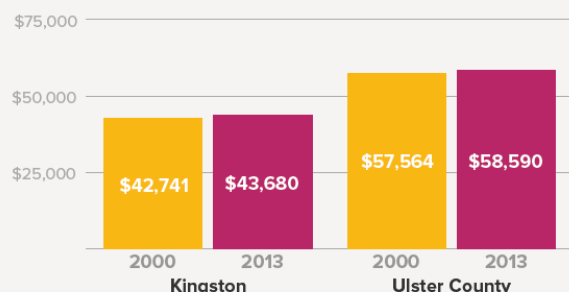
source: 2009-13 American Community Survey, 2000 Census

Percent of Residents Ages 16 and Over



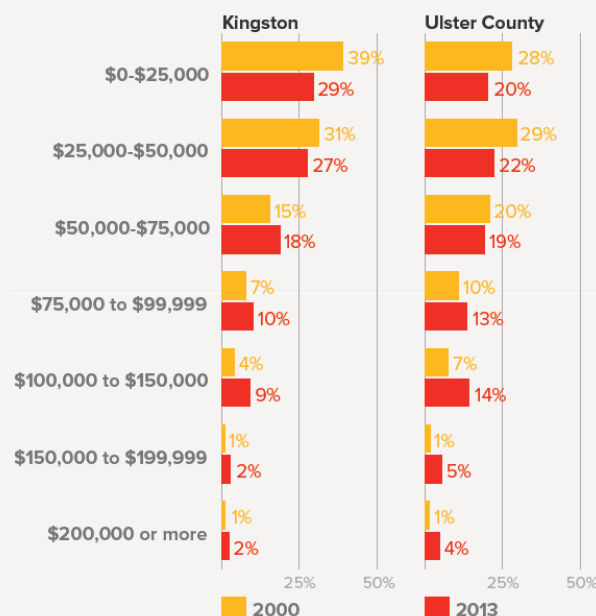
Median Household Income

source: 2009-13 American Community Survey, Census 2000 (adjusted to 2013 dollars)



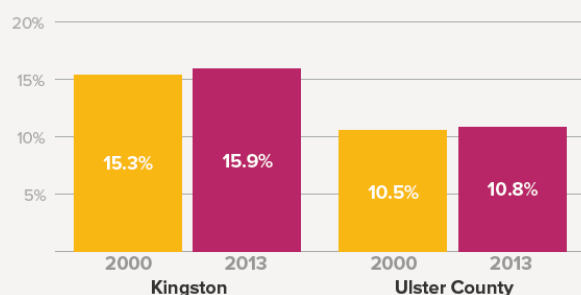
Income Distribution

source: 2009-13 American Community Survey, 2000 Census



Households in Poverty

source: 2009-13 American Community Survey, Census 2000



Households Receiving Food Assistance

source: 2009-13 American Community Survey, Snap Benefits

	2013
City of Kingston	24%
Ulster County	11%

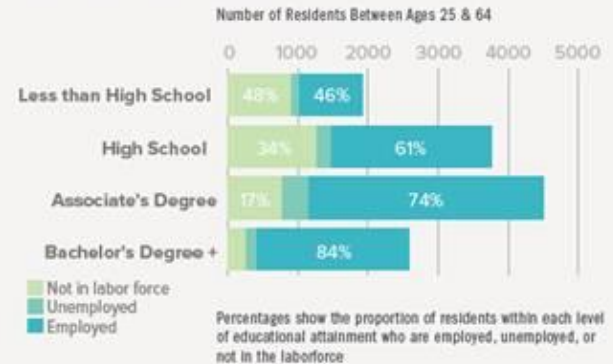
KINGSTON

EDUCATION

The metrics on this page provide information about education in the community. The school district or districts that are located in the community are illustrated on the map; and annual spending per pupil for years 2005-2013 is shown for each of the school districts. Communitywide educational attainment and its relation to employment for those aged 25-64 is shown. Select demographics for each school district – enrollment, the percentage of students who are eligible for free or reduced lunch, and the number of students with limited English proficiency – are shown. Finally, annual school performance for each district is demonstrated by the graduation rate and a college and career readiness measure established by the NYS Department of Education starting in 2010.

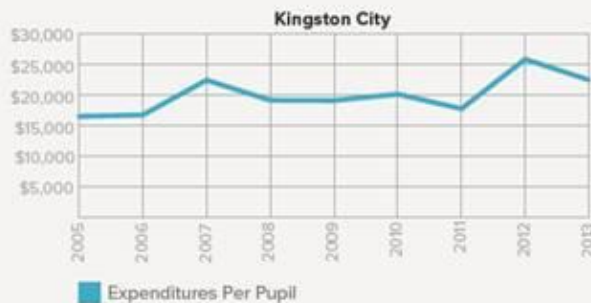
Employment and Education

source: 2009-2013 American Community Survey



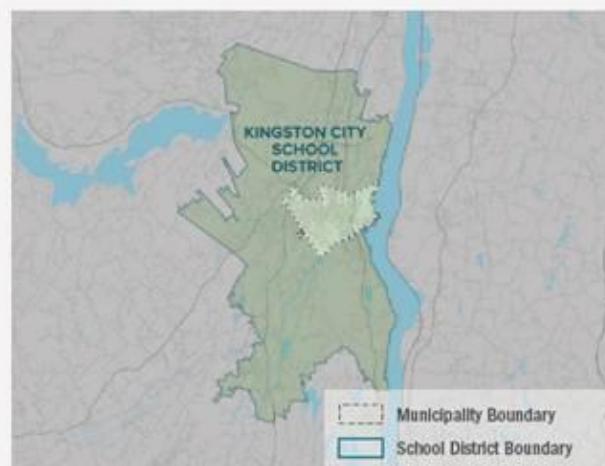
Expenditures Per Pupil

source: New York State Department of Education



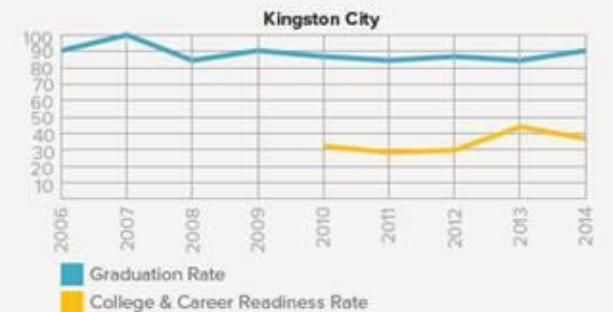
School District Student Characteristics

source: New York State Department of Education



Graduation Rate & Career Readiness

source: New York State Department of Education
note: College and career readiness data only available for 2010-2014



KINGSTON

QUALITY OF LIFE

Indicators on this page provide information about the quality of life in the community. The annual number of reported crimes going back to 1990 is broken down into two categories – violent and property crimes. Obesity prevalence by zip code in comparison to the county provides an indicator of public health. The percent of the population that lives within walking distance of a park as well as the total acres of parks in close proximity of the municipality are expressed. And finally, access to quality food looks at the proximity of people in low-income neighborhoods to the nearest supermarket, supercenter, or large grocery store. Areas that are highlighted demonstrate poor access to quality food.

Access to Parks

source: open space data from The Nature Conservancy

Access To Parks

66% of Kingston Residents live within 1/2 mile of a park

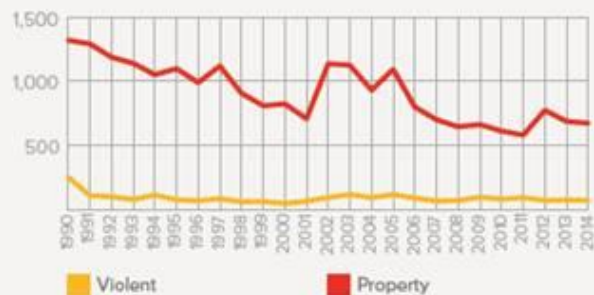
Acres of Parks

Kingston has 91 acres of parkland within 1/2 mile of the municipal boundary*

* The full area for all parks was counted here even if some portion of the park lies further than 1/2 mile from the municipality

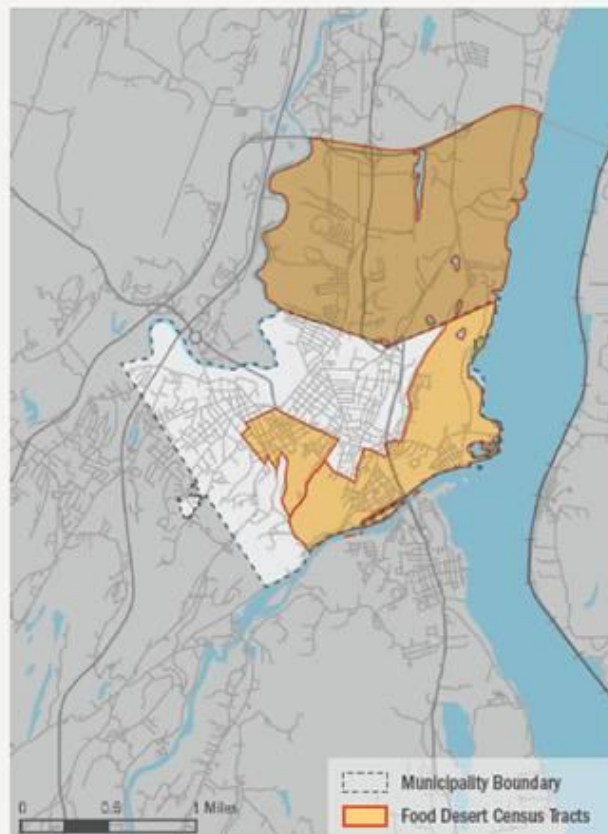
Number of Crimes

source: New York State Division of Criminal Justice Services
agency: Kingston City Police Department



Access to Quality Food

source: USDA, Food Environment Atlas. Low-income tracts with at least 500 people or 33 percent of the population living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.



Obesity Prevalence

source: D-Atlas with data from the 2000-2010 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey



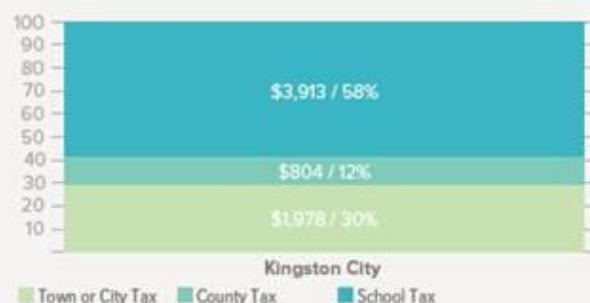
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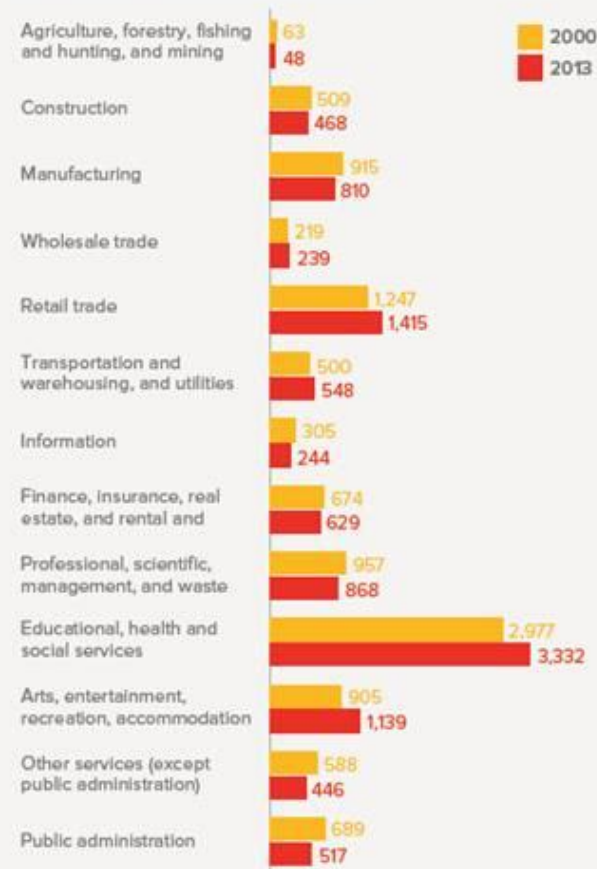
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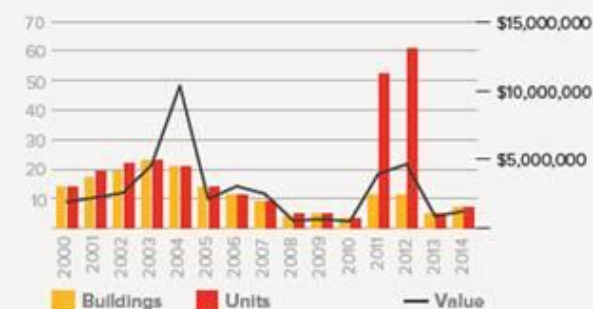
Employment by Industry

source: 2000 Census, 2009-13 American Community Survey



Annual Residential Building Permits

source: Census, 2000-2014 Building Permits Survey
Building permits and expenditures for new residential construction



Place of Work & Mode of Travel

source: 2014 CTP; 2009-13 American Community Survey

Top 5 Places of Employment		Percent of Total Workers
Ulster County, New York		86.6%
Dutchess County, New York		7.1%
New York City, New York		1.9%
Westchester County, New York		0.8%
Albany County, New York		0.8%
Mode of Travel to Work		Percent of Total Workers
Drove Alone in a Car, Truck or Van		71.5%
Carpooled in a Car, Truck or Van		11.0%
Used Public Transportation		2.1%
Average Commute Time		22 minutes



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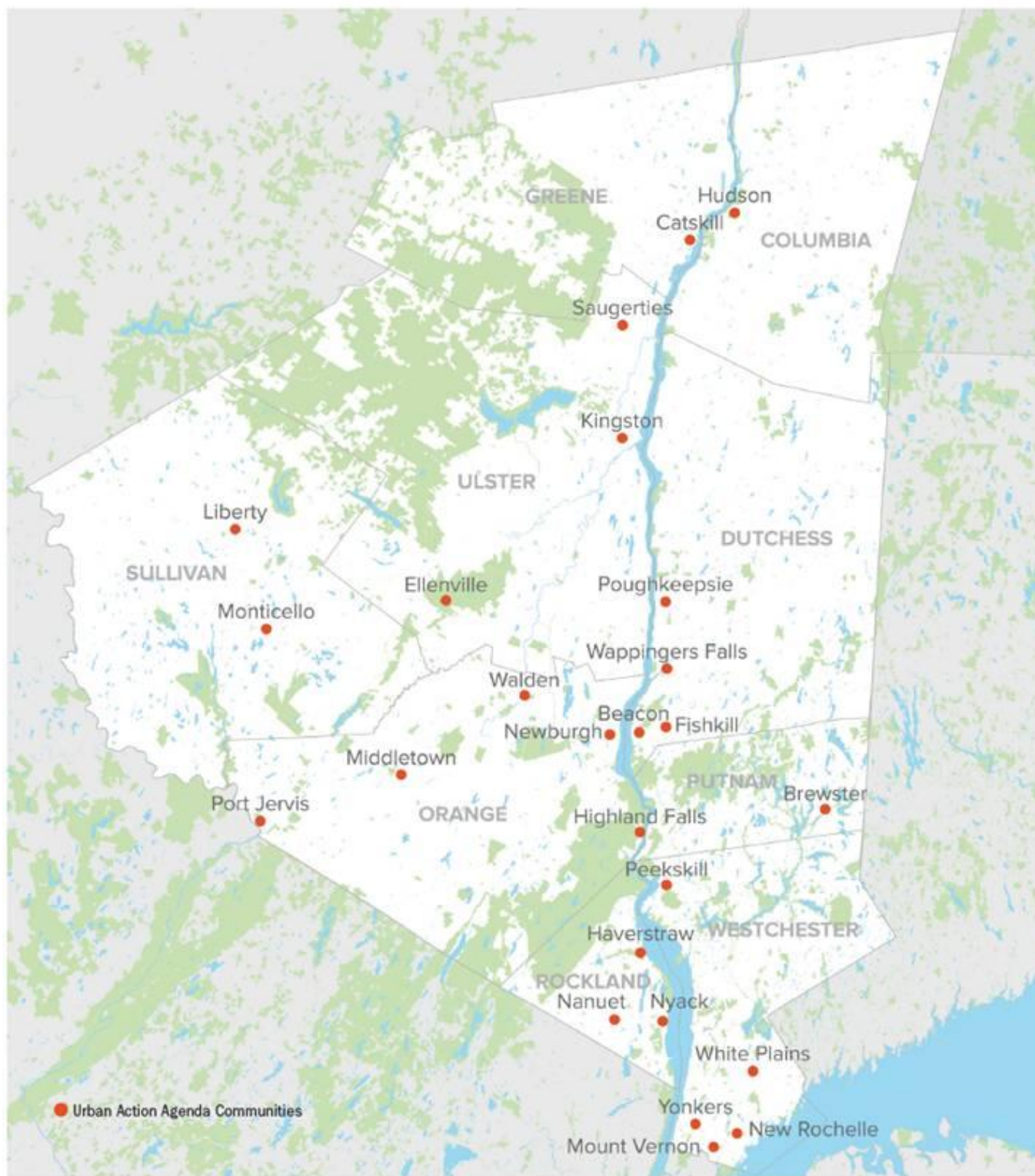
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URBAN ACTION AGENDA COMMUNITIES



KINGSTON 8 OF 8

HUDSON VALLEY **PATTERN** *for* **PROGRESS**

The Village of Monticello



An Infrastructure Snapshot

OPPORTUNITY AREA INFRASTRUCTURE SNAPSHOT

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THE BUILT ENVIRONMENT

The village of Monticello is in the town of Thompson in Sullivan County. Monticello is the largest village, and county seat, in Sullivan with a total population of 6,780 (2014 American Community Survey) with a large number of seasonal residents that impact the ability of the Village to maintain an adequate plan for infrastructure needs. Although the population of Monticello has only increased by 4% from 2000-2014, the Village will need to properly plan and budget in order to sustain and meet the future infrastructure demands of its current and seasonal residents.

According to Pattern's survey, the village of Monticello has a single public water system that serves 76%-100% of its 6,780 residents. The current water system supply can serve current needs, but is not projected to sustain future consumer demand. The water supply treatment system, including distribution lines, is in fair condition (with the system requiring routine maintenance), but there are mounting concerns over the sustainability of the water supply.

According to Pattern's survey, the village has several private and public sanitary sewer system districts, each district serves less than 10% of the population. Although the sanitary sewer system is in fair condition, the Village of Monticello is concerned over the sustainability of the sewer system because it cannot support current needs. Monticello is a community regulated Municipal Separate Storm Sewer System, with a Stormwater Management Plan pursuant to the NYSDEC General Permit. The village regularly assesses the condition of its storm drainage network.

Although Monticello has a Hazard Mitigation Plan, a plan designed to protect residents and property from long-term hazards, the village does not have a Capital Improvement Plan (CIP). CIP's are often short-term plans, separate from annual budgets, which identify priority capital projects, equipment purchases, and maintenance.

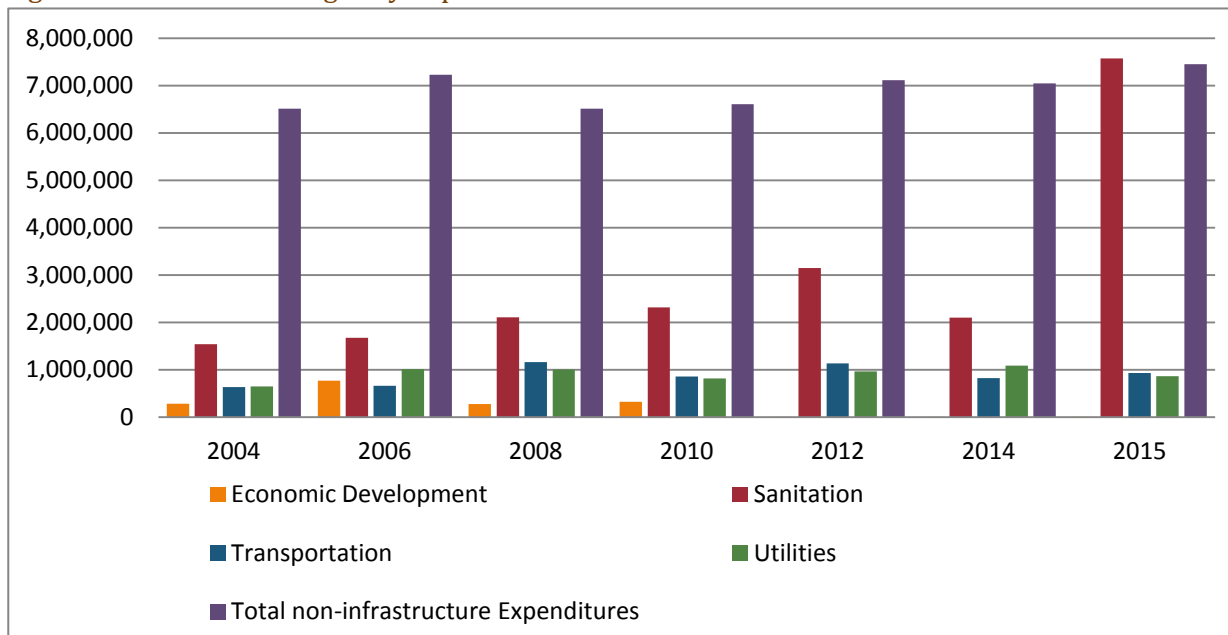
OFFICE OF THE NYS COMPTROLLER

From 2004-2014, the counties, cities, towns and villages of the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$447 million annually. While the need for infrastructure investment remains high, spending on infrastructure shows a potentially troubling trend. Hudson Valley villages devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier.

Throughout the Hudson Valley, government expenditures for infrastructure have declined each year since 2010. Unlike infrastructure spending, overall spending levels remain 7% above the 2004 figure.

- Infrastructure expenditures have increased 202.9% since 2004, whereas non-infrastructure expenditures have increased 14.4% since 2004.
- In 2004, infrastructure expenditures (economic development, sanitation, transportation, and utilities) accounted for 32.2% of total expenditures, increasing by 73% in 2015, when they accounted for 55.7% of total expenditures.

Figure 13-Monticello Budgetary Expenditures



Source: Office of the NYS Comptroller

INTERVIEW HIGHLIGHTS

After interviewing highway and water superintendents from Monticello, funding and workforce challenges appear to be the main barrier to maintenance and expansion. While the full-time population has remained relatively stable since 1990, Monticello has an influx of summer residents that strains existing infrastructure. With local water supplies reaching capacity and pavement deterioration taking its toll, the local government is in need of additional funding to adequately plan for the future and ensure necessary improvements are made.

MONTICELLO INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

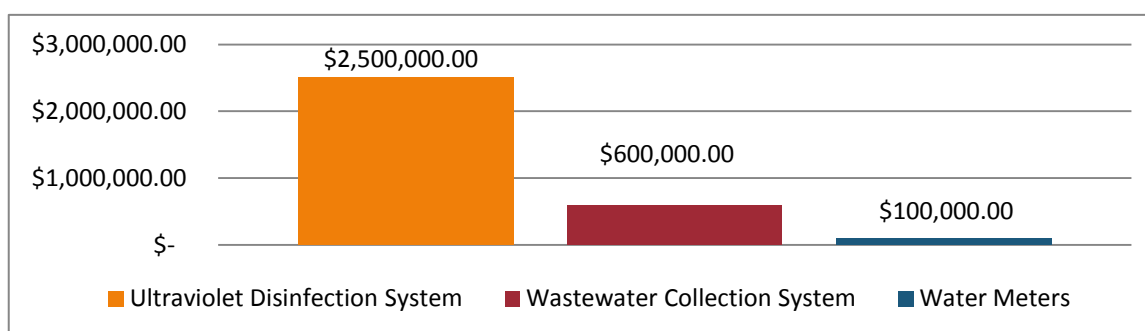
- According to Jim Steinberg, Monticello's population quadruples in the summer; this has extremely adverse effects on pavement infrastructure such as roads, sidewalks and curbs.
- The current water supply is not large enough to handle current demand, which is complicated by the influx of summer residents.
- Drainage and pavement expenses are too costly to maintain. The highway superintendent gave the conditions of his roads a 6 out of 10, with 10 being poorest.
- The tax base that funds various government expenses is not what it used to be. This makes funding infrastructure projects difficult.
- For the amount of work that needs to be done around the village, there is an understaffed workforce that cannot complete necessary work.
- Budget constraints only allow for a minimal labor force.
- Tax cap limitations restrict amount of funds the village can request for infrastructure needs.
- Highway and water departments are both in a position where expansion and innovation are not an option.
- The village has a water system that does not "loop" water properly. Without looping, particulate matter can build up, making it difficult for pipes to pump out wastewater.
- Failed Total Organic Carbon (TOC) testing. A TOC test analyzes water to determine the amount of total carbons within a water supply. Failing this test means the amount of organic carbons in a water supply can have adverse health effects.
- The public becomes increasingly concerned over the quality of its infrastructure water when tests reveal the presence of lead and copper in their water.
- Upgrading the local sewer treatment plant: \$21.5 million from a grant provided by the United States Department of Agriculture.
- Rehabilitation of the local water-plant system.
- Integrating a local water-metering system using a Community Development Block Grant.
- Improve local sidewalk entrances, gateways, drainage systems and pavement through FHA Transportation Improvement Act.

COMMUNITY WISH LIST

Q. If funding were not an issue, what would you do to provide enhanced services to your residents?

- Properly upgrade the pump station to provide a more effective system to move clean water and sewage to and from homes.
- Update the collection system, allowing for the longevity of local infrastructure as it affects the water quality.
- A new water source has been identified from a local reservoir. Being able to purchase the rights to the land and water would provide the village with a sustainable water source to meet future demand.

Figure 14-Grants Awarded to Monticello through 25 CFA Process



Source: <http://co.sullivan.ny.us/CountyNews/tabid/2206/ArticleId/690/FromTabId/36/Default.aspx>

RECOMMENDATIONS

As Monticello seeks to anticipate infrastructure needs of permanent and seasonal residents, Pattern recommends the village review their methodology for determining seasonal population variations and adopt a consistent methodology to predict estimates. This will allow the village to plan for increases during the summer and seek funding strategies (including grants and loans) to provide for the maintenance of existing infrastructure required to accommodate seasonal growth.

INFRASTRUCTURE FUNDING OPTIONS

Funding is always a concern for municipalities when it comes to large community projects. Having to remain within the state's 2% tax cap (or the rate of inflation) is not always easy for smaller municipalities. However, there are many different forms of funding available to municipalities at the state and federal level.

TYPES OF FUNDING AVAILABLE

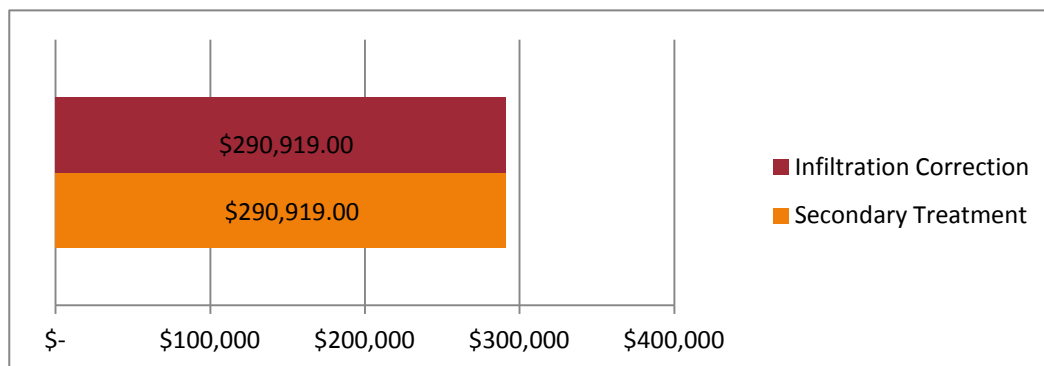
- Environmental Facilities Corporation (EFC) loans: These loans can usually be issued at below-market or zero-percent interest rates.
- New York State Water Grants Program: This year, Governor Cuomo announced \$75 million directed at updating and restoring water-related infrastructure.

- Community Development Block Grants (CDBG): One of the longest-running programs of the U.S. Department of Housing and Urban Development; it funds local community development activities such as affordable housing, anti-poverty programs and infrastructure development.
- Certified Local Government Grants (CLG): Each federal fiscal year, New York State sets aside 10 percent of the state's allocation of federal historic-preservation funds for pass-through to Certified Local Governments. Funding may be applied to many kinds of projects that address the goals of identifying, evaluating, nominating and protecting a community's cultural resources.
- Consolidated Local Street and Highway Improvement Program (CHIPS): These grants are designed for aiding municipal roads and highways.

EPA FIVE-YEAR NEEDS SURVEY

- The Environmental Protection Agency (EPA) Clean Watersheds Needs Survey (CWNS) is an evaluation of reported capital investment needs for publicly owned wastewater-collection and treatment facilities. These needs must be met to remain within compliance standards set by the Clean Water Act. The last survey was completed in 2012 and will be reissued in 2016.
- According to the EPA, infiltration correction entails “controlling the penetration of water into a sanitary or combined sewer system from the ground through defective pipes or manholes,” which secondary treatment includes “needs and costs necessary to meet the minimum level of treatment” for all treatment facilities.
- Secondary treatment typically requires a treatment level that produces 30 mg/l of both BOD5 (the amount of oxygen required to break down organic material in a given water sample) and total suspended solids (solids in water that can be trapped by a filter).
- Monticello reported that capital investments will go toward infiltration correction and secondary treatment. Monticello’s documented needs total \$581,838 to rehabilitate the collection system and improve their treatment plant.

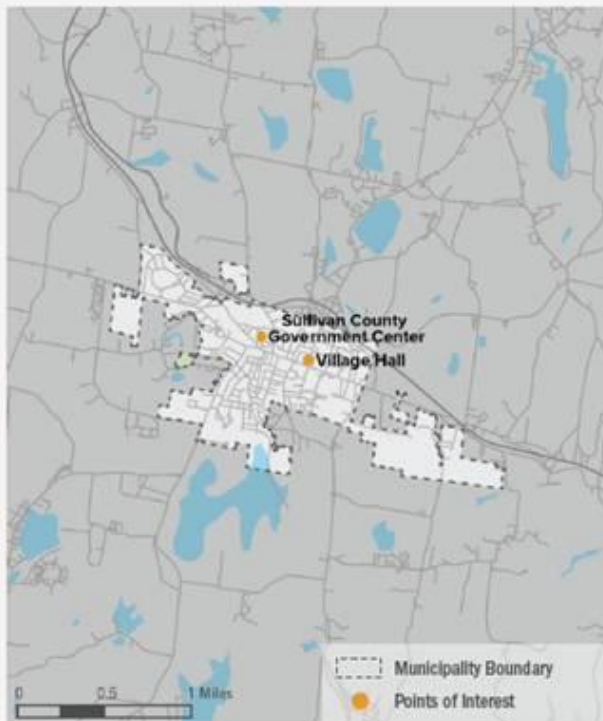
Figure 15- Monticello 5 Year EPA Documented Needs 2012



Source: EPA Clean Watershed Needs Survey

URBAN ACTION AGENDA 2015

VILLAGE OF MONTICELLO



6,781 Population

20% of units are owner occupied

55% of units are renter occupied

25% of units are vacant

27% of residents receive food assistance benefits

57% of households pay greater than 30% of their household income towards housing

13% of residents have a bachelor's degree or higher

\$21,668 is the median household income

74% of residents work within the municipality

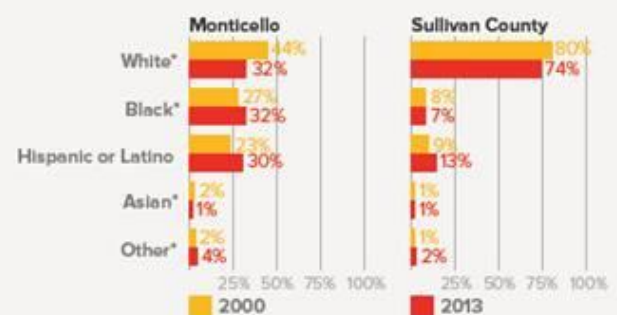
Share of Population by Age and Sex

source: 2009-13 American Community Survey



Population by Race and Ethnicity

source: 2009-13 American Community Survey, 2000 Decennial Census



* not Hispanic or Latino

MONTICELLO

HOUSING

The metrics on this page provide information about housing in the community - the number of owner-occupied, renter-occupied, and vacant units as compared to the county overall; the change in home values since 2000; and the age of the housing stock. Housing wage looks at the amount of money a person working a full-time job would have to make in order to afford rental housing (in this case a one or two bedroom unit) without having to pay more than 30% of their income. Finally, housing cost as a percent of income shows the percentage of renters and owners in the community whose housing costs are considered affordable, unaffordable, and severely unaffordable.

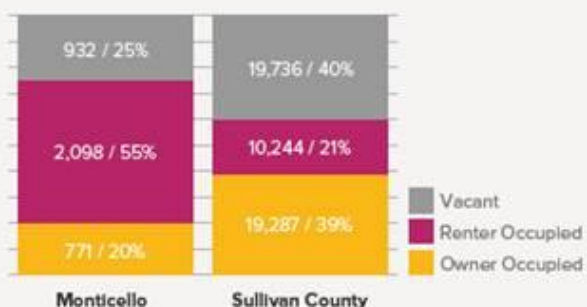
Housing Wage

source: National Low Income Housing Coalition

Housing wage for a one bedroom apartment in Sullivan County:	13.29	per hour
	\$26,577	per year
Housing wage for a two bedroom apartment in Sullivan County:	16.48	per hour
	\$32,962	per year

Housing Tenure

source: 2009-13 American Community Survey



Age of Housing Stock

source: 2009-13 American Community Survey



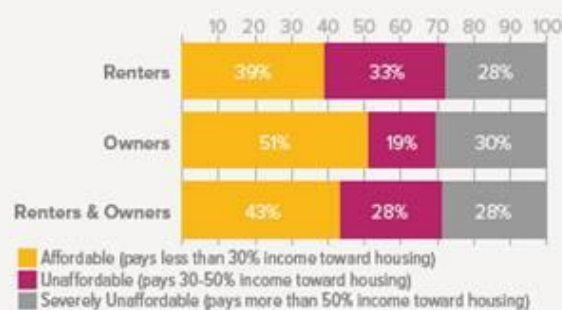
Changing Home Values

source: 2009-13 American Community Survey, 2000 Census



Housing Cost as Percent of Income

source: 2008-2012 HUD CHAS



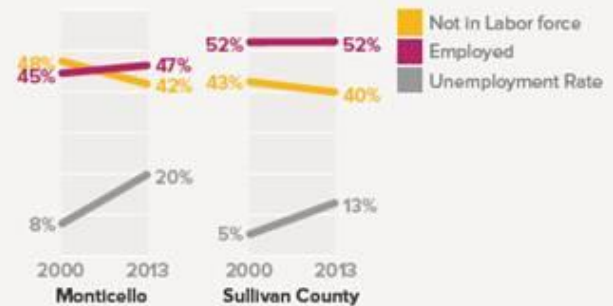
MONTICELLO

INCOME AND POVERTY

The metrics on this page provide information about income and poverty in the community. Median household income, income distribution, and the percentage of households in poverty in 2000 and 2013 for the community and the county are shown. The employment rate, the percentage of residents not in the labor force, and the unemployment rate in 2000 and 2013 for the community and the county are also shown. Finally, the percentage of households receiving food assistance for the community and the county is based on the distribution of USDA Supplemental Nutrition Assistance Program (SNAP) benefits.

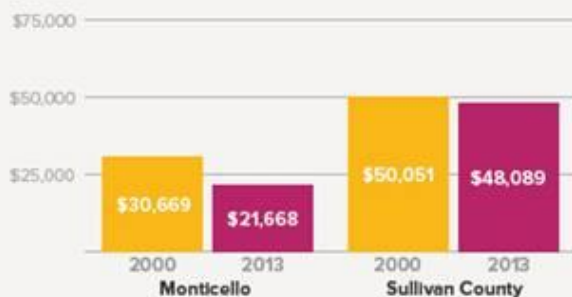
Labor Force Participation

source: 2009-13 American Community Survey, 2000 Census
Percent of Residents Ages 16 and Over



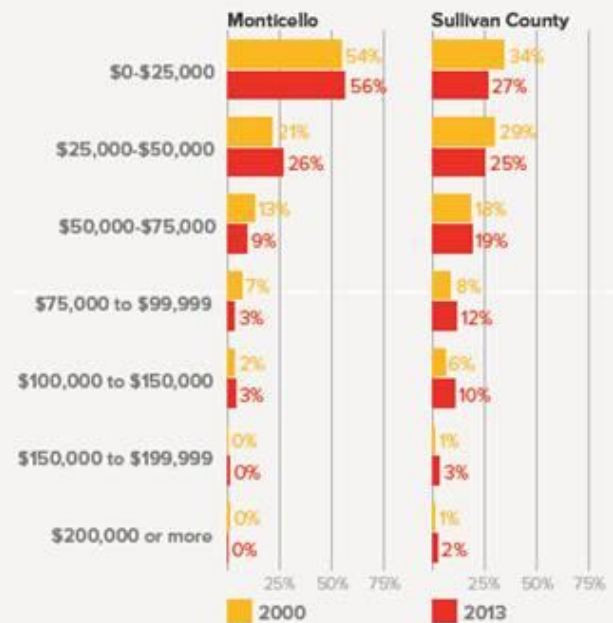
Median Household Income

source: 2009-13 American Community Survey, Census 2000 (adjusted to 2013 dollars)



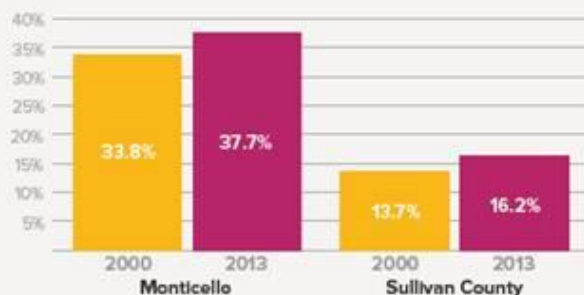
Income Distribution

source: 2009-13 American Community Survey, 2000 Census



Households in Poverty

source: 2009-13 American Community Survey, Census 2000



Households Receiving Food Assistance

source: 2009-13 American Community Survey, Snap Benefits

	2013
Village of Monticello	27%
Sullivan County	13%

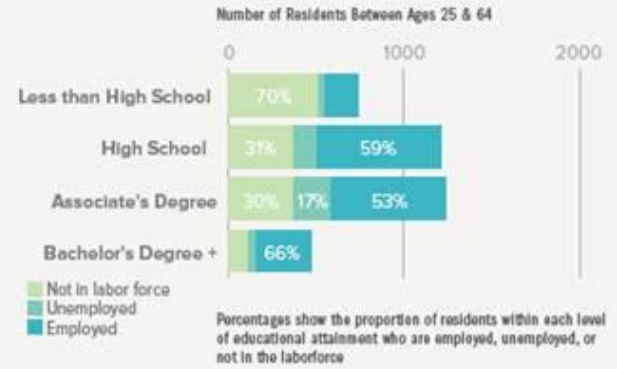
MONTICELLO

EDUCATION

The metrics on this page provide information about education in the community. The school district or districts that are located in the community are illustrated on the map; and annual spending per pupil for years 2005-2013 is shown for each of the school districts. Communitywide educational attainment and its relation to employment for those aged 25-64 is shown. Select demographics for each school district – enrollment, the percentage of students who are eligible for free or reduced lunch, and the number of students with limited English proficiency – are shown. Finally, annual school performance for each district is demonstrated by the graduation rate and a college and career readiness measure established by the NYS Department of Education starting in 2010.

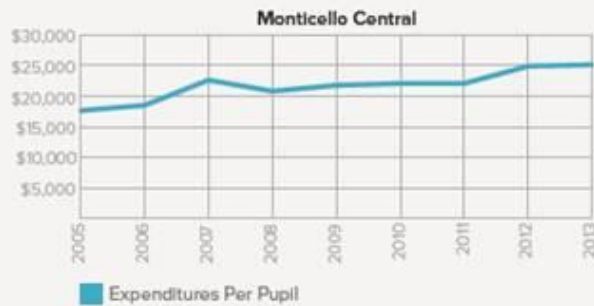
Employment and Education

source: 2009-2013 American Community Survey



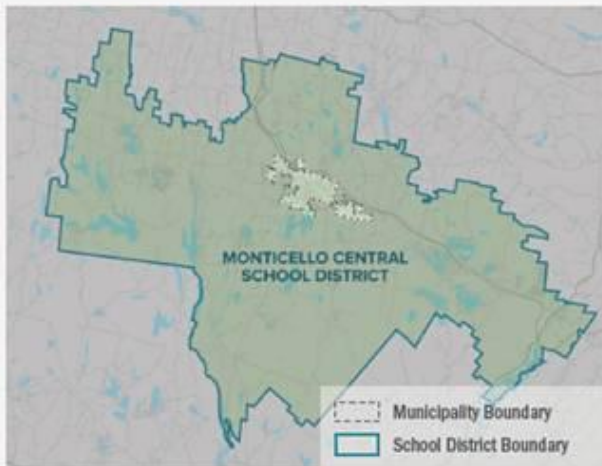
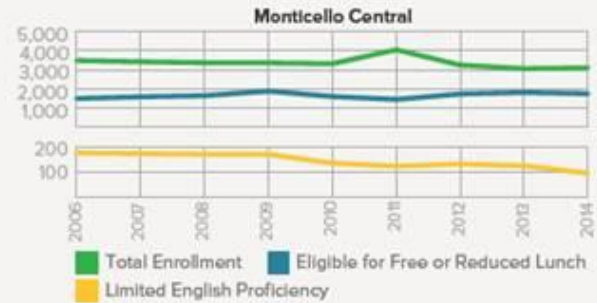
Expenditures Per Pupil

source: New York State Department of Education



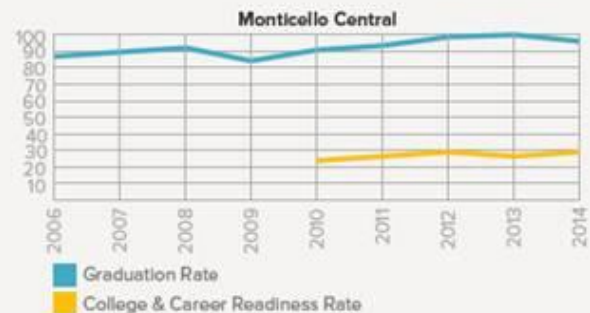
School District Student Characteristics

source: New York State Department of Education



Graduation Rate & Career Readiness

source: New York State Department of Education
note: College and career readiness data only available for 2010-2014



MONTICELLO

QUALITY OF LIFE

Indicators on this page provide information about the quality of life in the community. The annual number of reported crimes going back to 1990 is broken down into two categories – violent and property crimes. Obesity prevalence by zip code in comparison to the county provides an indicator of public health. The percent of the population that lives within walking distance of a park as well as the total acres of parks in close proximity of the municipality are expressed. And finally, access to quality food looks at the proximity of people in low-income neighborhoods to the nearest supermarket, supercenter, or large grocery store. Areas that are highlighted demonstrate poor access to quality food.

Access to Parks

source: open space data from The Nature Conservancy

Access To Parks

82% of Monticello Residents live within 1/2 mile of a park

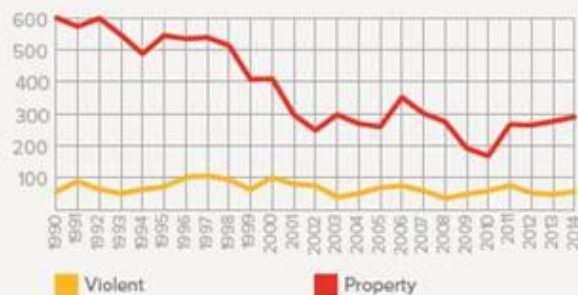
Acres of Parks

Monticello has 26 acres of parkland within 1/2 mile of the municipal boundary*

* The full area for all parks was counted here even if some portion of the park lies further than 1/2 mile from the municipality

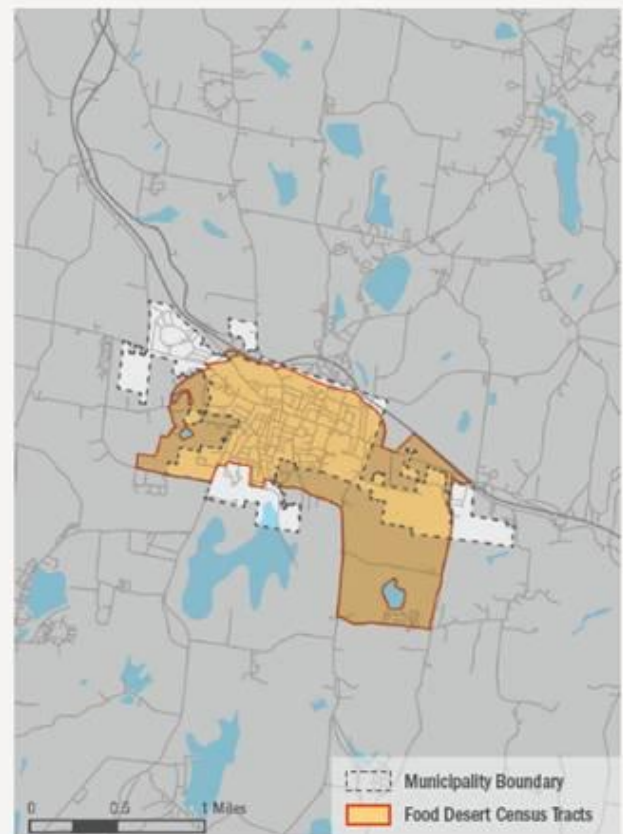
Number of Crimes

source: New York State Division of Criminal Justice Services
agency: Monticello Village Police Department



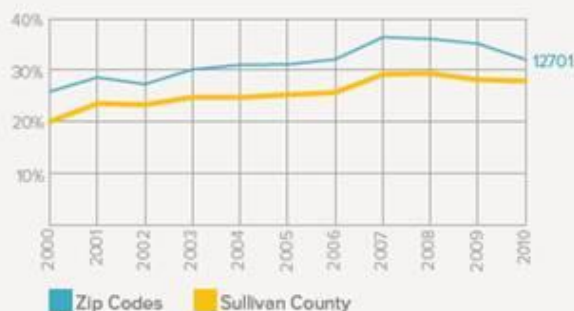
Access to Quality Food

source: USDA, Food Environment Atlas. Low-income tracts with at least 500 people or 33 percent of the population living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.



Obesity Prevalence

source: D-Atlas with data from the 2000-2010 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey



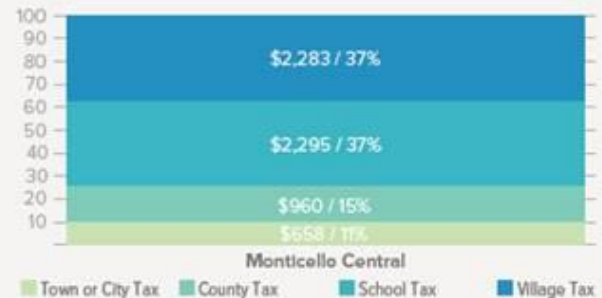
MONTICELLO

ECONOMY

The metrics on this page provide information about the local economy. The estimated amount and distribution of property taxes among taxing jurisdictions (local, county, and school district) is shown for a home with the community's median home value. Employment by industry is shown for the years 2000 and 2013. The annual number of residential building permits (in terms of both buildings and units) from 2000 to 2014, and the total annual value of residential building permits is provided. And finally, the top five places of employment for residents of the community are listed along with the primary modes of transportation to work and the average commute time for all workers who live in the community.

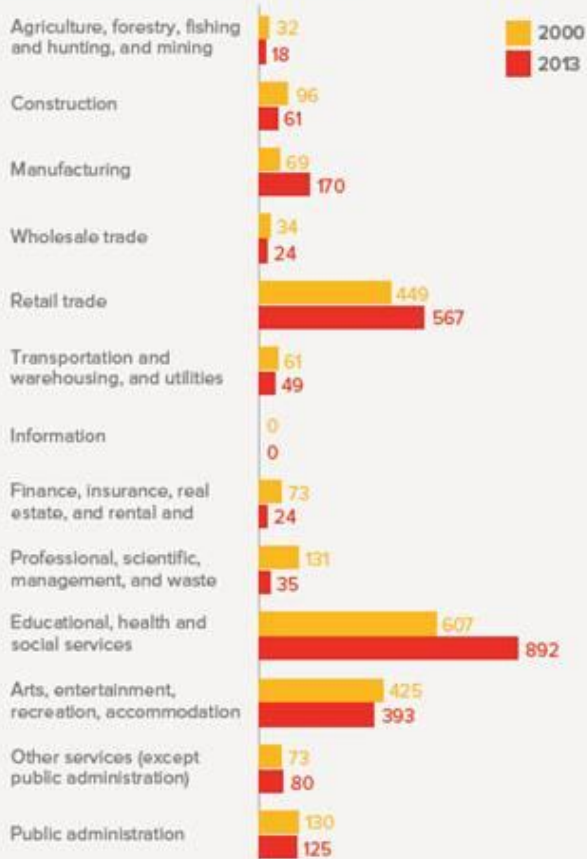
Taxes based on \$134,900 Home

source: New York State Office of Real Property Tax Services 2013
note: Excludes local fire and other special taxing districts.



Employment by Industry

source: 2000 Census, 2009-13 American Community Survey



Annual Residential Building Permits

source: Census, 2000-2014 Building Permits Survey
Building permits and expenditures for new residential construction



Place of Work & Mode of Travel

source: 2014 CTPR, 2009-13 American Community Survey

Top 5 Places of Employment		Percent of Total Workers
Sullivan County, New York		87.7%
Orange County, New York		5.3%
New York City, New York		4.6%
Herkimer County, New York		1.4%
Hudson County, New Jersey		1.1%
Mode of Travel to Work		Percent of Total Workers
Drove Alone in a Car, Truck or Van		67.6%
Carpooled in a Car, Truck or Van		16.2%
Used Public Transportation		3.1%
Average Commute Time		21 minutes



ABOUT THIS PROJECT

The Urban Action Agenda (UAA) is a three-year initiative led by Hudson Valley Pattern for Progress (Pattern) to promote the revitalization of urban centers throughout the nine-county Hudson Valley Region. Though it is part of the larger NYC Metropolitan Region, the Hudson Valley does not have a single urban center that acts as the region's heart but instead consists of a constellation of urban centers, large and small, located along the Hudson River and other historic transportation corridors. Today, these places face a number of challenges; but some of the Hudson Valley's urban centers are starting to turn the corner. Nationally, trends show a renewed interest in urban living. Vibrant downtowns and waterfronts, walkable neighborhoods, access to high quality public spaces and other amenities are bringing people back to cities and other urban places.

Hudson Valley Pattern for Progress sees this as an historic moment to focus attention on the revitalization of the region's urban centers. With their existing infrastructure, these communities are best suited to accommodate the region's future growth. A focus on urban centers is consistent with our region's environmental ethos and also serves to aid in the preservation of the Valley's special landscape.

The UAA seeks to place the revitalization of our urban centers squarely at the forefront of the region's policy and investment priorities at the local, regional and state level. Through the UAA we will assess the state of the region and monitor progress; convene and collaborate with local officials, regional agencies, and organizations; use public engagement to solicit ideas; prepare a regional strategy based on local and national best practices that can guide revitalization efforts; integrate UAA research with complementary activities in the larger New

York Region; and educate stakeholders through UAA reports and by periodically hosting urban experts to speak on a variety of topics facing our communities.

Twenty-five communities in the Hudson Valley have agreed to participate directly in the UAA initiative. As part of the project we developed these data profiles for each of the UAA communities. Pattern is also collaborating with each UAA community to identify revitalization strategies that are working and which may be transferable, unique amenities and assets that should be promoted, and transformative projects that can be advocated for under the UAA banner.

The UAA is funded in part through a grant from the Ford Foundation in partnership with the Regional Plan Association (RPA) as part of RPA's Fourth Regional Plan initiative.

About Hudson Valley Pattern for Progress

Celebrating our 50th Anniversary in 2015, Hudson Valley Pattern for Progress is a not-for-profit policy, planning, advocacy and research organization whose mission is to promote regional, balanced and sustainable solutions that enhance the growth and vitality of the Hudson Valley. Pattern brings together business, nonprofit, academic and government leaders from across as many as nine counties to collaborate on regional issues. For more information, please visit www.pattern-for-progress.org

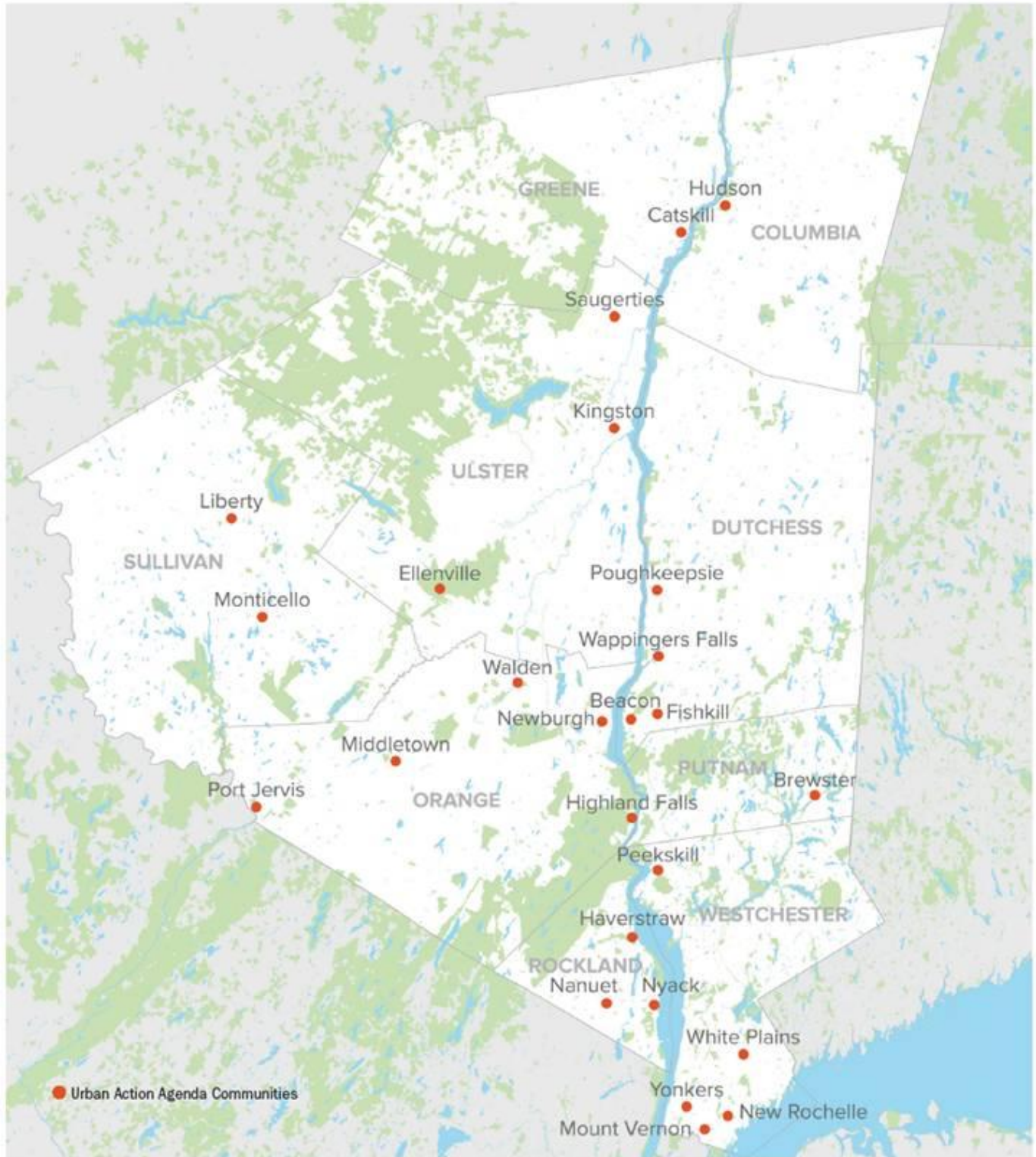
About Regional Plan Association

Regional Plan Association is America's most distinguished independent urban research and advocacy organization. RPA improves the New York metropolitan region's economic health, environmental sustainability and quality of life through research, planning and advocacy. Since the 1920s, RPA has produced three landmark plans for the region and is working on a fourth plan that will tackle challenges related to sustained economic growth and opportunity, climate change, infrastructure and the fiscal health of our state and local governments. For more information, please visit www.rpa.org.

Citation

Regional Plan Association and Hudson Valley Pattern for Progress. November 2015. "Urban Action Agenda 2015: Municipal Profiles."

URBAN ACTION AGENDA COMMUNITIES



MONTICELLO 8 OF 8

HUDSON VALLEY **PATTERN** *for* **PROGRESS**



An Infrastructure Snapshot

OPPORTUNITY AREA INFRASTRUCTURE SNAPSHOT

The seven Community Infrastructure Snapshots were made possible through funding provided by the Mid-Hudson Regional Economic Development Council (REDC) to continue Pattern's work in infrastructure research and future planning for the REDC. The REDC identified a number of communities within its economic-development region as "Opportunity Areas" based upon specific criteria and levels of distress. The criteria include high levels of poverty, vacancy rates and unemployment. Pattern surveyed municipalities across the Hudson Valley to assess the capacity and barriers to infrastructure investment. Pattern also focused specifically on seven "Opportunity Areas" and developed these Community Infrastructure Snapshots to assist in identifying local needs. Infrastructure, such as aspects of public works, transportation (roads and bridges) and water (both water supply and sewage), were among the areas included.

THE BUILT ENVIRONMENT

The City of Mount Vernon, in Westchester County, has a population of 67,982 residents (2014 American Community Survey). The city is 30 minutes north of Grand Central Terminal with access to Metro-North Railroad's New Haven and Harlem train lines.

According to Pattern's survey, Mount Vernon has a single public-water system that serves 76%-100% of its 67,982 residents. The water system and supply can sustain current needs, and is therefore not an immediate concern. The water-supply treatment system, including distribution lines (which will need to be re-lined), are in good condition (with the system requiring routine maintenance). The city expressed an interest in upgrading facilities in the future.

The city has two public sanitary-sewer systems that serve less than 76-100% of the population. Sustaining the sanitary sewer system is an immediate concern to the city because the sewer system is infiltrating the stormwater system. From 2006-2008, the city constructed a wastewater treatment plant and replaced old mains and laterals.⁷

Mount Vernon has a community regulated Municipal Separate Storm Sewer System, with a Stormwater Management Plan pursuant to the NYSDEC General Permit. The city does not have a Capital Improvement Plan (CIP). CIPs are often short-term plans, separate from annual budgets, which identify priority capital projects, equipment purchases and maintenance.

⁷The Environmental Protection Agency ordered the City to provide a video inspection of almost 100 miles of sewers and drains to locate illicit discharges into the storm sewer system.

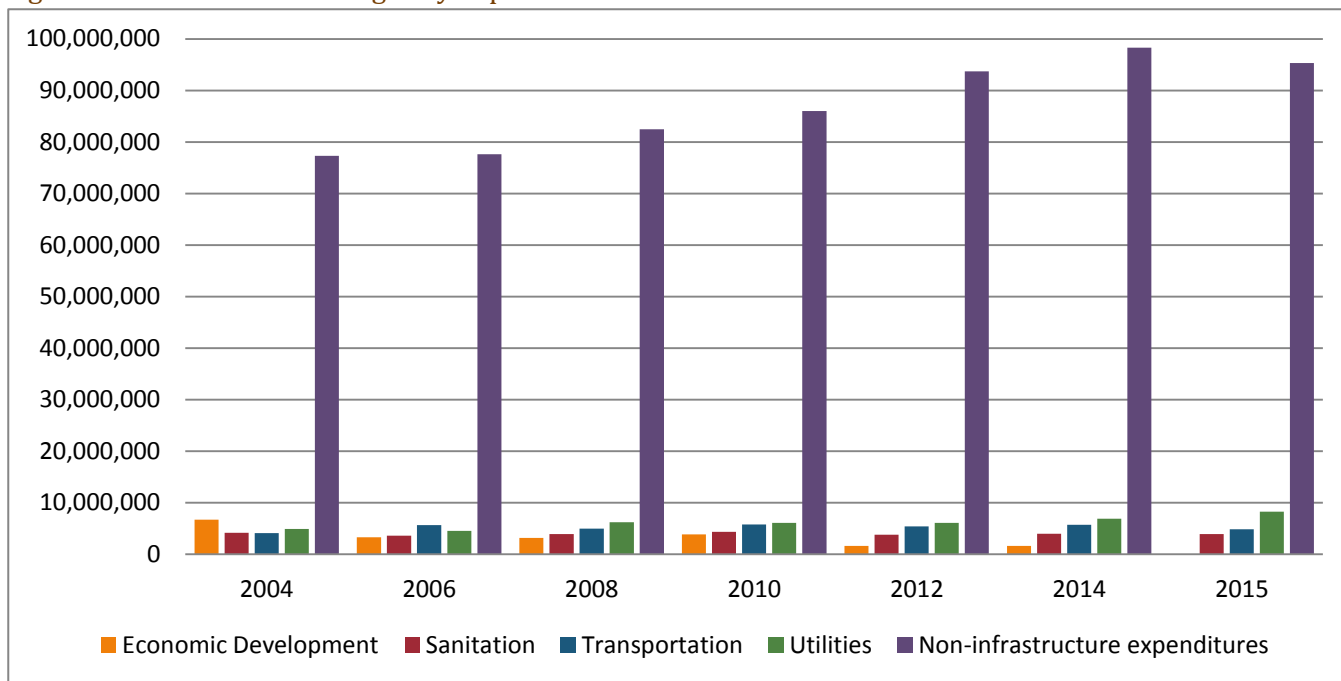
OFFICE OF THE NYS COMPTROLLER

From 2004-2014, the counties, cities, towns and villages of the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$447 million annually. While the need for infrastructure investment remains high, spending on infrastructure shows a potentially troubling trend. Hudson Valley villages devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier.

Throughout the Hudson Valley, government expenditures for infrastructure have declined each year since 2010. Unlike infrastructure spending, overall spending levels remain 7% above the 2004 figure.

- Infrastructure expenditures decreased 14.2% since 2004, whereas non-infrastructure expenditures increased 23.3% since 2004.
- In 2004, infrastructure expenditures (economic development, sanitation, transportation and utilities) accounted for 20.4% of total expenditures, decreasing by 25.8% in 2015, where they accounted for 15.1% of total expenditures.

Figure 16-Mount Vernon Budgetary Expenditures



Source: Office of the NYS Comptroller

City of Mount Vernon Snapshot

Prepared by: Hudson Valley Pattern for Progress

INTERVIEW HIGHLIGHTS

After interviewing the Commissioner of Public Works of Mount Vernon, funding and regulations appear to be the main barrier to maintenance and expansion. Mount Vernon has plans to update its aging infrastructure to accommodate additional housing and economic development. With these changes underway, the city is taking every measure to ensure its systems are up to date and safe for public use.

MT. VERNON INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

With a change in leadership, and requirements by the EPA to inspect 100 miles of sewers and drains, the city is working to address these problems and securing funding to:

- Replace and elevate the bridges that carry East Lincoln Avenue over the Hutchinson River Parkway.
- Raise the elevation of a 1,200-foot section of the Hutchinson River Parkway above future flood level, alleviating flooding, traffic diversions and congestion on the parkway in Mount Vernon.
- Federal officials have ordered the city to spend at least \$2.5 million to inspect its polluting sewers.
- Locate illicit discharges into the storm-sewer system; test water at manholes to track down the contamination sources; and determine the scope and costs required for mandated repairs to initiate compliance with the federal EPA order.
- Video inspection of almost 100 miles of sewers and drains to locate illicit sanitary sewer discharges.
- Seeking \$350 million in capital funding from the Metropolitan Transportation Authority for bridge repairs (\$110 million) and station repairs (\$70 million).
- Secure \$20 million from the MTA to create multiple footbridges to connect the Westside and Fleetwood areas of Mount Vernon to the Bronx River Park.
- Secure \$96.9 million for roads, bridges and buildings and \$66.6 million for sewer and water infrastructure from the state.

City of Mount Vernon Snapshot

Prepared by: Hudson Valley Pattern for Progress

MAYOR RICHARD THOMAS' COMMUNITY WISH LIST

Q. If funding were not an issue, what would you do to provide enhanced services to your residents?

The following “wish” list was derived from the June 2016 issue of Construction News:

- Bridge repairs (\$110 million)
- Train station repairs (\$70 million)
- Footbridges (\$20 million)
- Roads, bridges, buildings (\$96.9 million)
- Sewer and water repairs (\$66.6 million)
- Memorial Field (\$20 million)
- Road-paving programs (\$3 million)
- Mayor Thomas called for a “Local Infrastructure Tax” similar to the New York State Excise Tax, at eight cents.
- Commissioner of Public Works Ralph Uzzi requested equipment upgrades for sanitation, parks, road maintenance, trucks, plows, street lighting, a new cherry picker, street sweepers and sanitation vehicles.



RECOMMENDATIONS

A June 2015 Journal News article stated that residents in Mount Vernon would need to approve borrowing \$10 million to complete work needed to reopen Memorial Field. To garner local support for this project, Pattern recommends initiating a community cleanup effort (picking up litter, cleaning up debris, basic landscaping) for Memorial Field to get the site ready for the larger development project, followed by a community potluck and informational overview of the site plans. This initiative can re-establish the connection the community had with Memorial Field by allowing residents to directly participate in its revival. In addition to the cleanup, residents can learn more about the plan to reopen Memorial Field as a multi-purpose site.

INFRASTRUCTURE FUNDING OPTIONS

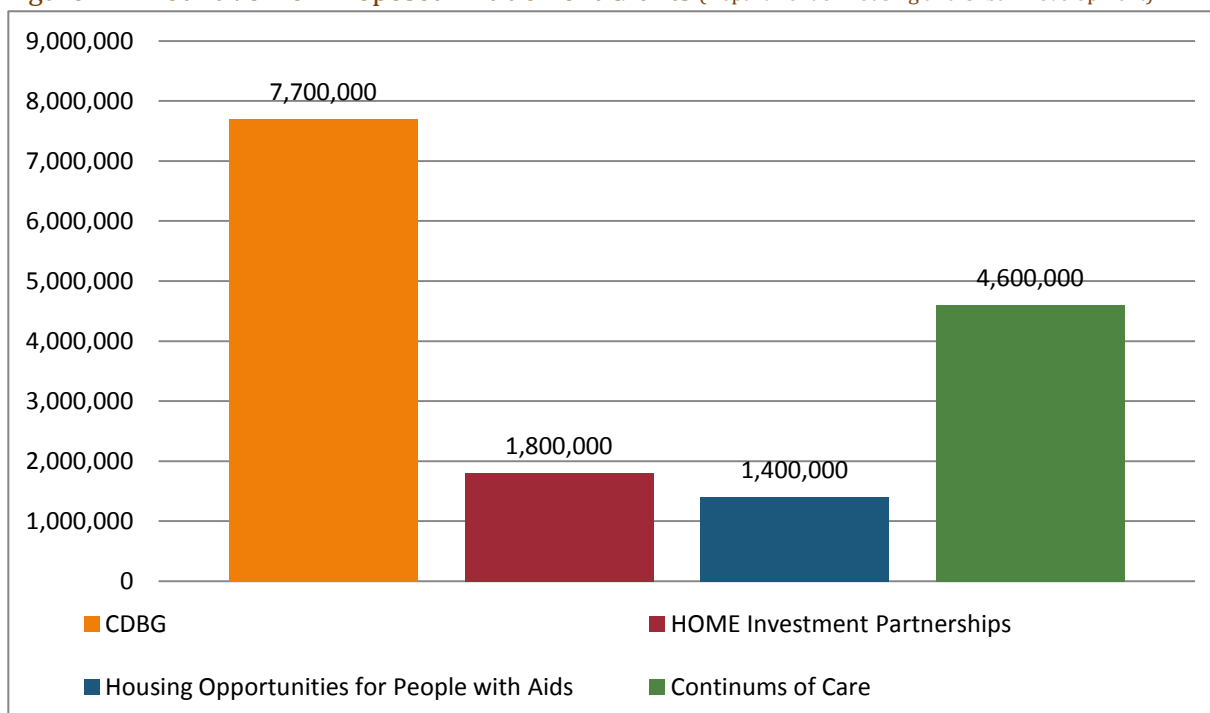
Funding is always a concern for municipalities when it comes to large community projects. Having to remain within the state’s 2% tax cap (or the rate of inflation) is not always easy for financially challenged municipalities. However, there are many different forms of funding available to municipalities at the state and federal level. The most difficult aspect of finding funding for municipal projects is knowing where to look.

There are multiple forms of funding, from Community Development Block Grants, low- to zero-percent interest loans, or receiving aid from New York State. The trouble is knowing where to look, but in the words of Tom Murphy, former Mayor of the city of Pittsburgh, “There is always a way to find funding.”

TYPES OF FUNDING AVAILABLE

- Community Development Block Grants (CDBG): One of the longest-running programs of the U.S. Department of Housing and Urban Development; it funds local community development activities such as affordable housing, anti-poverty programs and infrastructure development.
- Environmental Facilities Corporation (EFC) loans: These loans can usually be issued at below market or zero-percent interest rates.
- New York State Water Grants Program: This year, Governor Cuomo announced \$75 million directed at updating and restoring water-related infrastructure.
- Certified Local Government Grants (CLG): Each federal fiscal year, New York State sets aside 10 percent of the state's allocation of federal historic preservation funds for pass-through to Certified Local Governments. Funding may be applied to many kinds of projects that address the goals of identifying, evaluating, nominating and protecting a community's cultural resources.
- Consolidated Local Street and Highway Improvement Program (CHIPS): These grants are specifically designed for aiding in municipal roads and highways.

Figure 17- Mount Vernon Proposed Entitlement Grants (Department of Housing and Urban Development)



Source: http://cmvny.com/wp-content/uploads/2015/06/FINAL-DRAFT_Mount-Vernon-2015-2019-Consolidated-Plan1.pdf

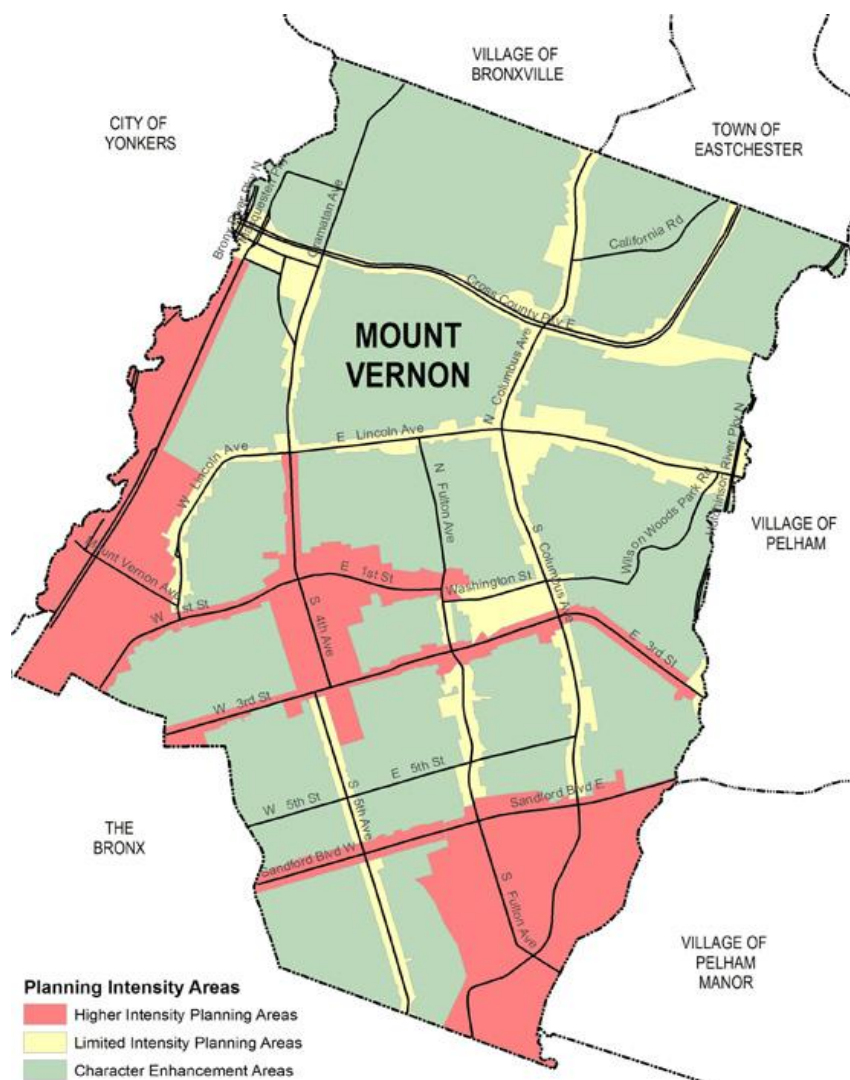
ANNUAL ACTION PLAN

Mount Vernon is a recipient of federal entitlement grant funding. The city must submit a Consolidated Plan to the U.S. Department of Housing and Urban Development every five years detailing community development priorities and multi-year goals based on housing and community-development needs.

The resources from the entitlement grants help establish programs and goals that will better the community. Funds are allocated among the city's four identified "Local Target Areas": the CD Target Area, Downtown, Mount Vernon West and Southside, all to improve housing, economic development and community development.

Through 2019, Mount Vernon established several goals to address the needs of the community. These goals will incentivize developers to dedicate 10% of units to persons with physical disabilities; preserve, upgrade and develop new dwellings to increase the number of units affordable to extremely low, low- and moderate-income households, and revitalize deteriorated or "blighted" neighborhoods.

Figure 18-



Source: Annual Action Plan (2015)

URBAN ACTION AGENDA 2015

**CITY OF
MOUNT VERNON**



67,653 Population

33% of units are owner occupied

55% of units are renter occupied

12% of units are vacant

20% of residents receive food assistance benefits

53% of households pay greater than 30% of their household income towards housing

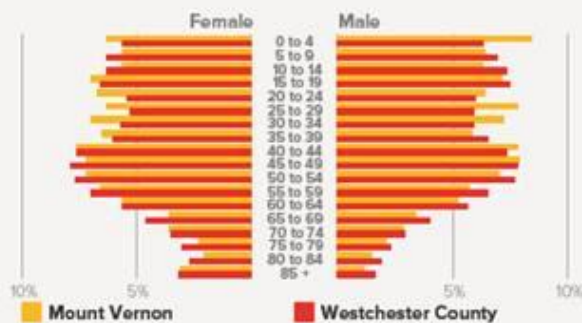
28% of residents have a bachelor's degree or higher

\$49,328 is the median household income

30% of residents work within the municipality

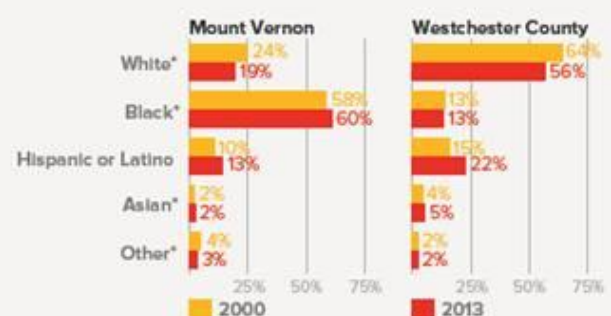
Share of Population by Age and Sex

source: 2009-13 American Community Survey



Population by Race and Ethnicity

source: 2009-13 American Community Survey, 2000 Decennial Census



* not Hispanic or Latino

MOUNT VERNON 1 OF 8

URBAN ACTION AGENDA 2015

MOUNT VERNON

HOUSING

The metrics on this page provide information about housing in the community - the number of owner-occupied, renter-occupied, and vacant units as compared to the county overall; the change in home values since 2000; and the age of the housing stock. Housing wage looks at the amount of money a person working a full-time job would have to make in order to afford rental housing (in this case a one or two bedroom unit) without having to pay more than 30% of their income. Finally, housing cost as a percent of income shows the percentage of renters and owners in the community whose housing costs are considered affordable, unaffordable, and severely unaffordable.

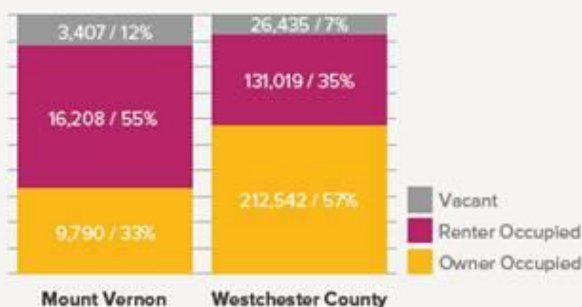
Housing Wage

source: National Low Income Housing Coalition

Housing wage for a one bedroom apartment in Westchester County:	22.92	per hour
	\$45,846	per year
Housing wage for a two bedroom apartment in Westchester County:	28.23	per hour
	\$56,462	per year

Housing Tenure

source: 2009-13 American Community Survey



Age of Housing Stock

source: 2009-13 American Community Survey



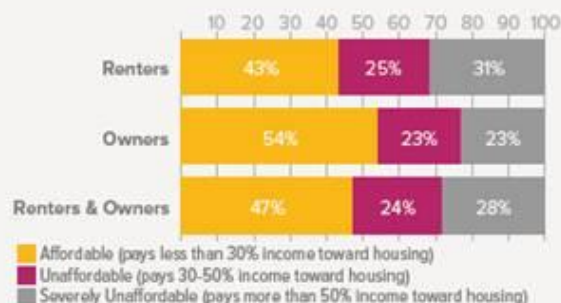
Changing Home Values

source: 2009-13 American Community Survey, 2000 Census



Housing Cost as Percent of Income

source: 2008-2012 HUD CHAS



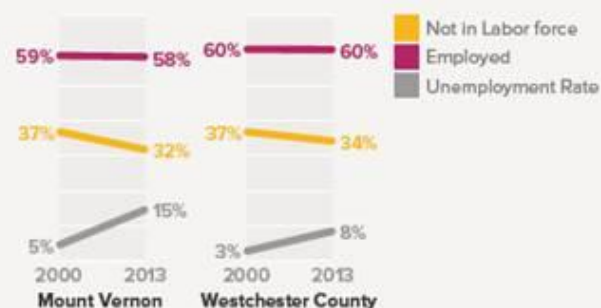
MOUNT VERNON

INCOME AND POVERTY

The metrics on this page provide information about income and poverty in the community. Median household income, income distribution, and the percentage of households in poverty in 2000 and 2013 for the community and the county are shown. The employment rate, the percentage of residents not in the labor force, and the unemployment rate in 2000 and 2013 for the community and the county are also shown. Finally, the percentage of households receiving food assistance for the community and the county is based on the distribution of USDA Supplemental Nutrition Assistance Program (SNAP) benefits.

Labor Force Participation

source: 2009-13 American Community Survey, 2000 Census
Percent of Residents Ages 16 and Over



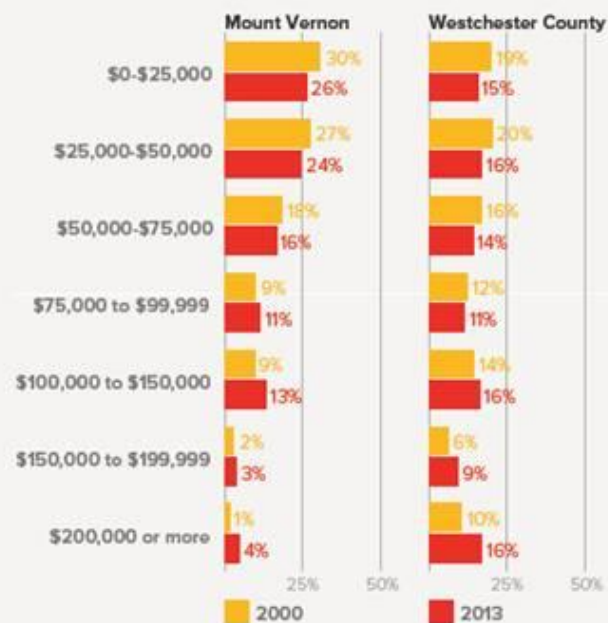
Median Household Income

source: 2009-13 American Community Survey, Census 2000 (adjusted to 2013 dollars)



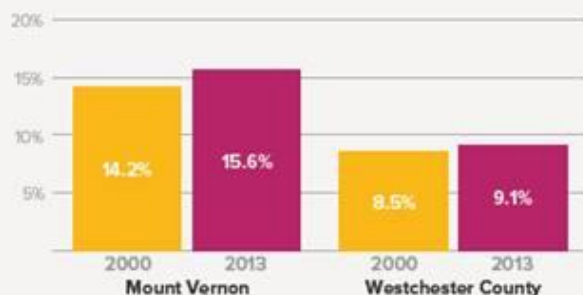
Income Distribution

source: 2009-13 American Community Survey, 2000 Census



Households in Poverty

source: 2009-13 American Community Survey, Census 2000



Households Receiving Food Assistance

source: 2009-13 American Community Survey, Snap Benefits

	2013
City of Mount Vernon	20%
Westchester County	8%

URBAN ACTION AGENDA 2015

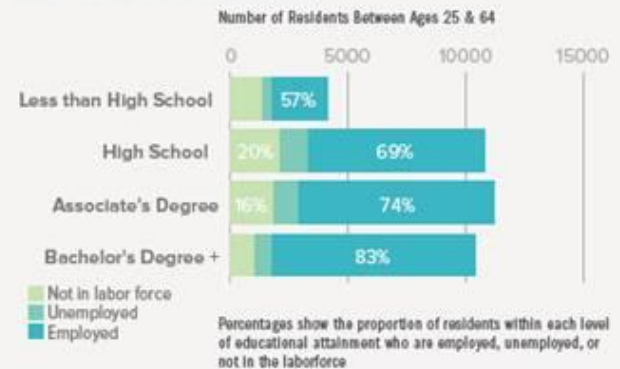
MOUNT VERNON

EDUCATION

The metrics on this page provide information about education in the community. The school district or districts that are located in the community are illustrated on the map; and annual spending per pupil for years 2005-2013 is shown for each of the school districts. Communitywide educational attainment and its relation to employment for those aged 25-64 is shown. Select demographics for each school district – enrollment, the percentage of students who are eligible for free or reduced lunch, and the number of students with limited English proficiency – are shown. Finally, annual school performance for each district is demonstrated by the graduation rate and a college and career readiness measure established by the NYS Department of Education starting in 2010.

Employment and Education

source: 2009-2013 American Community Survey



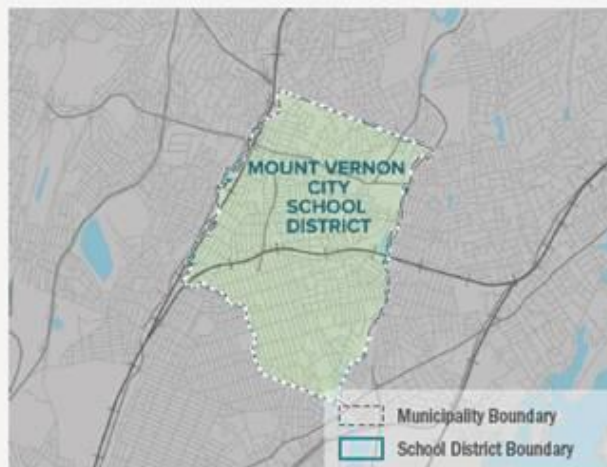
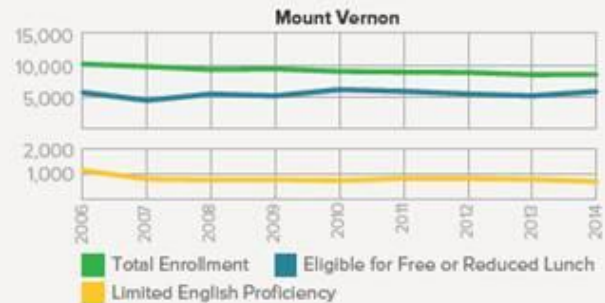
Expenditures Per Pupil

source: New York State Department of Education



School District Student Characteristics

source: New York State Department of Education



Graduation Rate & Career Readiness

source: New York State Department of Education

note: College and career readiness data only available for 2010-2014



MOUNT VERNON

QUALITY OF LIFE

Indicators on this page provide information about the quality of life in the community. The annual number of reported crimes going back to 1990 is broken down into two categories – violent and property crimes. Obesity prevalence by zip code in comparison to the county provides an indicator of public health. The percent of the population that lives within walking distance of a park as well as the total acres of parks in close proximity of the municipality are expressed. And finally, access to quality food looks at the proximity of people in low-income neighborhoods to the nearest supermarket, supercenter, or large grocery store. Areas that are highlighted demonstrate poor access to quality food.

Access to Parks

source: open space data from The Nature Conservancy

Access To Parks

97% of Mount Vernon Residents live within 1/2 mile of a park

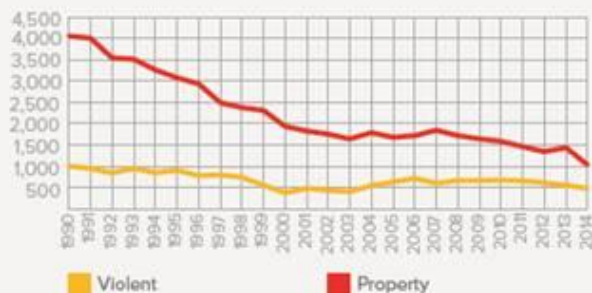
Acres of Parks

Mount Vernon has 1,009 acres of parkland within 1/2 mile of the municipal boundary*

* The full area for all parks was counted here even if some portion of the park lies further than 1/2 mile from the municipality

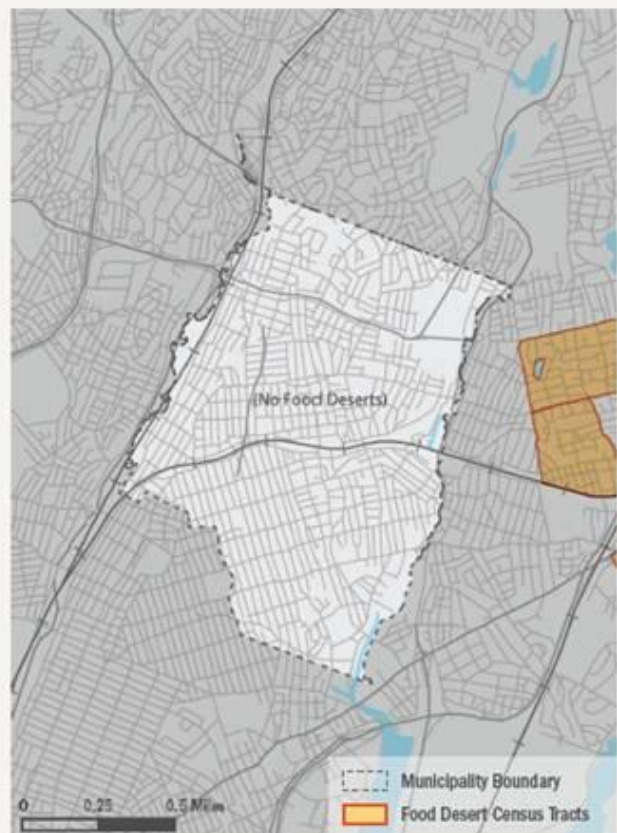
Number of Crimes

source: New York State Division of Criminal Justice Services
agency: Mount Vernon City Police Department



Access to Quality Food

source: USDA, Food Environment Atlas. Low-income tracts with at least 500 people or 33 percent of the population living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.



Obesity Prevalence

source: D-Atlas with data from the 2000-2010 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey



URBAN ACTION AGENDA 2015

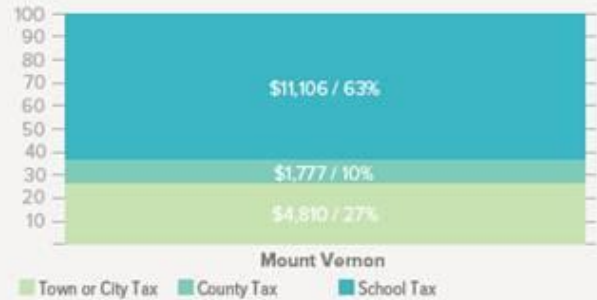
MOUNT VERNON

ECONOMY

The metrics on this page provide information about the local economy. The estimated amount and distribution of property taxes among taxing jurisdictions (local, county, and school district) is shown for a home with the community's median home value. Employment by industry is shown for the years 2000 and 2013. The annual number of residential building permits (in terms of both buildings and units) from 2000 to 2014, and the total annual value of residential building permits is provided. And finally, the top five places of employment for residents of the community are listed along with the primary modes of transportation to work and the average commute time for all workers who live in the community.

Taxes based on \$392,300 Home

source: New York State Office of Real Property Tax Services 2013
note: Excludes local fire and other special taxing districts.



Employment by Industry

source: 2000 Census, 2009-13 American Community Survey



Annual Residential Building Permits

source: Census, 2000-2014 Building Permits Survey
Building permits and expenditures for new residential construction



Place of Work & Mode of Travel

source: 2014 CTPR 2009-13 American Community Survey

Top 5 Places of Employment		Percent of Total Workers
Westchester County, New York		66.0%
New York City, New York		30.9%
Fairfield County, Connecticut		0.9%
Nassau County, New York		0.5%
Rockland County, New York		0.4%
Mode of Travel to Work		Percent of Total Workers
Drove Alone in a Car, Truck or Van		61.1%
Carpooled in a Car, Truck or Van		6.2%
Used Public Transportation		21.9%
Average Commute Time		30 minutes



ABOUT THIS PROJECT

The Urban Action Agenda (UAA) is a three-year initiative led by Hudson Valley Pattern for Progress (Pattern) to promote the revitalization of urban centers throughout the nine-county Hudson Valley Region. Though it is part of the larger NYC Metropolitan Region, the Hudson Valley does not have a single urban center that acts as the region's heart but instead consists of a constellation of urban centers, large and small, located along the Hudson River and other historic transportation corridors. Today, these places face a number of challenges; but some of the Hudson Valley's urban centers are starting to turn the corner. Nationally, trends show a renewed interest in urban living. Vibrant downtowns and waterfronts, walkable neighborhoods, access to high quality public spaces and other amenities are bringing people back to cities and other urban places.

Hudson Valley Pattern for Progress sees this as an historic moment to focus attention on the revitalization of the region's urban centers. With their existing infrastructure, these communities are best suited to accommodate the region's future growth. A focus on urban centers is consistent with our region's environmental ethos and also serves to aid in the preservation of the Valley's special landscape.

The UAA seeks to place the revitalization of our urban centers squarely at the forefront of the region's policy and investment priorities at the local, regional and state level. Through the UAA we will assess the state of the region and monitor progress; convene and collaborate with local officials, regional agencies, and organizations; use public engagement to solicit ideas; prepare a regional strategy based on local and national best practices that can guide revitalization efforts; integrate UAA research with complementary activities in the larger New

York Region; and educate stakeholders through UAA reports and by periodically hosting urban experts to speak on a variety of topics facing our communities.

Twenty-five communities in the Hudson Valley have agreed to participate directly in the UAA initiative. As part of the project we developed these data profiles for each of the UAA communities. Pattern is also collaborating with each UAA community to identify revitalization strategies that are working and which may be transferable, unique amenities and assets that should be promoted, and transformative projects that can be advocated for under the UAA banner.

The UAA is funded in part through a grant from the Ford Foundation in partnership with the Regional Plan Association (RPA) as part of RPA's Fourth Regional Plan initiative.

About Hudson Valley Pattern for Progress

Celebrating our 50th Anniversary in 2015, Hudson Valley Pattern for Progress is a not-for-profit policy, planning, advocacy and research organization whose mission is to promote regional, balanced and sustainable solutions that enhance the growth and vitality of the Hudson Valley. Pattern brings together business, nonprofit, academic and government leaders from across as many as nine counties to collaborate on regional issues. For more information, please visit www.pattern-for-progress.org

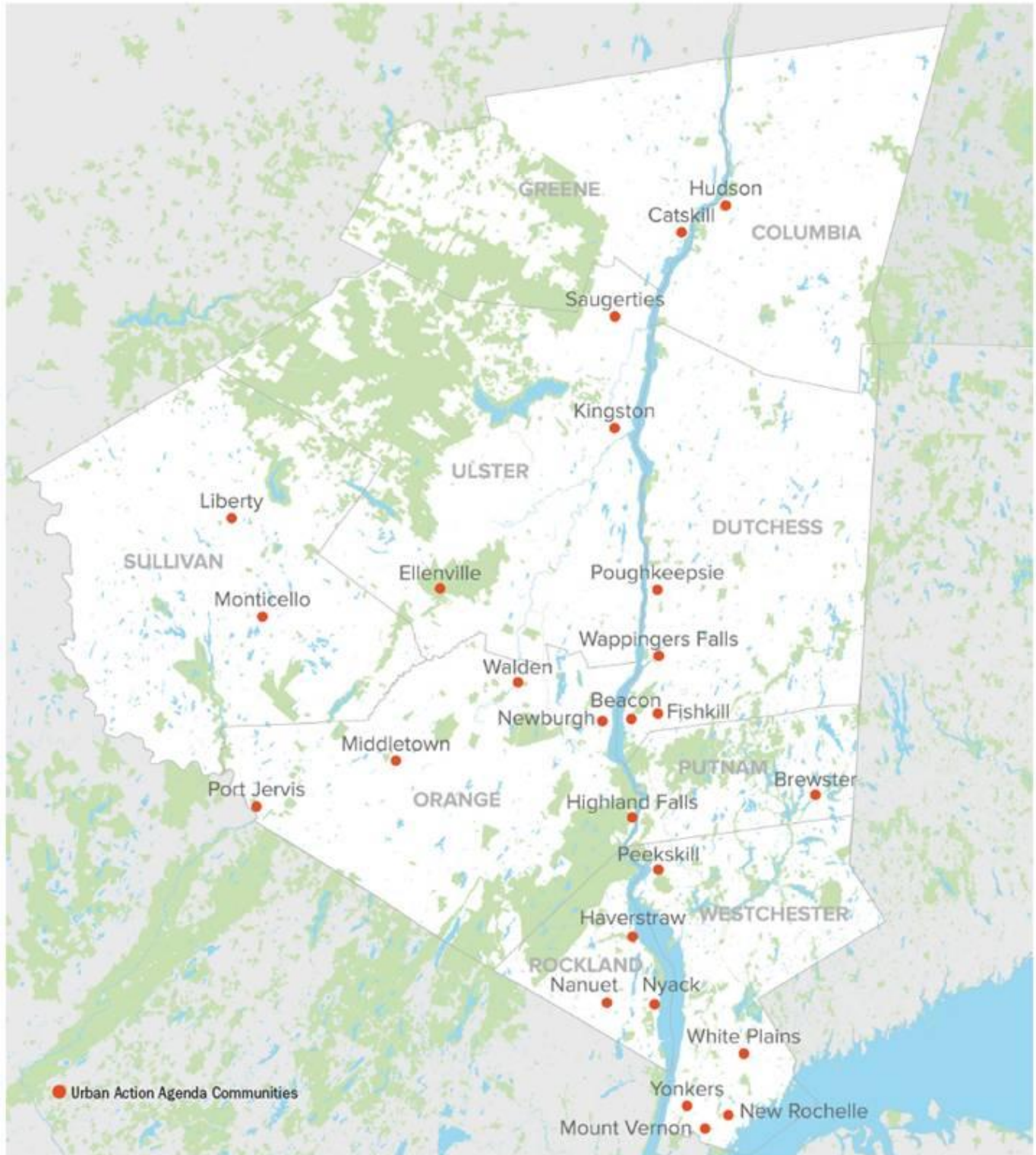
About Regional Plan Association

Regional Plan Association is America's most distinguished independent urban research and advocacy organization. RPA improves the New York metropolitan region's economic health, environmental sustainability and quality of life through research, planning and advocacy. Since the 1920s, RPA has produced three landmark plans for the region and is working on a fourth plan that will tackle challenges related to sustained economic growth and opportunity, climate change, infrastructure and the fiscal health of our state and local governments. For more information, please visit www.rpa.org.

Citation

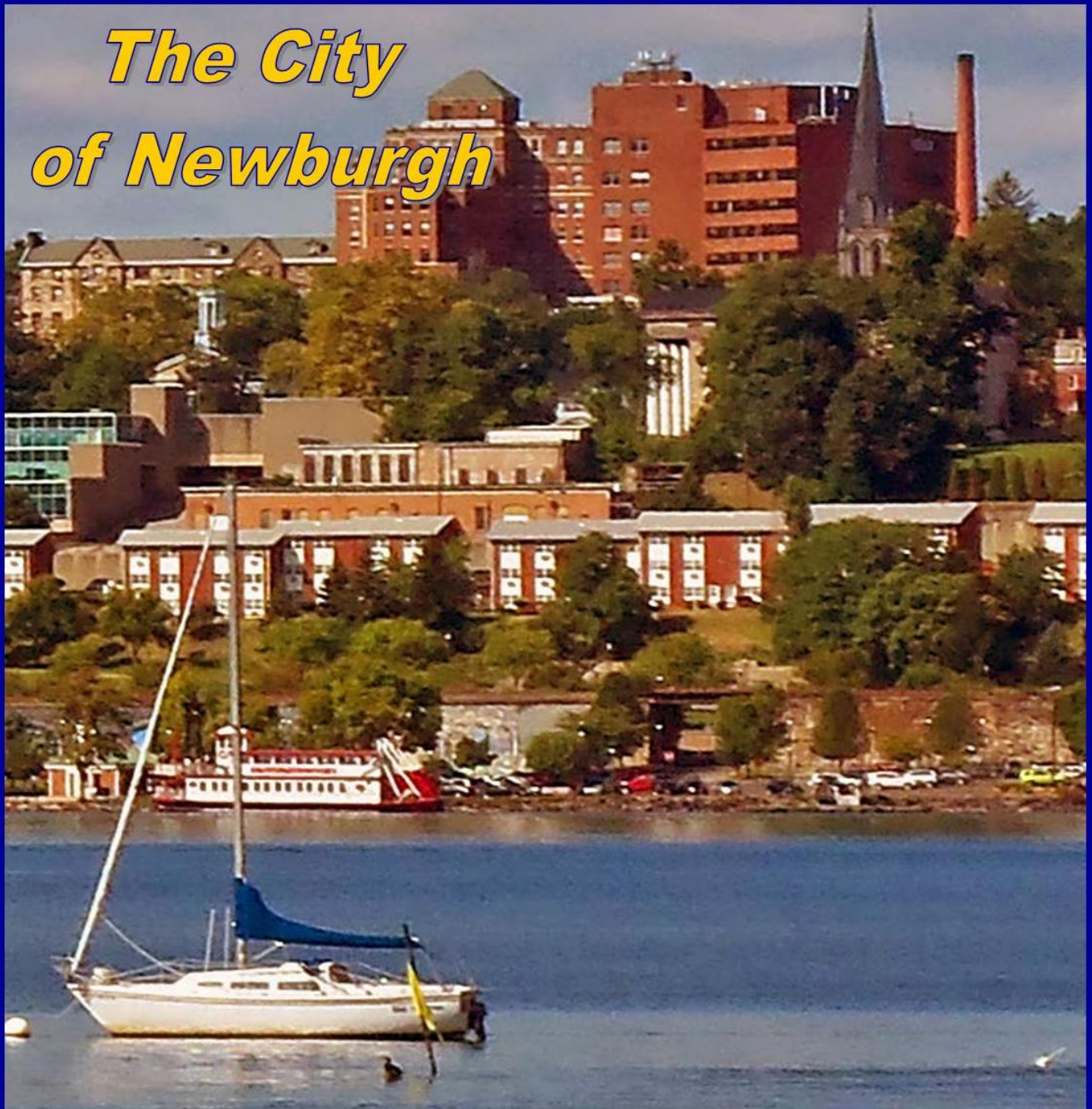
Regional Plan Association and Hudson Valley Pattern for Progress. November 2015. "Urban Action Agenda 2015: Municipal Profiles."

URBAN ACTION AGENDA COMMUNITIES



MOUNT VERNON 8 OF 8

The City of Newburgh



An Infrastructure Snapshot

OPPORTUNITY AREA INFRASTRUCTURE SNAPSHOT

The seven Community Infrastructure Snapshots were made possible through funding provided by the Mid-Hudson Regional Economic Development Council (REDC) to continue Pattern's work in infrastructure research and future planning for the REDC. The REDC identified a number of communities within its economic-development region as "Opportunity Areas" based upon specific criteria and levels of distress. The criteria include high levels of poverty, vacancy rates and unemployment. Pattern surveyed municipalities across the Hudson Valley to assess the capacity and barriers to infrastructure investment. Pattern also focused specifically on seven "Opportunity Areas" and developed these Community Infrastructure Snapshots to assist in identifying local needs. Infrastructure, such as aspects of public works, transportation (roads and bridges) and water (both water supply and sewage), were among the areas included.

THE BUILT ENVIRONMENT

The city of Newburgh is in Orange County, on the western side of the Hudson River approximately 60 miles north of New York City and 90 miles south of Albany. The city has a population of 28,614 (2014 American Community Survey).

According to Pattern's 2016 survey, conducted in February, the city has a single public-water system serving 76-100% of the population. However, in May 2016, Newburgh declared a state of emergency when it was discovered that Newburgh's primary water reservoir, Washington Lake, was contaminated with perfluorooctane sulfonate (PFOS). The city has received additional support from the federal government, which is financing the replacement of the water supply treatment system. The new system will include four carbon filters as well as a reserve water tank that will enable it to hold a maximum of 1 million gallons. Newburgh will continue to pump water from the Catskill aqueduct until the new facility is completed; the new water supply treatment system is to be operational in October 2017.

According to the 2016 survey, the city has several public and private sanitary sewer systems. These systems serve 76-100% of the population. The sanitary sewer system is in poor condition and will require substantial upgrades within the next five years. Newburgh is concerned over the sustainability of this system because it is not projected to withstand increased capacity. Jason Morris stated portions of the city's sewer-collection system were constructed in the 1800s, and the brick-lined sewer mains are outdated and need restoration.

Newburgh has a Capital Improvement Plan (CIP), separate from the annual budget, which identifies specific projects necessary for the operation and maintenance of current infrastructure. The city's CIP includes water supply, wastewater treatment, stormwater runoff, roads and bridges.

The city's current capital plan has allocated funding to address other mandated items by the New York State Department of Environmental Conservation (NYSDEC) associated with the City-owned High Hazard Dams (which impound the surface water reservoirs).

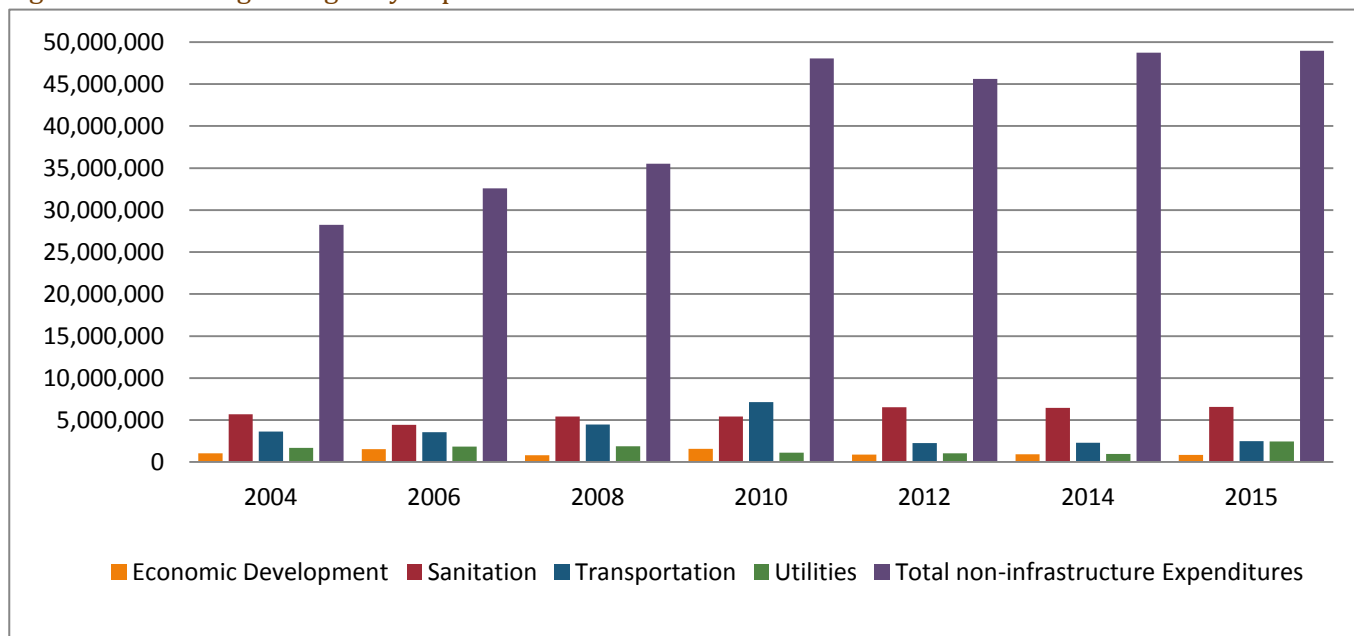
OFFICE OF THE NYS COMPTROLLER

From 2004-2014, the counties, cities, towns, and villages of the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$447 million annually. While the need for infrastructure investment remains high, spending on infrastructure shows a potentially troubling trend. Hudson Valley villages devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier.

Throughout the Hudson Valley, government expenditures for infrastructure have declined each year since 2010. Unlike infrastructure spending, overall spending levels remain 7% above the 2004 figure.

- In Newburgh, infrastructure expenditures have increased by 2.2% since 2004, whereas non-infrastructure expenditures have increased 73.5% since 2004.
- In 2004 infrastructure expenditures (economic development, sanitation, transportation, and utilities) accounted for 29.9% of total expenditures, decreasing by 32.8% in 2015 where they accounted for 20.1% of total expenditures.

Figure 19-Newburgh Budgetary Expenditures



Source: Office of the NYS Comptroller

City of Newburgh Snapshot

Prepared by: Hudson Valley Pattern for Progress

INTERVIEW HIGHLIGHTS

After surveying the city engineer and speaking with officials in planning and economic development, it is clear that Newburgh is taking on large initiatives to meet future demands. With local water supplies and sewer systems reaching capacity and pavement deterioration taking its toll, the local government will need to keep searching for additional funding to adequately plan for the future. Newburgh is applying for grants to remedy problems and prevent future disasters.

NEWBURGH INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

- The city received funding through the N.Y. Department of State to update the Local Waterfront Revitalization Plan and Comprehensive Plan. The plans require a community engagement process in addition to approval by the Department of State. Funding will also contribute towards the planning and development of the city's waterfront.
- Complete Streets intended to reduce infrastructure costs and revitalization pavement, curbs, and sidewalks along Broadway. Initiative includes: Broadway pedestrian lanes, curb bump-outs, re-painting center median and crosswalks.
- Comprehensive Plan update (last update from 2008).
- Plan to update RFP for waterfront sites following update of LWRP and Comprehensive Plan.
- Land Use processes were updated by Pace University in 2010 to revamp the permitting and land-use approval process.
- The Land Bank, created in 2012, in conjunction with the City Planning Department, are supporting an economic-development specialist to help to sell properties permit-ready.
- New water-supply treatment facility. With financial aid coming, the city is able to construct a water-supply treatment facility that will be equipped with state-of-the-art carbon filters as well as a reserve water tank with a capacity of 1 million gallons. The project deadline for finished construction of the facility is October 2017; the facility will access water from the city's original reservoir at Washington Lake.
- The city has issued an RFQ for municipal-asset-management software. The future implementation of this software will allow the city to track infrastructure condition, maintenance and repairs. The city has all water, sewer and storm-sewer infrastructure mapped in a GIS platform, and updates this data on a regular basis.

COMMUNITY WISH LIST

Q. If funding were not an issue, what would you do to provide enhanced services to your residents?



- Seek to improve regional transit at county level.
- Formation of an inter-county regional transit effort and establish a Transit Authority.
- Increase state funding and focus efforts on infrastructure.
- Have the state use fair-share allocation methods, which would focus funding streams to be more equitable, and increase funding for regions that do not typically receive a large share of DOT funding.
- Would like to receive additional funding to address bridges red-flagged as being structurally deficient, posted for reduced loads, or closed to traffic.
- Wishes funding existed for the millions of dollars required to address dam-safety issues on the city's two class C high-hazard dams.
- Replace its deficient pier and find the funding to do so.
- Demolish vacant city-owned properties at risk of collapse, but funding does not exist to do so.

RECOMMENDATIONS

Pattern recommends that Newburgh look to the federal government for aid re: current bridge and dam conditions. Because of the number of bridges labeled structurally deficient, posted for reduced loads, or are closed, Newburgh may qualify for funds offered by the Transportation Infrastructure Finance and Innovation Act (TIFIA). Similarly, due to the poor condition of the dams, the city may qualify for funds offered through the Water Infrastructure Finance and Innovation Act (WIFIA). There is potential loss of life should the dams fail.

INFRASTRUCTURE FUNDING OPTIONS

Funding is always a concern for municipalities when it comes to large community projects. Having to remain within the state's 2% tax cap (or the rate of inflation) is not always easy for smaller municipalities. However, there are many forms of funding available to municipalities at the state and federal level. The most difficult aspect of finding funding for municipal projects is knowing where to look.

The trouble is knowing where to look, but in the words of Tom Murphy, former mayor of the city of Pittsburgh, "There is always a way to find funding."

TYPES OF FUNDING AVAILABLE

- Community Development Block Grants (CDBG): One of the longest-running programs of the U.S. Department of Housing and Urban Development; it funds local community development activities such as affordable housing, anti-poverty programs and infrastructure development.
- Environmental Facilities Corporation (EFC) loans: These loans can usually be issued at below-market or zero-percent interest rates.
- New York State Water Grants Program: This year, Governor Cuomo announced \$75 million directed at updating and restoring water-related infrastructure.
- Certified Local Government Grants (CLG): Each federal fiscal year, New York State sets aside 10 percent of the state's allocation of federal historic preservation funds for pass-through to Certified Local Governments. Funding may be applied to many kinds of projects that address the goals of identifying, evaluating, nominating, and protecting a community's cultural resources.
- Consolidated Local Street and Highway Improvement Program (CHIPS): These grants are specifically designed for aiding in municipal roads and highways.

EPA FIVE-YEAR NEEDS SURVEY

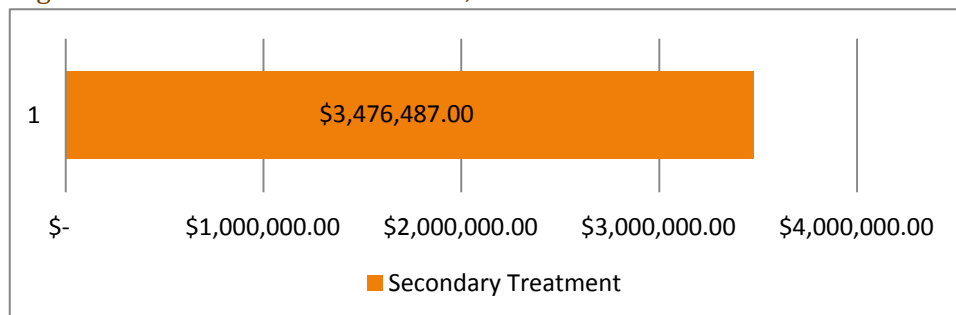
The Environmental Protection Agency (EPA) Clean Watersheds Needs Survey (CWNS) is an evaluation of reported capital investment needs for publically owned wastewater collection and treatment facilities. These needs must be met to remain within compliance standards set by the Clean Water Act. The last survey was completed in 2012 and were to be reissued in 2016.

The City of Newburgh reported that future capital investments will go toward specifically secondary water-treatment systems.

Secondary water-treatment needs and costs are required to meet minimum standards of treatment that must be maintained by all treatment facilities, except those facilities granted waivers of secondary treatment for marine discharges under section 301(h) of the Clean Water Act.

According to the EPA, secondary treatment typically requires a treatment level that produces 30 mg/l of both BOD5 (the amount of oxygen required to break down organic material in a given water sample) and total suspended solids (solids in water that can be trapped by a filter).

Figure 20-Newburgh 5-Year EPA Documented Needs, 2012



Source: United States Environmental Protection Agency

City of Newburgh Snapshot

Prepared by: Hudson Valley Pattern for Progress

URBAN ACTION AGENDA 2015

CITY OF NEWBURGH



28,731 Population

27% of units are owner occupied

54% of units are renter occupied

19% of units are vacant

27% of residents receive food assistance benefits

54% of households pay greater than 30% of their household income towards housing

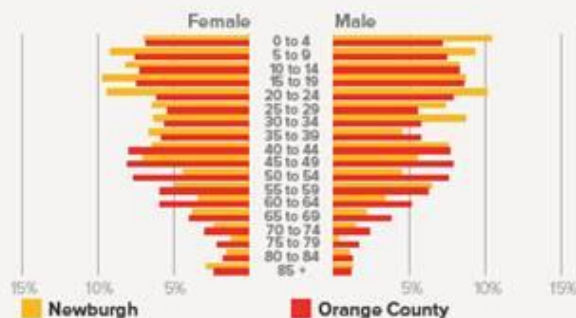
13% of residents have a bachelor's degree or higher

\$35,731 is the median household income

51% of residents work within the municipality

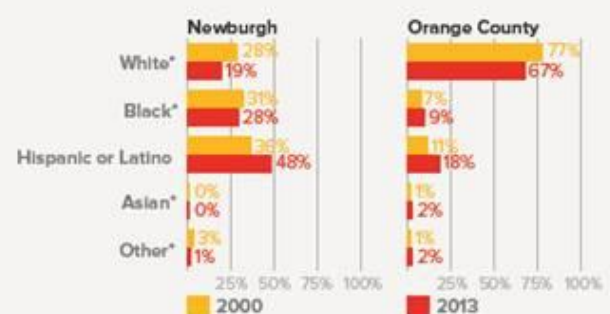
Share of Population by Age and Sex

source: 2009-13 American Community Survey



Population by Race and Ethnicity

source: 2009-13 American Community Survey, 2000 Decennial Census



* not Hispanic or Latino

NEWBURGH 1 OF 8

NEWBURGH

HOUSING

The metrics on this page provide information about housing in the community - the number of owner-occupied, renter-occupied, and vacant units as compared to the county overall; the change in home values since 2000; and the age of the housing stock. Housing wage looks at the amount of money a person working a full-time job would have to make in order to afford rental housing (in this case a one or two bedroom unit) without having to pay more than 30% of their income. Finally, housing cost as a percent of income shows the percentage of renters and owners in the community whose housing costs are considered affordable, unaffordable, and severely unaffordable.

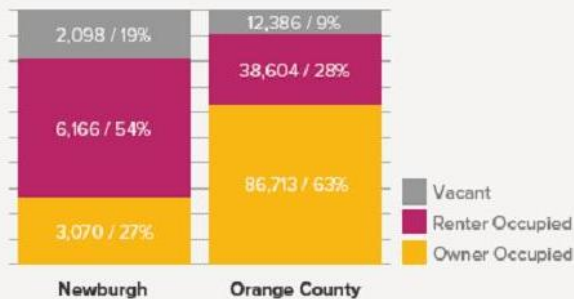
Housing Wage

source: National Low Income Housing Coalition

Housing wage for a one bedroom apartment in Orange County:	18.92	per hour
	\$37,846	per year
Housing wage for a two bedroom apartment in Orange County:	23.29	per hour
	\$46,577	per year

Housing Tenure

source: 2009-13 American Community Survey



Age of Housing Stock

source: 2009-13 American Community Survey



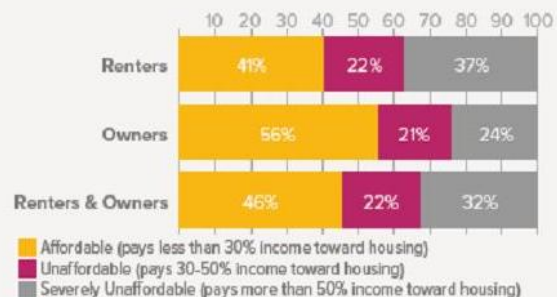
Changing Home Values

source: 2009-13 American Community Survey, 2000 Census



Housing Cost as Percent of Income

source: 2008-2012 HUD CHAS



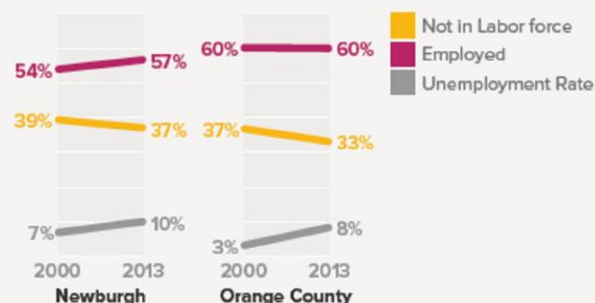
NEWBURGH

INCOME AND POVERTY

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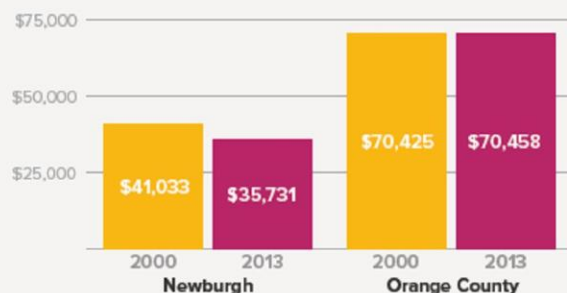
Labor Force Participation

source: 2009-13 American Community Survey, 2000 Census
Percent of Residents Ages 16 and Over



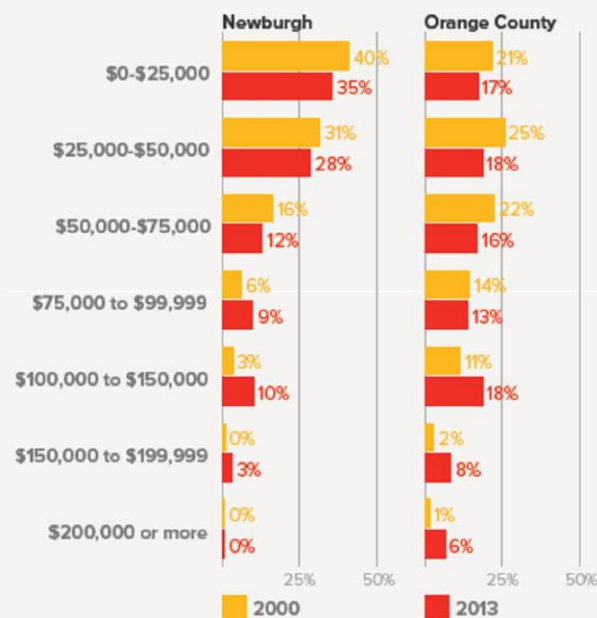
Median Household Income

source: 2009-13 American Community Survey, Census 2000 (adjusted to 2013 dollars)



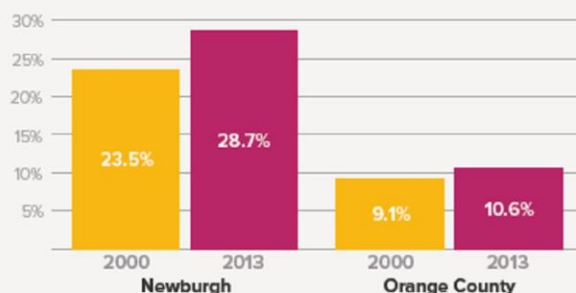
Income Distribution

source: 2009-13 American Community Survey, 2000 Census



Households in Poverty

source: 2009-13 American Community Survey, Census 2000



Households Receiving Food Assistance

source: 2009-13 American Community Survey, Snap Benefits

	2013
City of Newburgh	27%
Orange County	10%

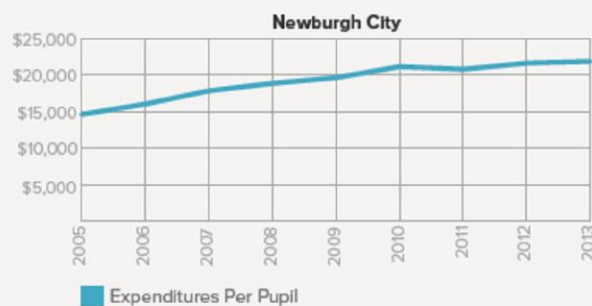
NEWBURGH

EDUCATION

The metrics on this page provide information about education in the community. The school district or districts that are located in the community are illustrated on the map; and annual spending per pupil for years 2005-2013 is shown for each of the school districts. Communitywide educational attainment and its relation to employment for those aged 25-64 is shown. Select demographics for each school district – enrollment, the percentage of students who are eligible for free or reduced lunch, and the number of students with limited English proficiency – are shown. Finally, annual school performance for each district is demonstrated by the graduation rate and a college and career readiness measure established by the NYS Department of Education starting in 2010.

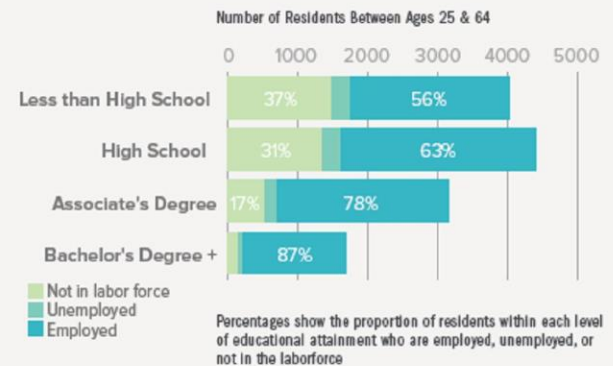
Expenditures Per Pupil

source: New York State Department of Education



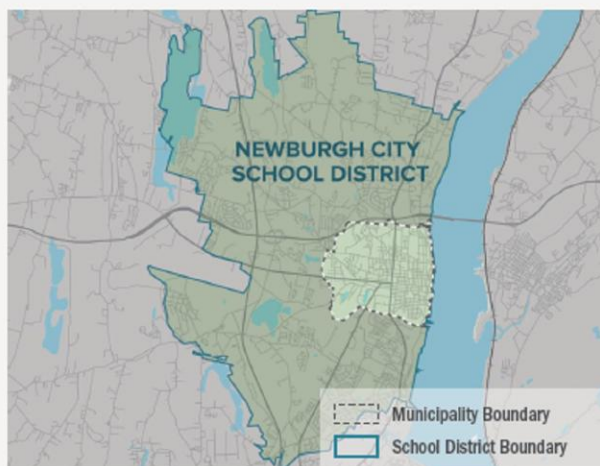
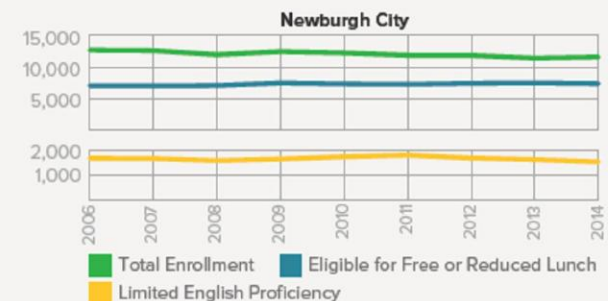
Employment and Education

source: 2009-2013 American Community Survey



School District Student Characteristics

source: New York State Department of Education



Graduation Rate & Career Readiness

source: New York State Department of Education
note: College and career readiness data only available for 2010-2014



NEWBURGH

QUALITY OF LIFE

Indicators on this page provide information about the quality of life in the community. The annual number of reported crimes going back to 1990 is broken down into two categories – violent and property crimes. Obesity prevalence by zip code in comparison to the county provides an indicator of public health. The percent of the population that lives within walking distance of a park as well as the total acres of parks in close proximity of the municipality are expressed. And finally, access to quality food looks at the proximity of people in low-income neighborhoods to the nearest supermarket, supercenter, or large grocery store. Areas that are highlighted demonstrate poor access to quality food.

Access to Parks

source: open space data from The Nature Conservancy

Access To Parks

89% of Newburgh Residents live within 1/2 mile of a park

Acres of Parks

Newburgh has 269 acres of parkland within 1/2 mile of the municipal boundary*

* The full area for all parks was counted here even if some portion of the park lies further than 1/2 mile from the municipality

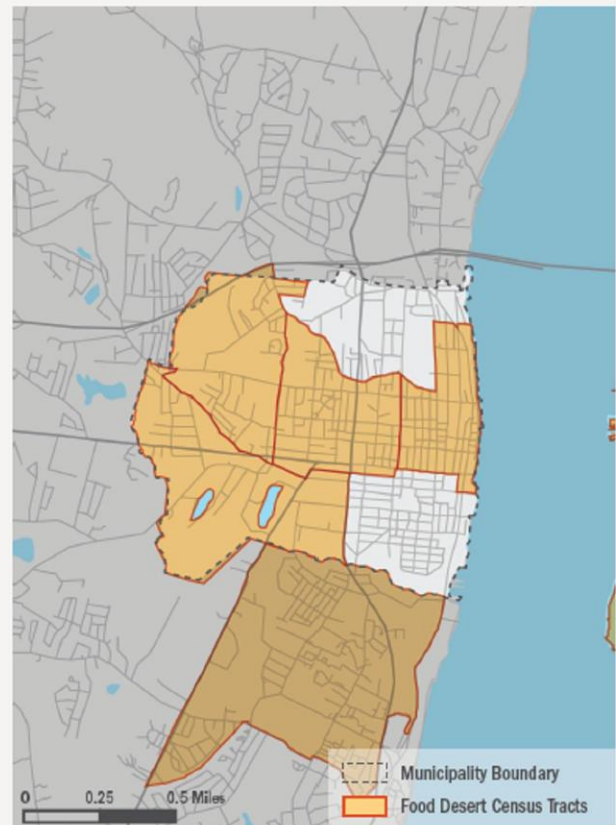
Number of Crimes

source: New York State Division of Criminal Justice Services
agency: Newburgh City Police Department



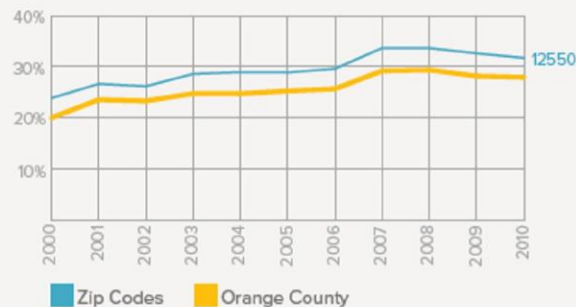
Access to Quality Food

source: USDA, Food Environment Atlas. Low-income tracts with at least 500 people or 33 percent of the population living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.



Obesity Prevalence

source: D-Atlas with data from the 2000-2010 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey



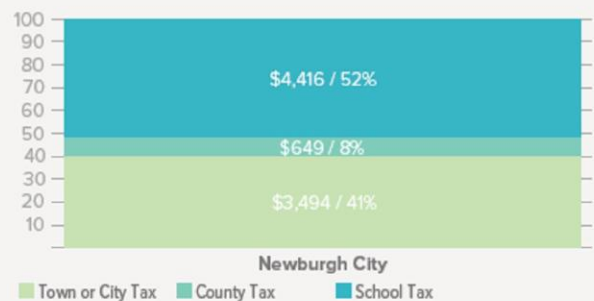
NEWBURGH

ECONOMY

The metrics on this page provide information about the local economy. The estimated amount and distribution of property taxes among taxing jurisdictions (local, county, and school district) is shown for a home with the community's median home value. Employment by industry is shown for the years 2000 and 2013. The annual number of residential building permits (in terms of both buildings and units) from 2000 to 2014, and the total annual value of residential building permits is provided. And finally, the top five places of employment for residents of the community are listed along with the primary modes of transportation to work and the average commute time for all workers who live in the community.

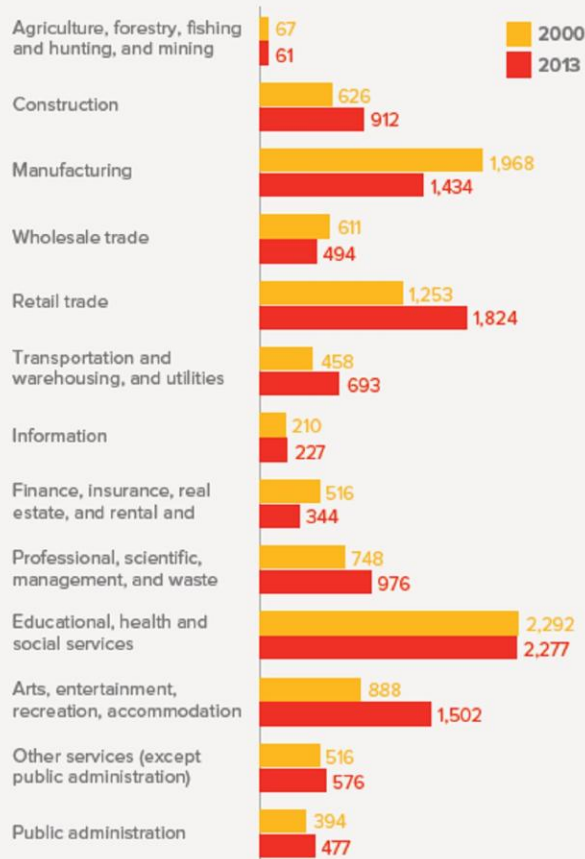
Taxes based on \$176,300 Home

source: New York State Office of Real Property Tax Services 2013
note: Excludes local fire and other special taxing districts.



Employment by Industry

source: 2000 Census, 2009-13 American Community Survey



Annual Residential Building Permits

source: Census, 2000-2014 Building Permits Survey
Building permits and expenditures for new residential construction



Place of Work & Mode of Travel

source: 2014 CTPP, 2009-13 American Community Survey

Top 5 Places of Employment		Percent of Total Workers
Orange County, New York		82.0%
Dutchess County, New York		7.0%
New York City, New York		3.7%
Westchester County, New York		2.9%
Rockland County, New York		2.0%
Mode of Travel to Work		Percent of Total Workers
Drove Alone in a Car, Truck or Van		50.7%
Carpooled in a Car, Truck or Van		21.7%
Used Public Transportation		4.9%
Average Commute Time		24 minutes



ABOUT THIS PROJECT

The Urban Action Agenda (UAA) is a three-year initiative led by Hudson Valley Pattern for Progress (Pattern) to promote the revitalization of urban centers throughout the nine-county Hudson Valley Region. Though it is part of the larger NYC Metropolitan Region, the Hudson Valley does not have a single urban center that acts as the region's heart but instead consists of a constellation of urban centers, large and small, located along the Hudson River and other historic transportation corridors. Today, these places face a number of challenges; but some of the Hudson Valley's urban centers are starting to turn the corner. Nationally, trends show a renewed interest in urban living. Vibrant downtowns and waterfronts, walkable neighborhoods, access to high quality public spaces and other amenities are bringing people back to cities and other urban places.

Hudson Valley Pattern for Progress sees this as an historic moment to focus attention on the revitalization of the region's urban centers. With their existing infrastructure, these communities are best suited to accommodate the region's future growth. A focus on urban centers is consistent with our region's environmental ethos and also serves to aid in the preservation of the Valley's special landscape.

The UAA seeks to place the revitalization of our urban centers squarely at the forefront of the region's policy and investment priorities at the local, regional and state level. Through the UAA we will assess the state of the region and monitor progress; convene and collaborate with local officials, regional agencies, and organizations; use public engagement to solicit ideas; prepare a regional strategy based on local and national best practices that can guide revitalization efforts; integrate UAA research with complementary activities in the larger New

York Region; and educate stakeholders through UAA reports and by periodically hosting urban experts to speak on a variety of topics facing our communities.

Twenty-five communities in the Hudson Valley have agreed to participate directly in the UAA initiative. As part of the project we developed these data profiles for each of the UAA communities. Pattern is also collaborating with each UAA community to identify revitalization strategies that are working and which may be transferable, unique amenities and assets that should be promoted, and transformative projects that can be advocated for under the UAA banner.

The UAA is funded in part through a grant from the Ford Foundation in partnership with the Regional Plan Association (RPA) as part of RPA's Fourth Regional Plan initiative.

About Hudson Valley Pattern for Progress

Celebrating our 50th Anniversary in 2015, Hudson Valley Pattern for Progress is a not-for-profit policy, planning, advocacy and research organization whose mission is to promote regional, balanced and sustainable solutions that enhance the growth and vitality of the Hudson Valley. Pattern brings together business, nonprofit, academic and government leaders from across as many as nine counties to collaborate on regional issues. For more information, please visit www.pattern-for-progress.org

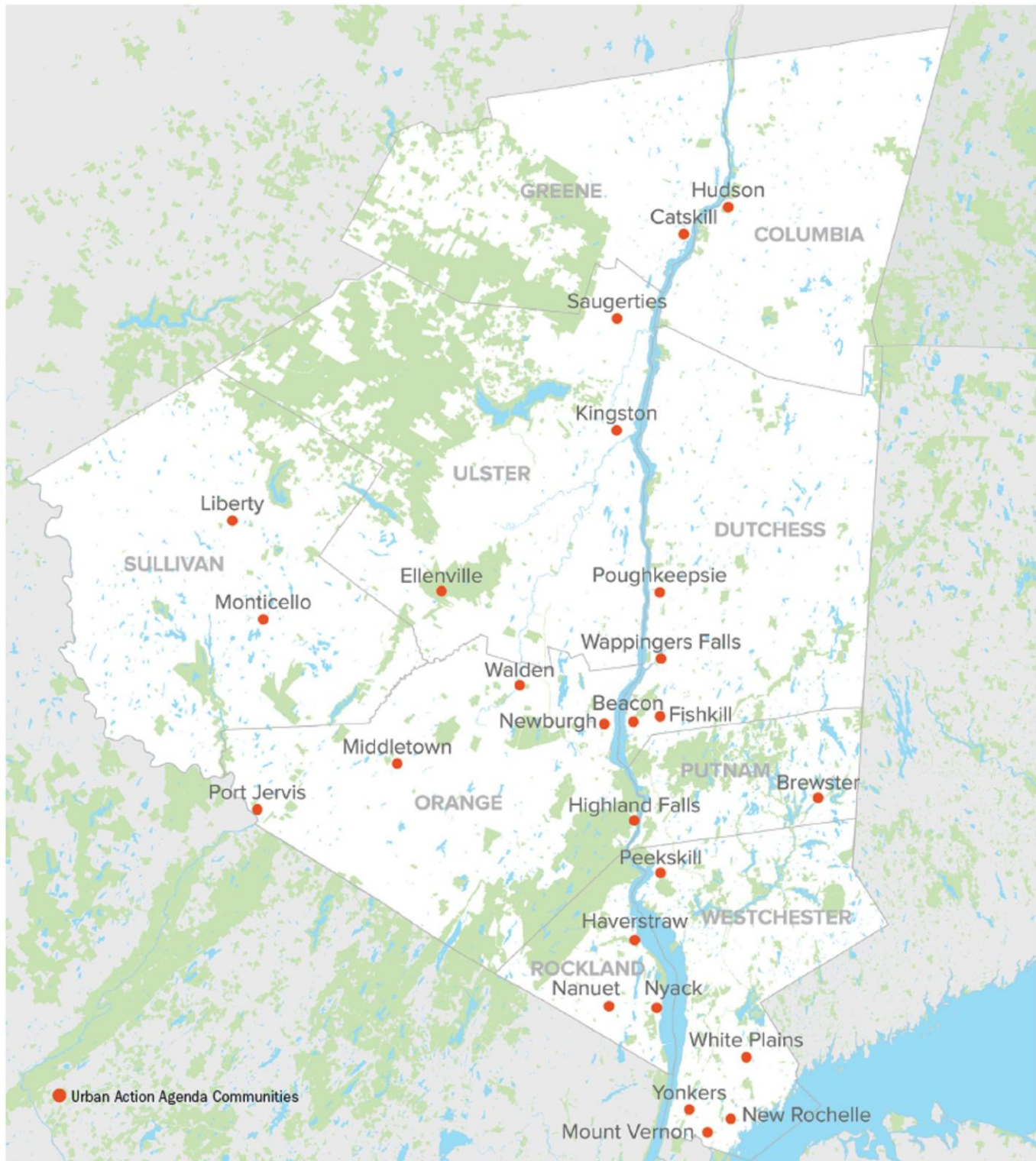
About Regional Plan Association

Regional Plan Association is America's most distinguished independent urban research and advocacy organization. RPA improves the New York metropolitan region's economic health, environmental sustainability and quality of life through research, planning and advocacy. Since the 1920s, RPA has produced three landmark plans for the region and is working on a fourth plan that will tackle challenges related to sustained economic growth and opportunity, climate change, infrastructure and the fiscal health of our state and local governments. For more information, please visit www.rpa.org.

Citation

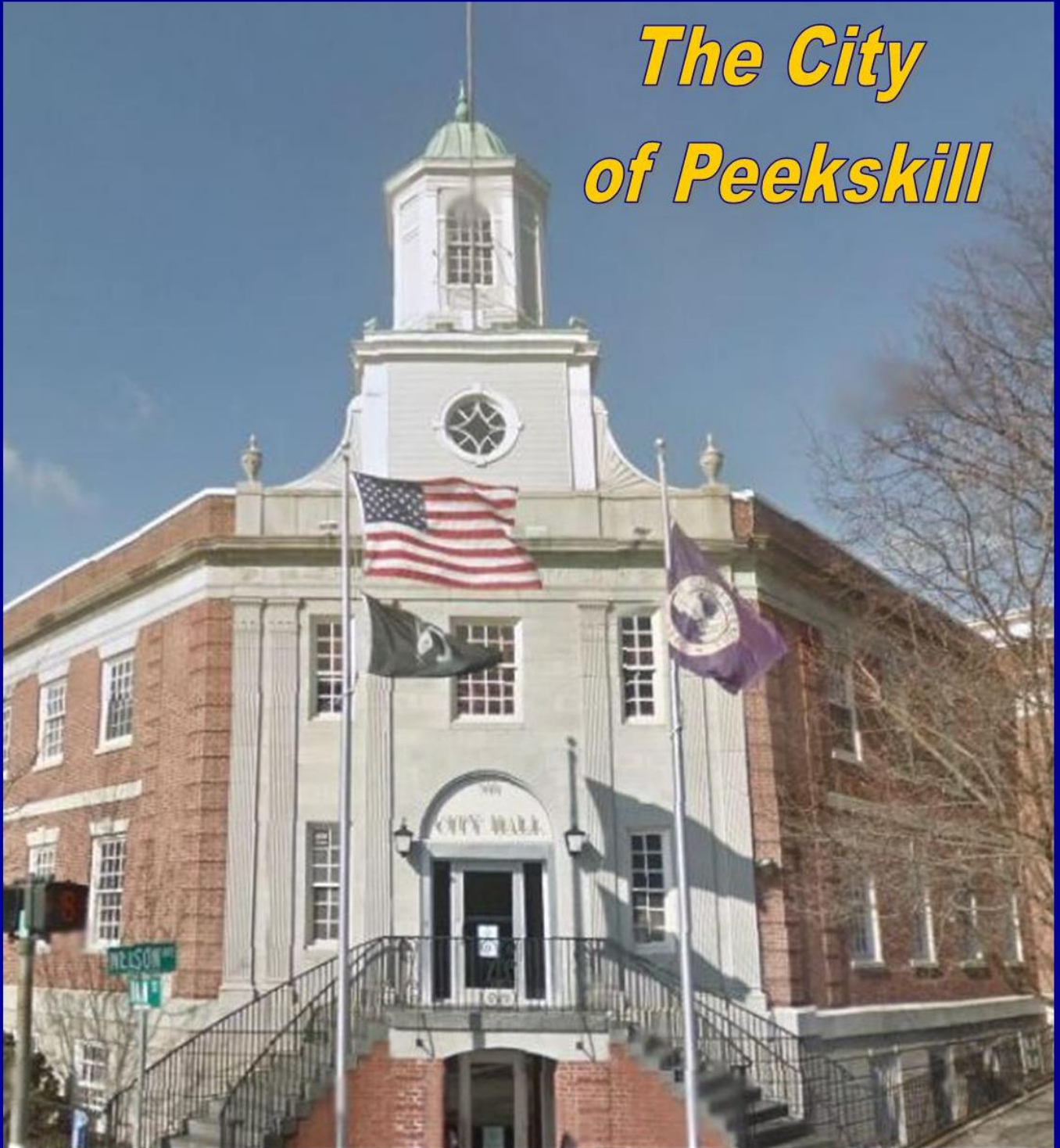
Regional Plan Association and Hudson Valley Pattern for Progress. November 2015. "Urban Action Agenda 2015: Municipal Profiles."

URBAN ACTION AGENDA COMMUNITIES



NEWBURGH 8 OF 8

The City of Peekskill



An Infrastructure Snapshot

OPPORTUNITY AREA INFRASTRUCTURE SNAPSHOT

The Community Infrastructure Snapshots were made possible through grant funding provided by the Mid-Hudson Regional Economic Development Council (REDC) to continue Pattern's work in infrastructure research and future planning for the REDC. The REDC identified a number of communities within its economic development region as "Opportunity Areas" based upon specific criteria and levels of distress. The criteria were based on high levels of poverty, vacancy rates and unemployment. Pattern surveyed municipalities across the Hudson Valley region to assess the capacity and barriers to infrastructure investment. Pattern also focused specifically on seven "Opportunity Areas" and developed these Community Infrastructure Snapshots to assist in identifying local needs. Infrastructure such as aspects of public works, transportation (roads and bridges) and water (both water supply and sewage) were among the areas included.

THE BUILT ENVIRONMENT

The City of Peekskill is along the eastern side of the Hudson River within Westchester County and has a population of 23,875 (American Community Survey 2014).

According to the Pattern survey, Peekskill has a public water system serving 76-100% of the population and has capacity to support present and future needs. The primary water source begins in the town of Putnam Valley, while the second emergency source is derived from the Catskill Aqueduct (which is only used if the primary water source should become unavailable). From these surface-water locations, the water is sent to the Campfield Reservoir treatment facility and is then directed into the community's single public-water system.

According to the survey, the city has a single sanitary-sewer district serving 76-100% of the population. This system is in good condition and has enough capacity to meet current and future consumer needs. However, upgrading the city's underground pipeline network is a priority. Sewer lines have reached the end of their useful life. Therefore, Peekskill must plan for replacement of the entire system.

The city has adopted a five-year Capital Improvement Plan (CIP) in 2012. The CIP is designed to be a short-term plan, separate from annual budgets, identifying priority capital projects, equipment purchases and maintenance.

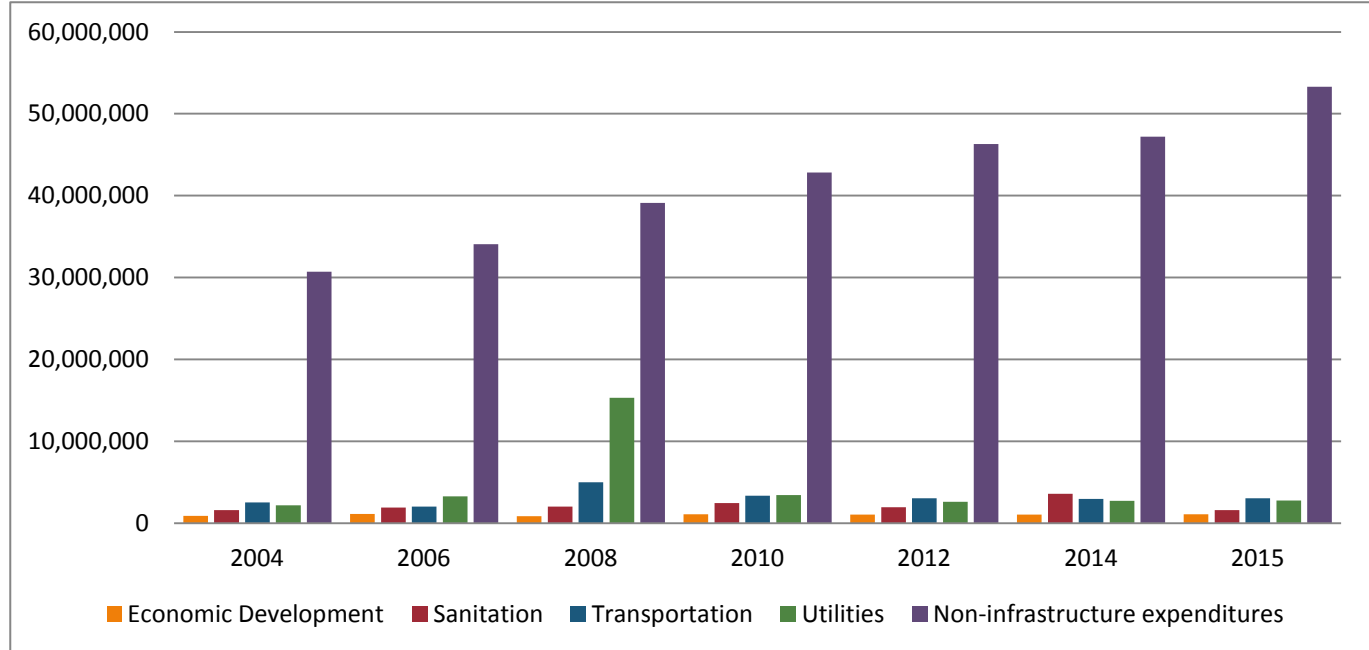
OFFICE OF THE NYS COMPTROLLER

From 2004-2014, the counties, cities, towns, and villages of the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$447 million annually. While the need for infrastructure investment remains high, spending on infrastructure shows a potentially troubling trend. Hudson Valley villages devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier.

Overall, government expenditures for infrastructure have declined each year since 2010. Unlike infrastructure spending, overall spending levels remain 7% above the 2004 figure.

- In Peekskill, infrastructure expenditures have increased 17.3% since 2004, whereas non-infrastructure expenditures have increased 73.5% since 2004.
- In 2004 infrastructure expenditures (economic development, sanitation, transportation, and utilities) accounted for 19% of total expenditures, decreasing by 27.9% in 2015 where they accounted for 13.7% of total expenditures.

Figure 21-Peekskill Budgetary Expenditures



Source: Office of NYS Comptroller

INTERVIEW HIGHLIGHTS

After interviewing Mayor Frank Catalina and the city manager, the city's highest concern is the age of the water and sewer infrastructure and deteriorating roadways. The city is in need of additional funds and upgrades and to adequately plan for the future. Peekskill is proactively applying for a variety of grants to remedy existing problems through preventative measures.

PEEKSKILL INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

The city has applied for a CFA grant focused on water/sewer infrastructure. The water/sewer distribution system has pipes 100 years old; the grant will provide funds to begin replacement.

- The city is working on securing funds for a new parking garage near the train station. A new parking garage will allow the city to redevelop its current surface parking into economically beneficial structures that will encourage business and sustainable development. This is an anchor project for the city.
- The Fort Hill project is being built by Ginsburg Development and will have 178 units of high-end rental apartments. It will renovate two historic buildings to use as clubhouse and an inn for the city.
- The city is participating in the State Pollutant Discharge Elimination System Permit program, designed to eliminate the pollution of waters and maintain high water quality.
- Bridge Where and When: Completed in 2016, this project consisted of taking immediate action to repair and prevent further degradation of state bridges, large culverts, retaining walls and overhead structures in the event of an emergency.
- Stormwater Management Practice Serial Number Maintenance By Contract: This project will consist of performing maintenance work on facilities and structures designed to collect, store and treat stormwater. This work is being carried out in Peekskill as well as various municipalities throughout the Hudson Valley.
- Peekskill is a beneficiary of the NYS DOT crack-sealing program. This project consists of cleaning and sealing pavement cracks on state highways to help improve and preserve the integrity of the pavement by preventing water infiltration. The work will encompass various municipalities in the counties of Dutchess, Orange, Putnam and Westchester.

COMMUNITY WISH LIST

Q. If funding were not an issue, what would you do to provide enhanced services to your residents?

- Acquire more funds for street and road maintenance.
- Allocate more funds to the development of waterfront trail.
- Replace sidewalks in the city.
- Have NYSDOT lease city-owned vacant space under Route 9 that will become parking space for residents.
- Expand infrastructure systems to support housing development.
- Acquire more funding for pipe infrastructure to prevent bursts and leaks.



RECOMMENDATIONS

Mayor Catalina and City Manager Richard Leins explained the city's highest concern is the sustainability of aging water and sewer-infrastructure systems. Pattern recommends the city apply for financial assistance from the Drinking Water State Revolving Fund (DWSRF) and for NYS water grants issued by Governor Cuomo. DWSRF funds can go toward water projects focused on treatment, transmission and distribution, source, storage, consolidation and the creation of new systems. Grants issued by Governor Cuomo are authorized through the New York State Water Infrastructure Improvement Act; \$200 million will be invested over the next three state fiscal years to fund municipal wastewater and drinking water projects for the repair or replacement of infrastructure.

INFRASTRUCTURE FUNDING OPTIONS

Funding is always a concern for municipalities when it comes to large projects. Having to remain within the state's 2% tax cap (or the rate of inflation) is not always easy for smaller municipalities or even cities such as Peekskill. However, there are many forms of funding available to municipalities at the state and federal level. These include: Community Development Block Grants, low- to zero-percent interest loans, or receiving aid from New York State.

The trouble is knowing where to look, but in the words of Tom Murphy, former mayor of the city of Pittsburgh, "There is always a way to find funding."

TYPES OF FUNDING AVAILABLE

- Community Development Block Grants (CDBG): One of the longest-running programs of the U.S. Department of Housing and Urban Development; it funds local community development activities such as affordable housing, anti-poverty programs and infrastructure development.
- Certified Local Government Grants (CLG): Each federal fiscal year, New York State sets aside 10 percent of the state's allocation of federal historic preservation funds for pass-through to Certified Local Governments. Funding may be applied to many kinds of projects that address the goals of identifying, evaluating, nominating and protecting a community's cultural resources.
- New York State Water Grants Program: Governor Cuomo announced \$75 million directed at updating and restoring water-related infrastructure.
- Environmental Facilities Corporation (EFC) loans: These loans can usually be issued at below-market or zero-percent interest rates.
- Consolidated Local Street and Highway Improvement Program (CHIPS): These grants are specifically designed for aiding in municipal roads and highways.

EPA FIVE-YEAR NEEDS SURVEY

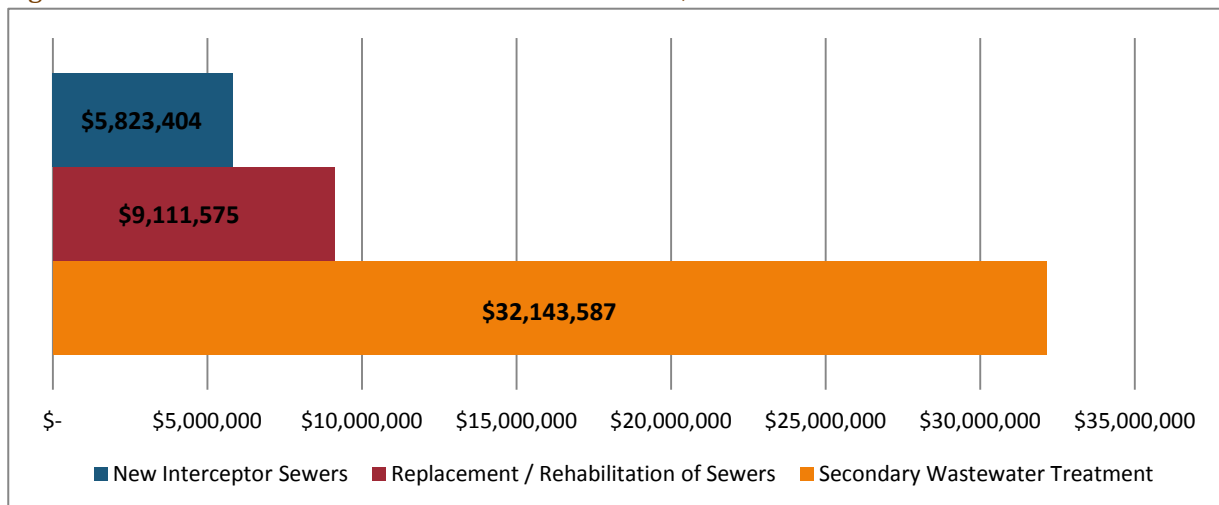
The Environmental Protection Agency (EPA) Clean Watersheds Needs Survey (CWNS) is an evaluation of reported capital investment needs for publically owned wastewater-collection and treatment facilities. These needs must be met to remain within compliance standards set by the Clean Water Act. The last survey was completed in 2012 and will be reissued in 2016.

Peekskill reported that capital investments will go toward:

- Secondary treatment: According to the EPA, secondary treatment, which makes up 68% of Peekskill's five-year needs, typically requires a treatment level that produces 30 mg/l of both BOD5 (the amount of oxygen required to break down organic material in a given water sample) and total suspended solids (solids in water that can be trapped by a filter).
- Replacement or rehabilitation of sewers, which accounts for 19% of Peekskill's five-year needs, includes needs and costs for the maintenance, reinforcement or reconstruction of structurally deteriorating sanitary or combined sewers.
- The new interceptor sewers category, which makes up 13% of Peekskill's needs, includes costs for constructing interceptor sewers and pumping stations to convey wastewater from collection sewer systems to a treatment facility or another interceptor sewer.
- The Decentralized Wastewater Treatment Systems category makes up less than 1% of Peekskill's needs. This area includes needs and costs associated with rehabilitating or replacing onsite wastewater treatment systems (OWTS) or clustered (community) systems.

The city's total future costs will be \$47,110,372 over the next five years, leading to an annual investment of at least \$9,422,074 to meet infrastructure needs of the EPA.

Figure 22-Peekskill Five-Year EPA Documented Needs, 2012



Source: United States Environmental Protection

URBAN ACTION AGENDA 2015

CITY OF
PEEKSKILL



23,702 Population

48% of units are owner occupied

44% of units are renter occupied

8% of units are vacant

14% of residents receive food assistance benefits

49% of households pay greater than 30% of their household income towards housing

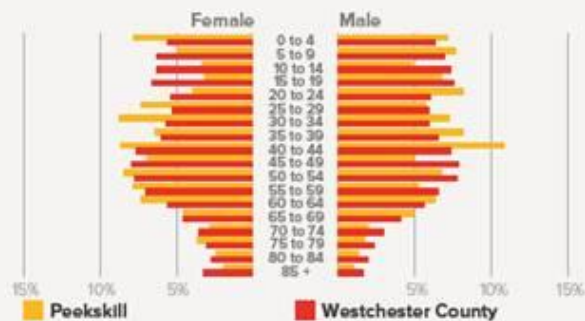
30% of residents have a bachelor's degree or higher

\$58,226 is the median household income

31% of residents work within the municipality

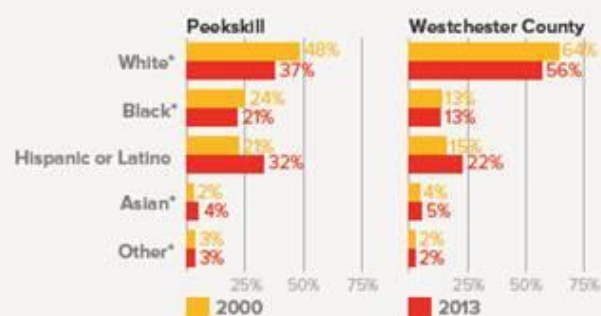
Share of Population by Age and Sex

source: 2009-13 American Community Survey



Population by Race and Ethnicity

source: 2009-13 American Community Survey, 2000 Decennial Census



* not Hispanic or Latino

PEEKSKILL

HOUSING

The metrics on this page provide information about housing in the community - the number of owner-occupied, renter-occupied, and vacant units as compared to the county overall; the change in home values since 2000; and the age of the housing stock. Housing wage looks at the amount of money a person working a full-time job would have to make in order to afford rental housing (in this case a one or two bedroom unit) without having to pay more than 30% of their income. Finally, housing cost as a percent of income shows the percentage of renters and owners in the community whose housing costs are considered affordable, unaffordable, and severely unaffordable.

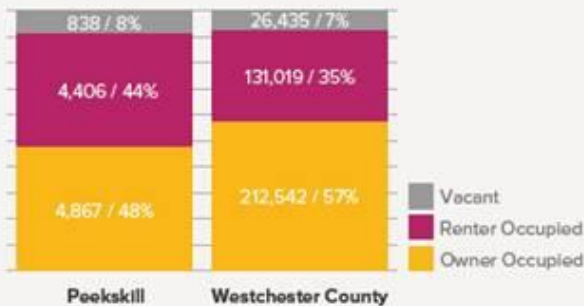
Housing Wage

source: National Low Income Housing Coalition

Housing wage for a one bedroom apartment in Westchester County:	22.92	per hour
	\$45,846	per year
Housing wage for a two bedroom apartment in Westchester County:	28.23	per hour
	\$56,462	per year

Housing Tenure

source: 2009-13 American Community Survey



Age of Housing Stock

source: 2009-13 American Community Survey



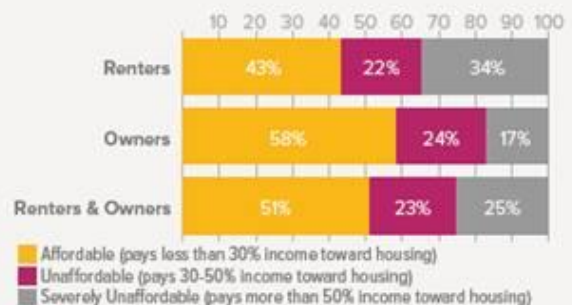
Changing Home Values

source: 2009-13 American Community Survey, 2000 Census



Housing Cost as Percent of Income

source: 2008-2012 HUD CHAS



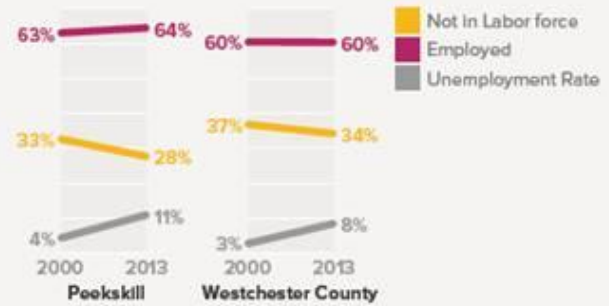
PEEKSKILL

INCOME AND POVERTY

The metrics on this page provide information about income and poverty in the community. Median household income, income distribution, and the percentage of households in poverty in 2000 and 2013 for the community and the county are shown. The employment rate, the percentage of residents not in the labor force, and the unemployment rate in 2000 and 2013 for the community and the county are also shown. Finally, the percentage of households receiving food assistance for the community and the county is based on the distribution of USDA Supplemental Nutrition Assistance Program (SNAP) benefits.

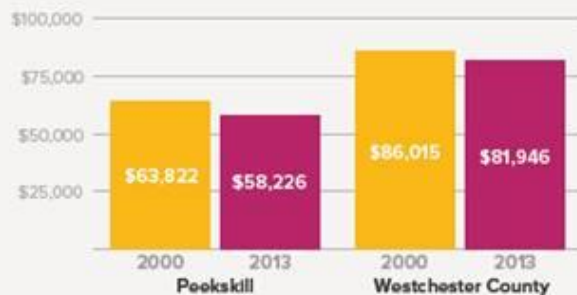
Labor Force Participation

source: 2009-13 American Community Survey, 2000 Census
Percent of Residents Ages 16 and Over



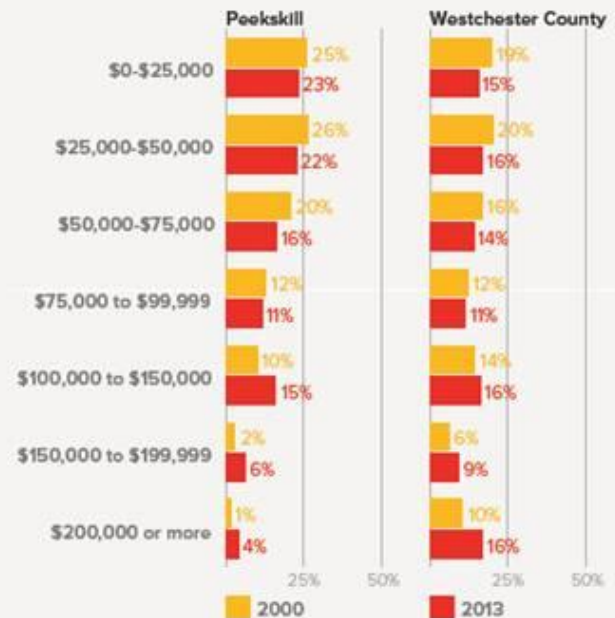
Median Household Income

source: 2009-13 American Community Survey, Census 2000 (adjusted to 2013 dollars)



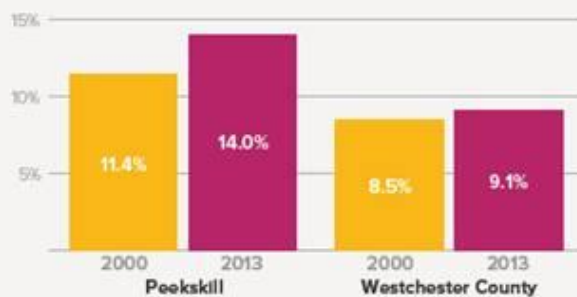
Income Distribution

source: 2009-13 American Community Survey, 2000 Census



Households in Poverty

source: 2009-13 American Community Survey, Census 2000



Households Receiving Food Assistance

source: 2009-13 American Community Survey, Snap Benefits

	2013
City of Peekskill	14%
Westchester County	8%

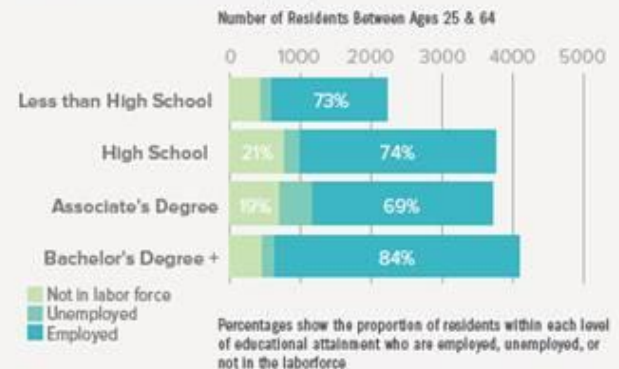
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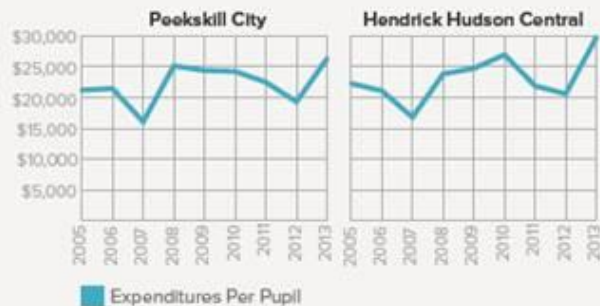
Employment and Education

source: 2009-2013 American Community Survey



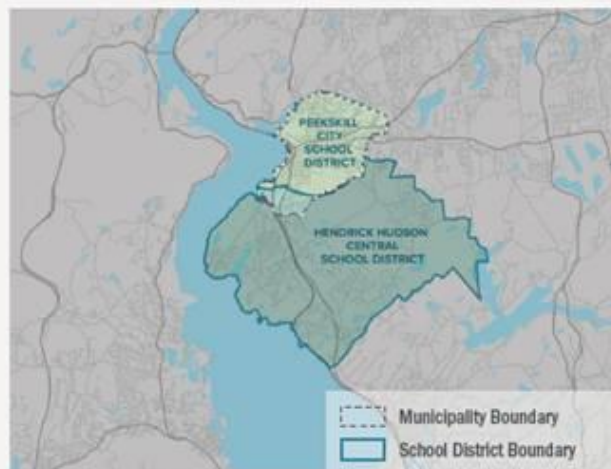
Expenditures Per Pupil

source: New York State Department of Education



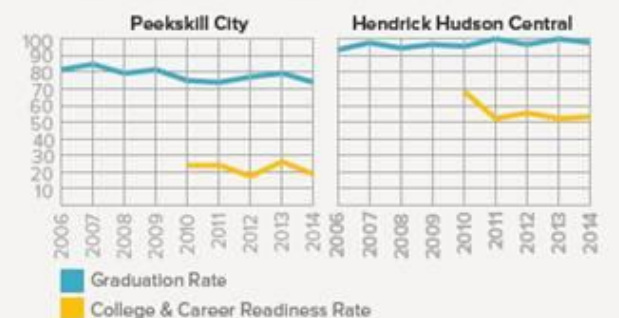
School District Student Characteristics

source: New York State Department of Education



Graduation Rate & Career Readiness

source: New York State Department of Education
note: College and career readiness data only available for 2010-2014



PEEKSKILL

QUALITY OF LIFE

Indicators on this page provide information about the quality of life in the community. The annual number of reported crimes going back to 1990 is broken down into two categories – violent and property crimes. Obesity prevalence by zip code in comparison to the county provides an indicator of public health. The percent of the population that lives within walking distance of a park as well as the total acres of parks in close proximity of the municipality are expressed. And finally, access to quality food looks at the proximity of people in low-income neighborhoods to the nearest supermarket, supercenter, or large grocery store. Areas that are highlighted demonstrate poor access to quality food.

Access to Parks

source: open space data from The Nature Conservancy

Access To Parks

95% of Peekskill Residents live within 1/2 mile of a park

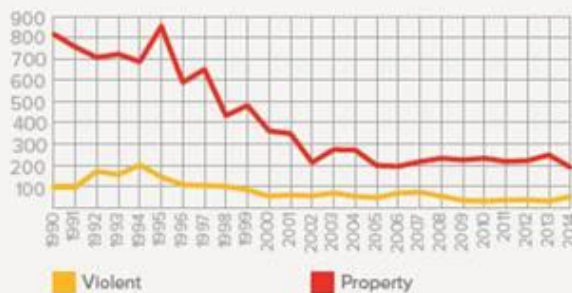
Acres of Parks

Peekskill has 4,751 acres of parkland within 1/2 mile of the municipal boundary*

* The full area for all parks was counted here even if some portion of the park lies further than 1/2 mile from the municipality

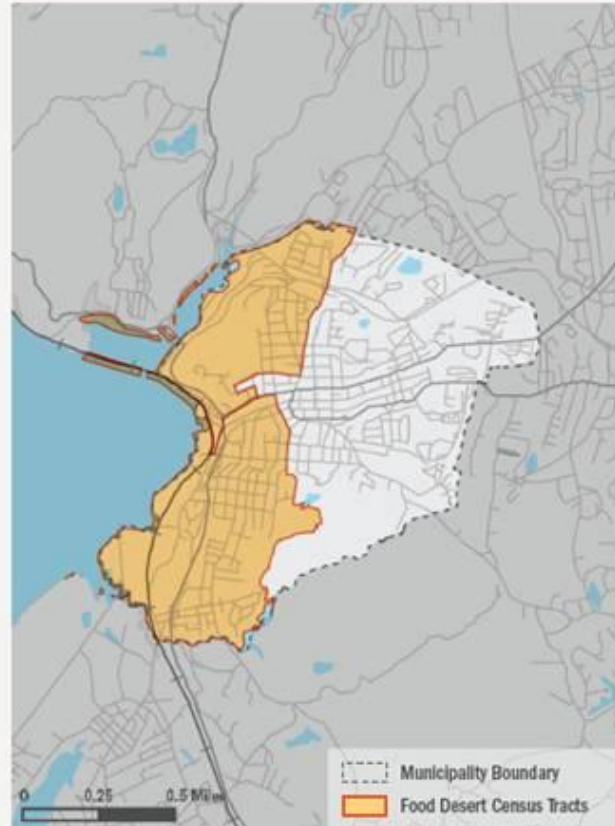
Number of Crimes

source: New York State Division of Criminal Justice Services
agency: Peekskill City Police Department



Access to Quality Food

source: USDA, Food Environment Atlas. Low-income tracts with at least 500 people or 33 percent of the population living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.



Obesity Prevalence

source: D-Atlas with data from the 2000-2010 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey



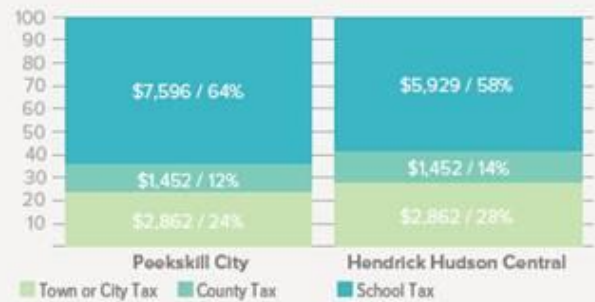
PEEKSKILL

ECONOMY

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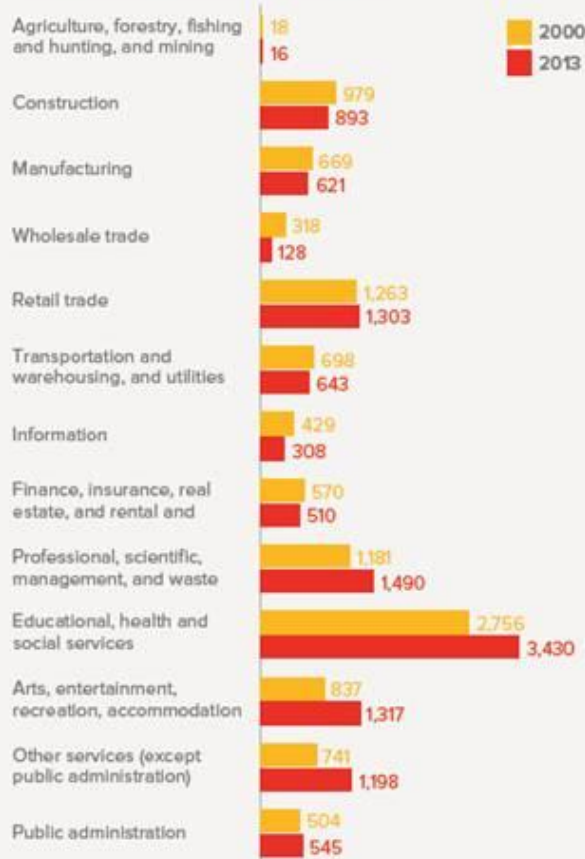
Taxes based on \$320,500 Home

source: New York State Office of Real Property Tax Services 2013
note: Excludes local fire and other special taxing districts.



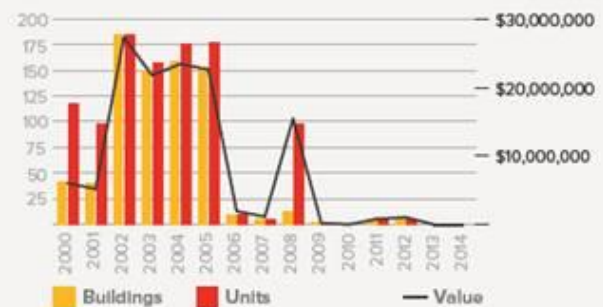
Employment by Industry

source: 2000 Census, 2009-13 American Community Survey



Annual Residential Building Permits

source: Census, 2000-2014 Building Permits Survey
Building permits and expenditures for new residential construction



Place of Work & Mode of Travel

source: 2014 CTPR 2009-13 American Community Survey

Top 5 Places of Employment		Percent of Total Workers
Westchester County, New York		74.1%
New York City, New York		16.5%
Dutchess County, New York		3.2%
Rockland County, New York		1.3%
Putnam County, New York		1.2%
Mode of Travel to Work		Percent of Total Workers
Drove Alone in a Car, Truck or Van		63.2%
Carpooled in a Car, Truck or Van		12.5%
Used Public Transportation		15.9%
Average Commute Time		32 minutes



ABOUT THIS PROJECT

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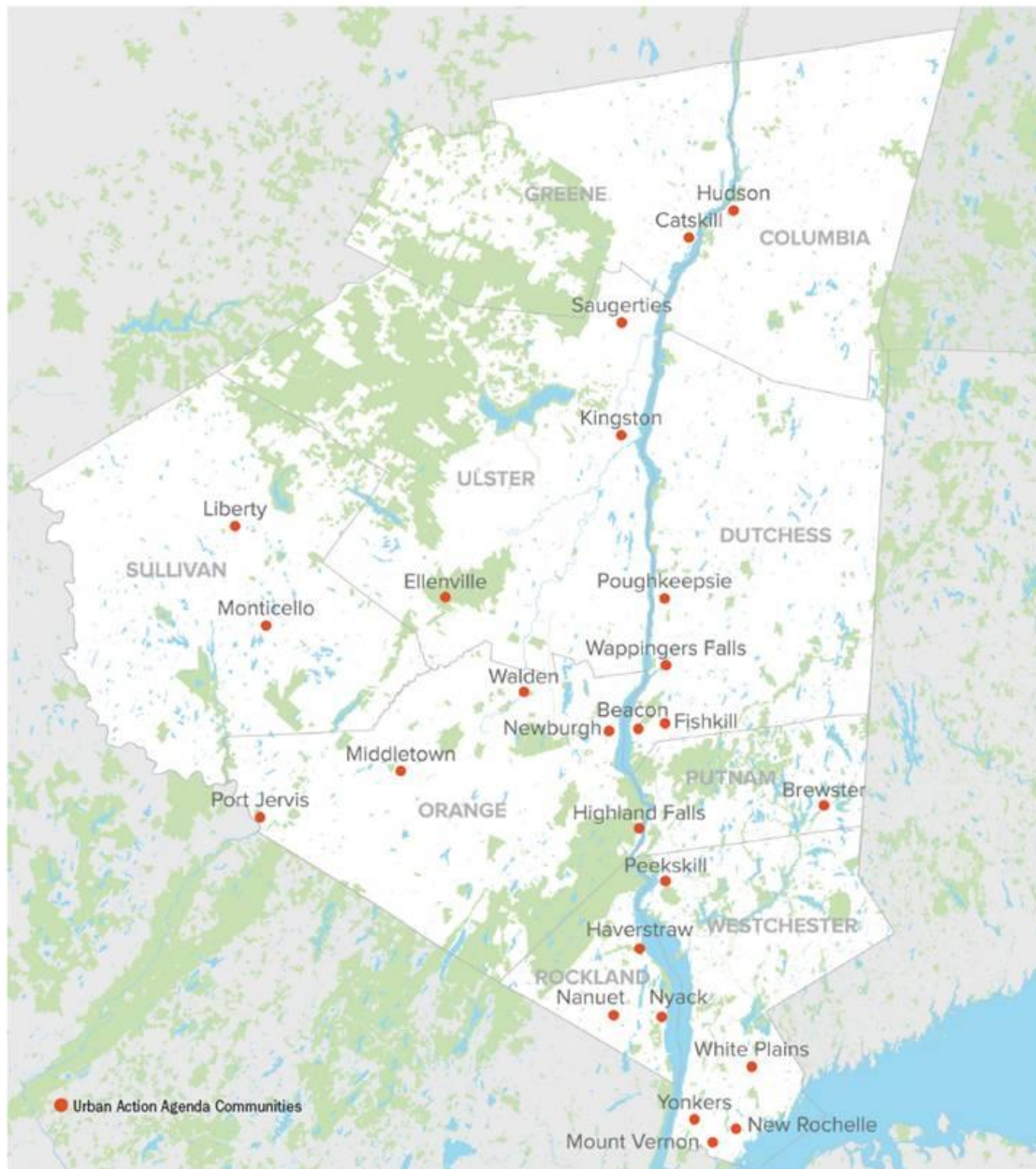
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Citation

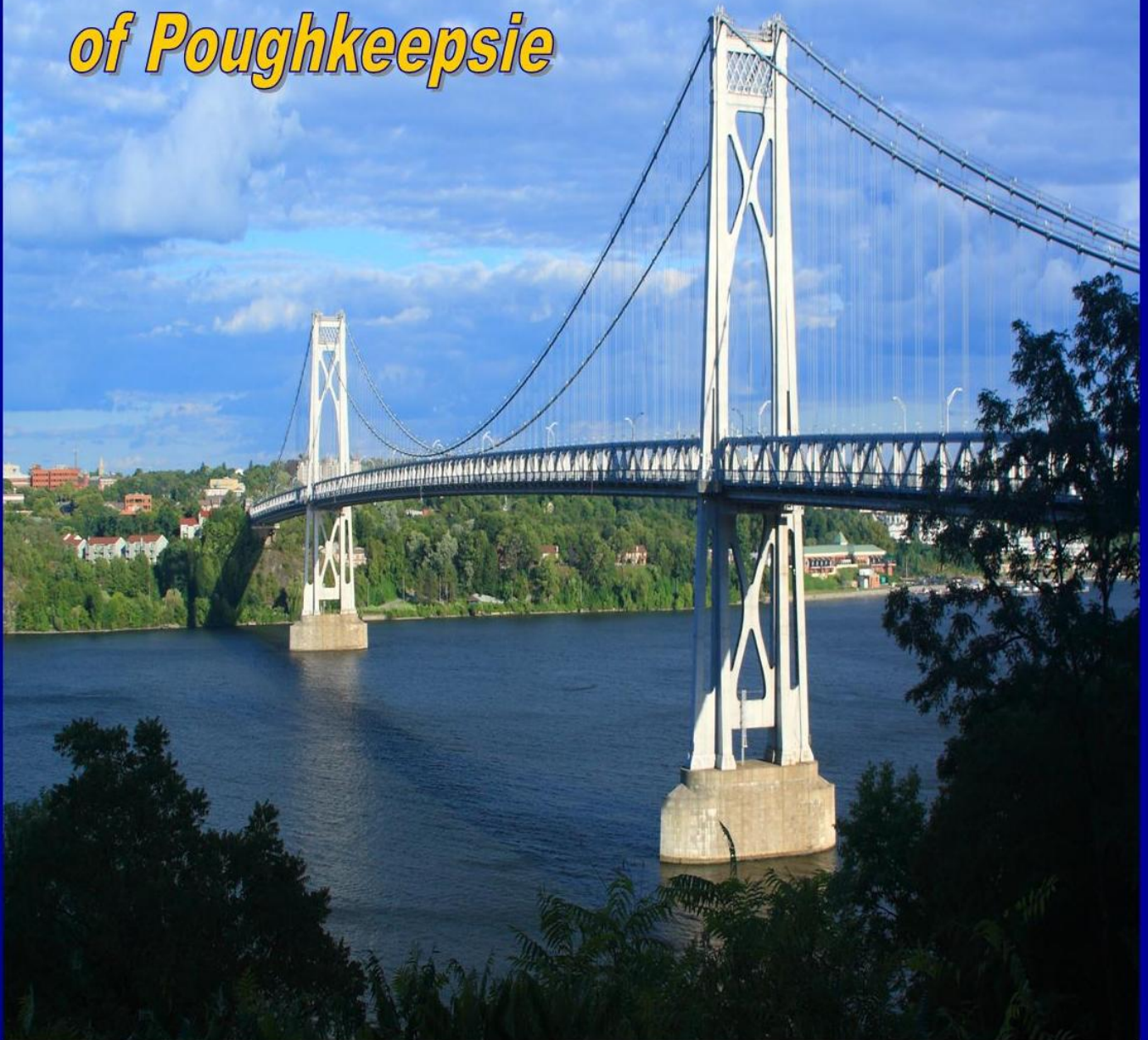
Regional Plan Association and Hudson Valley Pattern for Progress. November 2015. "Urban Action Agenda 2015: Municipal Profiles."

URBAN ACTION AGENDA COMMUNITIES



PEEKSKILL 8 OF 8

***The City
of Poughkeepsie***



An Infrastructure Snapshot

OPPORTUNITY AREA INFRASTRUCTURE SNAPSHOT

The seven Community Infrastructure Snapshots were made possible through funding provided by the Mid-Hudson Regional Economic Development Council (REDC) to continue Pattern's work in infrastructure research and future planning for the REDC. The REDC identified a number of communities within its economic-development region as "Opportunity Areas" based upon specific criteria and levels of distress. The criteria include high levels of poverty, vacancy rates and unemployment. Pattern surveyed municipalities across the Hudson Valley to assess the capacity and barriers to infrastructure investment. Pattern also focused specifically on seven "Opportunity Areas" and developed these Community Infrastructure Snapshots to assist in identifying local needs. Infrastructure, such as aspects of public works, transportation (roads and bridges) and water (both water supply and sewage), were among the areas included.

THE BUILT ENVIRONMENT

The City of Poughkeepsie is in Dutchess County and serves as the county seat with a total population of 30,716 (2014 American Community Survey). The city should replace water mains and separate combined sewer systems every year as part of its capital plan, but budgetary constraints make this impossible. The city recently received EFC approval for its water reservoir and water main replacement projects.

According to Pattern's 2016 survey, Poughkeepsie has a single public-water system that serves 76%-100% of residents. The existing system supply can serve current needs, and is therefore not an immediate concern. The water-supply treatment system, including distribution lines, are in good condition (with the system requiring routine maintenance), but there are slight concerns over the sustainability of the water supply.

The city has one public sanitary-sewer system that serves less than 76-100% of the population. The system is in good condition, and the city is not concerned over the sustainability of the system because it can support current and future needs. Poughkeepsie is a community regulated Municipal Separate Storm Sewer System (MS4), with a Storm water Management Plan pursuant to the NYSDEC General Permit. The city regularly assesses the condition of its storm-drainage network and has a Hazard Mitigation Plan (a plan designed to protect residents and property from long-term hazards). The city has a Capital Improvement Plan (CIP). CIPs are often short-term plans, separate from annual budgets, that identify priority capital projects equipment purchases and maintenance.

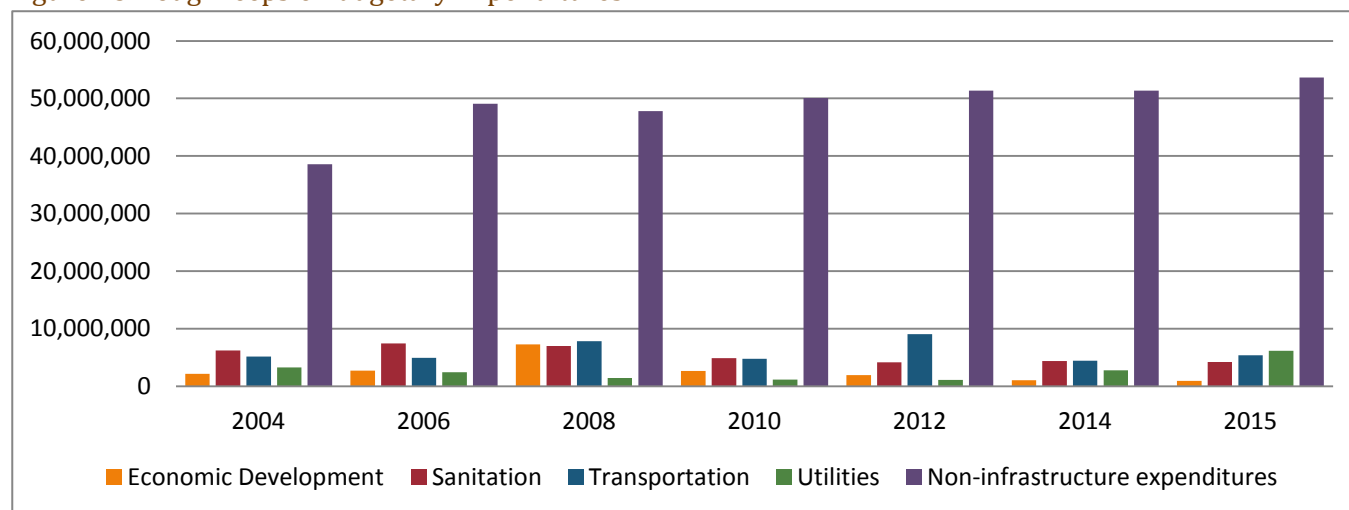
OFFICE OF THE NYS COMPTROLLER

From 2004-2014, the counties, cities, towns and villages of the Hudson Valley spent more than \$4.47 billion on public infrastructure, an average of just under \$447 million annually. While the need for infrastructure investment remains high, spending on infrastructure shows a potentially troubling trend. Hudson Valley villages devoted only 7% of their budget to infrastructure in 2014, compared to 8% a decade earlier.

Throughout the Hudson Valley, government expenditures for infrastructure have declined each year since 2010. Unlike infrastructure spending, overall spending levels remain 7% above the 2004 figure.

- In Poughkeepsie, infrastructure expenditures decreased 1.3% since 2004; non-infrastructure expenditures have increased 39% since 2004.
- In 2004, infrastructure expenditures (economic development, sanitation, transportation, and utilities) accounted for 30.4% of total expenditures, decreasing 22.1% in 2015, when they accounted for 23.7% of total expenditures.

Figure 23-Poughkeepsie Budgetary Expenditures



Source: Office of NYS Comptroller

INTERVIEW HIGHLIGHTS

After interviewing the Commissioner of Public Works and reviewing Mayor Rob Rolison's 2016 State of the City Address, funding and accessibility appear to be the main barrier to maintenance and expansion. With a relatively stable population, Poughkeepsie has plans to update its aging systems to increase their capacity and adequately plan for the future. With these changes underway, the city appears to have mitigated rising concerns within the community.

City of Poughkeepsie Snapshot

Prepared by: Hudson Valley Pattern for Progress

POUGHKEEPSIE INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

Prior to state investment into water and sewer systems, concerns for residents in Poughkeepsie were based solely on upgrading aging infrastructure, improving water quality and preventing contamination. The city has been able to remedy previous concerns by:

- Instructing residents to boil water for several days in 2013 due to E. coli bacterial contamination. It implemented routine flushing protocols to keep water moving through the system.
- Replacing several miles of underground pipes that were prioritized in sections based on results from bacteria testing and an engineering report.
- Risking higher water rates to fund upcoming projects that will ensure safe drinking water.
- Repairing water mains along Cottage Street, Garden Street, Thompson Street, Mansion Street and two sections of South Avenue.
- Addressing public safety through the implementation of LED lighting; approximately 25% of fixture installations are complete. Staff from the Department of Public Works and Mannino Electric will service and replace cobra-head lights along Main Street.
- Replacing over 6,200 antiquated water meters from 2013 through July 2014; since these replacements, the city's water/sewer fund has increased by over \$1.1 million.
- Utilizing a \$3 million grant provided by NYS Water Infrastructure improvement Act to replace College Hill's reservoir and water-distribution systems.
- Utilizing a \$9.7 million interest-free loan to replace underground mains (with a cement-lined ductile-iron water main).



COMMUNITY WISH LIST

Q. If funding were not an issue, what would you do to provide enhanced services to your residents?

- Complete LED street lighting project.
- End the budget subsidy of the city bus system.
- Privatize the sanitation system.

RECOMMENDATIONS

In the city's effort to privatize the sanitary sewer system, Pattern recommends conducting a cost-benefit analysis to switching to a private septic system. Present findings to the community by emphasizing the benefits (environmentally friendly, minimal maintenance and longevity of the system) while acknowledging costs associated with the switch (overall price and installation fees).

INFRASTRUCTURE FUNDING OPTIONS

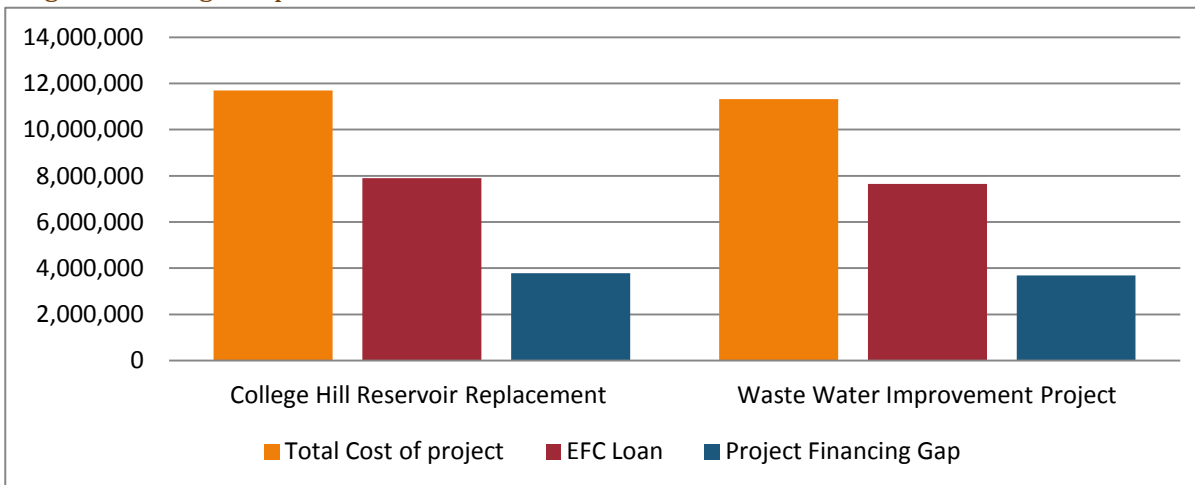
Funding is always a concern for municipalities when it comes to large projects. Having to remain within the state's 2% tax cap (or the rate of inflation) is not always easy for smaller municipalities. However, there are many forms of funding available to municipalities at the state and federal level. The most difficult aspect of finding funding for municipal projects is knowing where to look.

There are multiple forms of funding, from Community Development Block Grants, low- to zero-percent interest loans, or receiving aid from New York State. The trouble is knowing where to look, but in the words of Tom Murphy, former mayor of the city of Pittsburgh, "There is always a way to find funding."

TYPES OF FUNDING AVAILABLE

- **Community Development Block Grants (CDBG):** One of the longest-running programs of the U.S. Department of Housing and Urban Development; it funds local community development activities such as affordable housing, anti-poverty programs and infrastructure development.
- **Environmental Facilities Corporation (EFC) loans:** These loans can usually be issued at below-market or zero-percent interest rates.
- **New York State Water Grants Program:** This year, Governor Cuomo announced \$75 million directed at updating and restoring water-related infrastructure.
- **Certified Local Government Grants (CLG):** Each federal fiscal year, New York State sets aside 10 percent of the state's allocation of federal historic preservation funds for pass-through to Certified Local Governments. Funding may be applied to many kinds of projects that address the goals of identifying, evaluating, nominating and protecting a community's cultural resources.
- **Consolidated Local Street and Highway Improvement Program (CHIPS):** These grants are specifically designed for aiding in municipal roads and highways.

Figure 24-Poughkeepsie CFA Grants Awarded, 2015



Source: City of Poughkeepsie

City of Poughkeepsie Snapshot

Prepared by: Hudson Valley Pattern for Progress

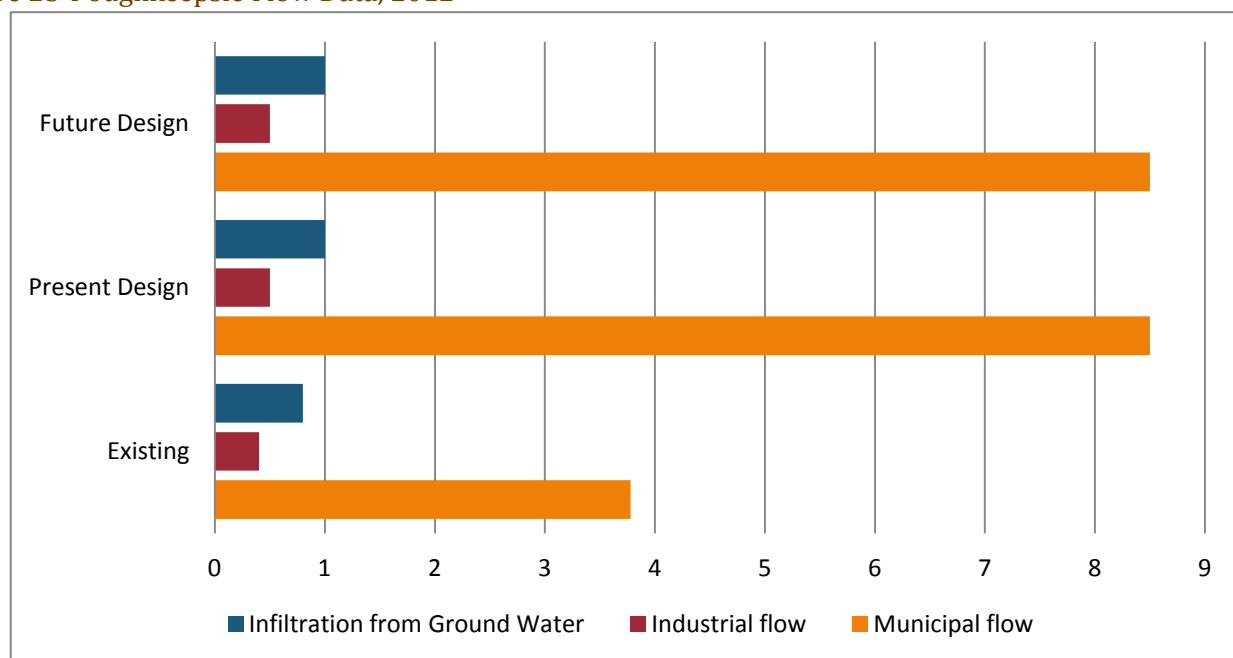
EPA FIVE-YEAR NEEDS SURVEY

The Environmental Protection Agency (EPA) Clean Watersheds Needs Survey (CWNS) is an evaluation of reported capital investment needs for publically owned wastewater collection and treatment facilities. These needs must be met in to remain within compliance standards set by the Clean Water Act. The last survey was completed in 2012 and will be reissued in 2016.

Poughkeepsie did not document any needs for 2012. However, it did report that it has pollution problems and 301(d) (a list required by the EPA that identifies threatened water bodies such as streams, water segments or lakes) impaired water in the city's combined sewers and sanitary-sewer overflows.

Flow data describes the quantity of wastewater moving through the facility, or the present or planned design capacity of that facility. In Poughkeepsie, 29,771 residents were served within the service area of the facility. In 2012, it was projected that 31,000 residents would be served within the service area in the future. The data are measured in units of millions gallons per day (MGD). The reported data can help estimate wastewater treatment cost-curve needs.

Figure 25-Poughkeepsie Flow Data, 2012



Source: United States Environmental Protection Agency

URBAN ACTION AGENDA **2015**

**CITY OF
POUGHKEEPSIE**



31,172 Population

34% of units are owner occupied

54% of units are renter occupied

12% of units are vacant

24% of residents receive food assistance benefits

52% of households pay greater than 30% of their household income towards housing

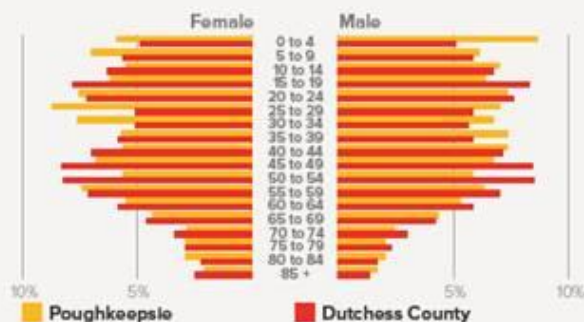
21% of residents have a bachelor's degree or higher

\$39,481 is the median household income

60% of residents work within the municipality

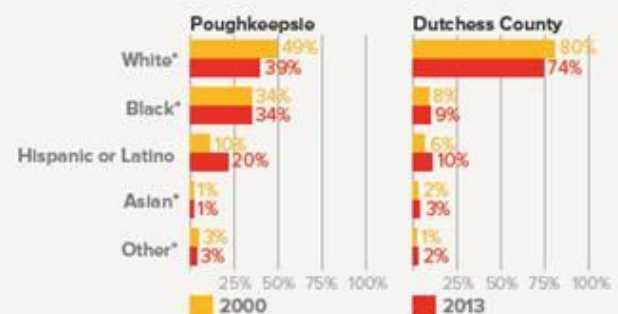
Share of Population by Age and Sex

source: 2009-13 American Community Survey



Population by Race and Ethnicity

source: 2009-13 American Community Survey, 2000 Decennial Census



* not Hispanic or Latino

POUGHKEEPSIE

HOUSING

The metrics on this page provide information about housing in the community - the number of owner-occupied, renter-occupied, and vacant units as compared to the county overall; the change in home values since 2000; and the age of the housing stock. Housing wage looks at the amount of money a person working a full-time job would have to make in order to afford rental housing (in this case a one or two bedroom unit) without having to pay more than 30% of their income. Finally, housing cost as a percent of income shows the percentage of renters and owners in the community whose housing costs are considered affordable, unaffordable, and severely unaffordable.

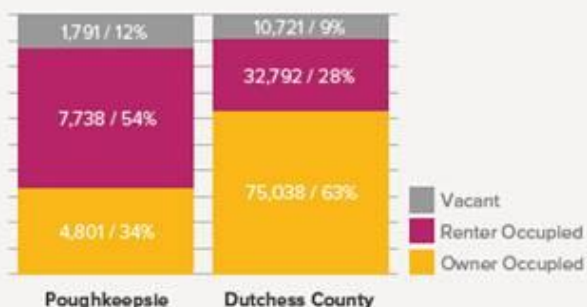
Housing Wage

source: National Low Income Housing Coalition

Housing wage for a one bedroom apartment in Dutchess County:	18.92	per hour
	\$37,846	per year
Housing wage for a two bedroom apartment in Dutchess County:	23.29	per hour
	\$46,577	per year

Housing Tenure

source: 2009-13 American Community Survey



Age of Housing Stock

source: 2009-13 American Community Survey



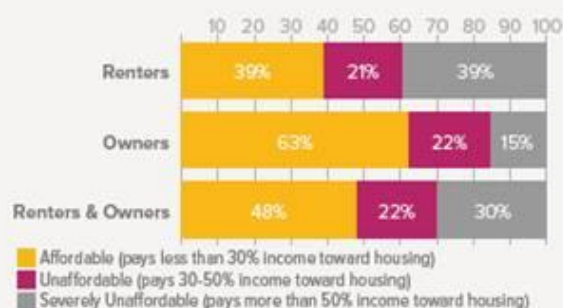
Changing Home Values

source: 2009-13 American Community Survey, 2000 Census



Housing Cost as Percent of Income

source: 2008-2012 HUD CHAS



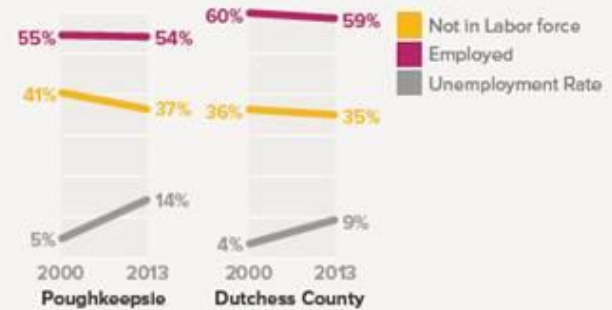
POUGHKEEPSIE

INCOME AND POVERTY

The metrics on this page provide information about income and poverty in the community. Median household income, income distribution, and the percentage of households in poverty in 2000 and 2013 for the community and the county are shown. The employment rate, the percentage of residents not in the labor force, and the unemployment rate in 2000 and 2013 for the community and the county are also shown. Finally, the percentage of households receiving food assistance for the community and the county is based on the distribution of USDA Supplemental Nutrition Assistance Program (SNAP) benefits.

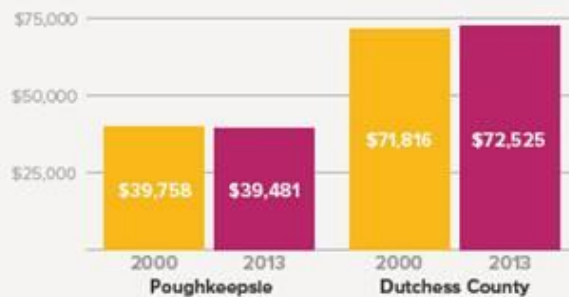
Labor Force Participation

source: 2009-13 American Community Survey, 2000 Census
Percent of Residents Ages 16 and Over



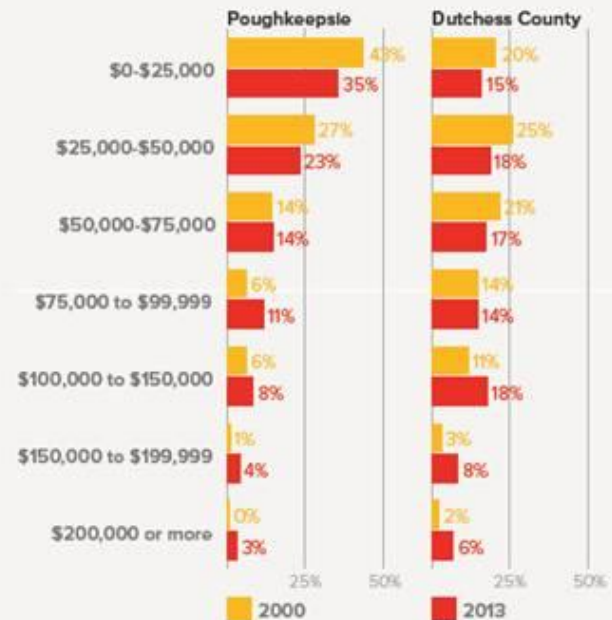
Median Household Income

source: 2009-13 American Community Survey, Census 2000 (adjusted to 2013 dollars)



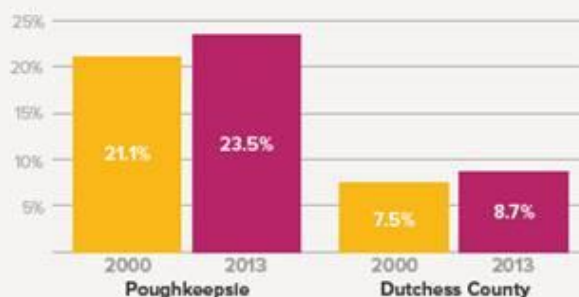
Income Distribution

source: 2009-13 American Community Survey, 2000 Census



Households in Poverty

source: 2009-13 American Community Survey, Census 2000



Households Receiving Food Assistance

source: 2009-13 American Community Survey, Snap Benefits

	2013
City of Poughkeepsie	24%
Dutchess County	8%

URBAN ACTION AGENDA 2015

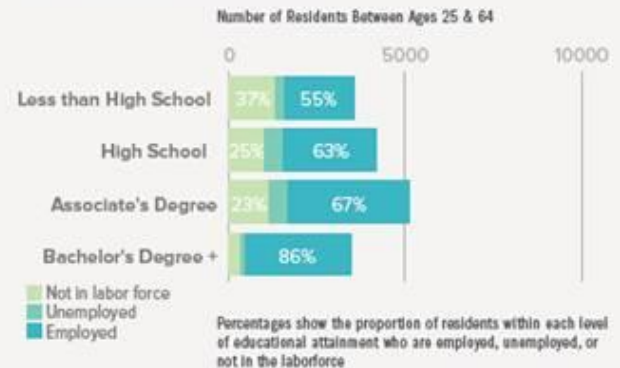
POUGHKEEPSIE

EDUCATION

The metrics on this page provide information about education in the community. The school district or districts that are located in the community are illustrated on the map; and annual spending per pupil for years 2005-2013 is shown for each of the school districts. Communitywide educational attainment and its relation to employment for those aged 25-64 is shown. Select demographics for each school district – enrollment, the percentage of students who are eligible for free or reduced lunch, and the number of students with limited English proficiency – are shown. Finally, annual school performance for each district is demonstrated by the graduation rate and a college and career readiness measure established by the NYS Department of Education starting in 2010.

Employment and Education

source: 2009-2013 American Community Survey



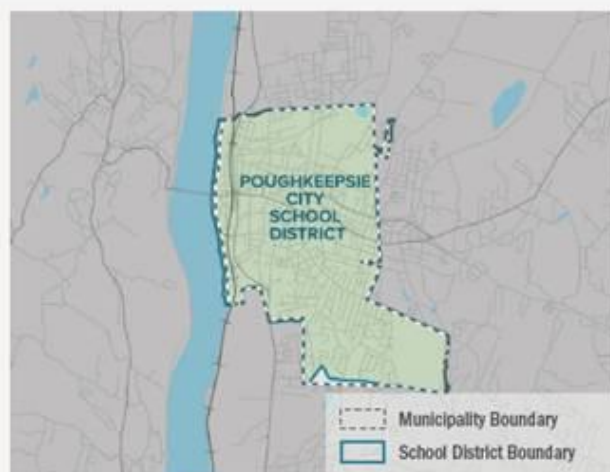
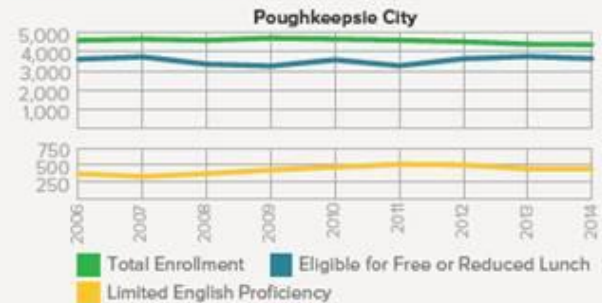
Expenditures Per Pupil

source: New York State Department of Education



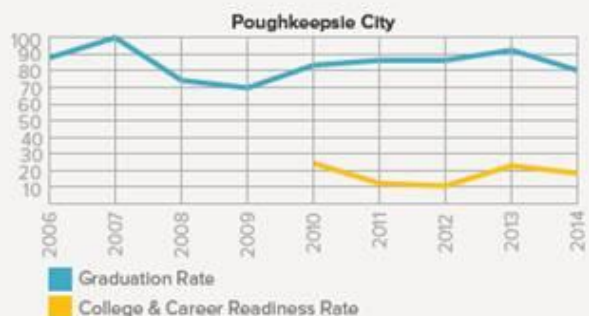
School District Student Characteristics

source: New York State Department of Education



Graduation Rate & Career Readiness

source: New York State Department of Education
note: College and career readiness data only available for 2010-2014



POUGHKEEPSIE

QUALITY OF LIFE

Indicators on this page provide information about the quality of life in the community. The annual number of reported crimes going back to 1990 is broken down into two categories – violent and property crimes. Obesity prevalence by zip code in comparison to the county provides an indicator of public health. The percent of the population that lives within walking distance of a park as well as the total acres of parks in close proximity of the municipality are expressed. And finally, access to quality food looks at the proximity of people in low-income neighborhoods to the nearest supermarket, supercenter, or large grocery store. Areas that are highlighted demonstrate poor access to quality food.

Access to Parks

source: open space data from The Nature Conservancy

Access To Parks

85% of Poughkeepsie Residents live within 1/2 mile of a park

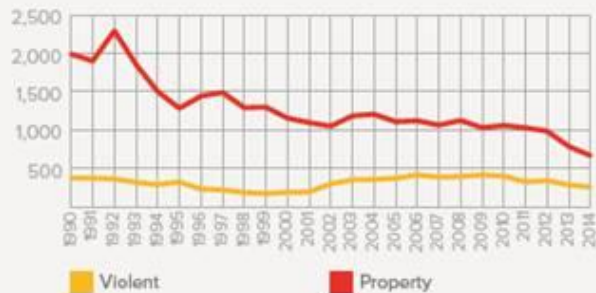
Acres of Parks

Poughkeepsie has 401 acres of parkland within 1/2 mile of the municipal boundary*

* The full area for all parks was counted here even if some portion of the park lies further than 1/2 mile from the municipality

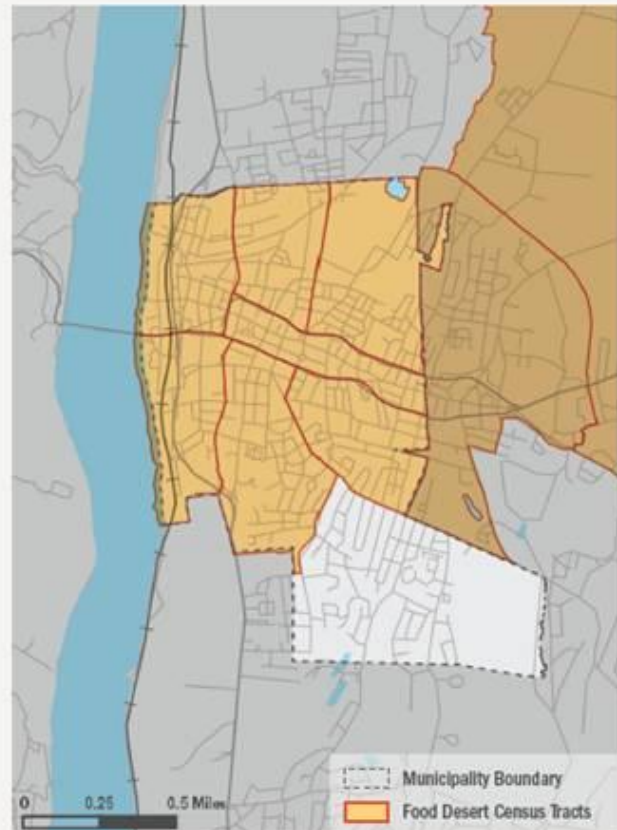
Number of Crimes

source: New York State Division of Criminal Justice Services
agency: Poughkeepsie City Police Department



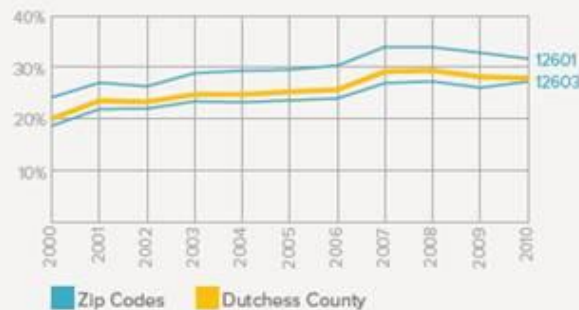
Access to Quality Food

source: USDA, Food Environment Atlas. Low-income tracts with at least 500 people or 33 percent of the population living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store.



Obesity Prevalence

source: D-Atlas with data from the 2000-2010 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey



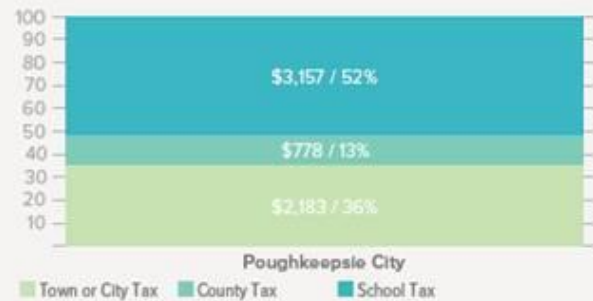
POUGHKEEPSIE

ECONOMY

The metrics on this page provide information about the local economy. The estimated amount and distribution of property taxes among taxing jurisdictions (local, county, and school district) is shown for a home with the community's median home value. Employment by industry is shown for the years 2000 and 2013. The annual number of residential building permits (in terms of both buildings and units) from 2000 to 2014, and the total annual value of residential building permits is provided. And finally, the top five places of employment for residents of the community are listed along with the primary modes of transportation to work and the average commute time for all workers who live in the community.

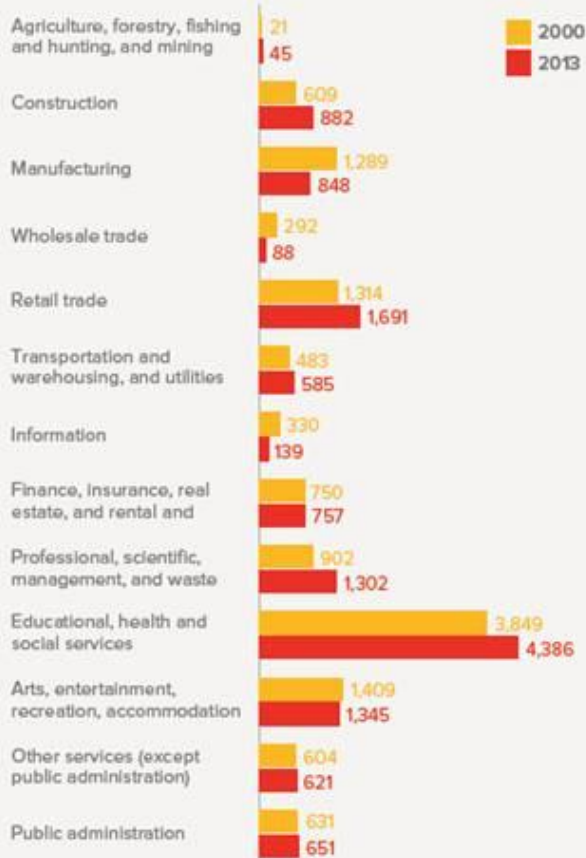
Taxes based on \$217,900 Home

source: New York State Office of Real Property Tax Services 2013
note: Excludes local fire and other special taxing districts.



Employment by Industry

source: 2000 Census, 2009-13 American Community Survey



Annual Residential Building Permits

source: Census, 2000-2014 Building Permits Survey
Building permits and expenditures for new residential construction



Place of Work & Mode of Travel

source: 2014 CTPP, 2009-13 American Community Survey

Top 5 Places of Employment		Percent of Total Workers
Dutchess County, New York		82.6%
New York City, New York		5.4%
Ulster County, New York		3.9%
Westchester County, New York		3.4%
Fairfield County, Connecticut		1.1%
Mode of Travel to Work		Percent of Total Workers
Drove Alone in a Car, Truck or Van		64.7%
Carpooled in a Car, Truck or Van		10.4%
Used Public Transportation		8.1%
Average Commute Time		24 minutes



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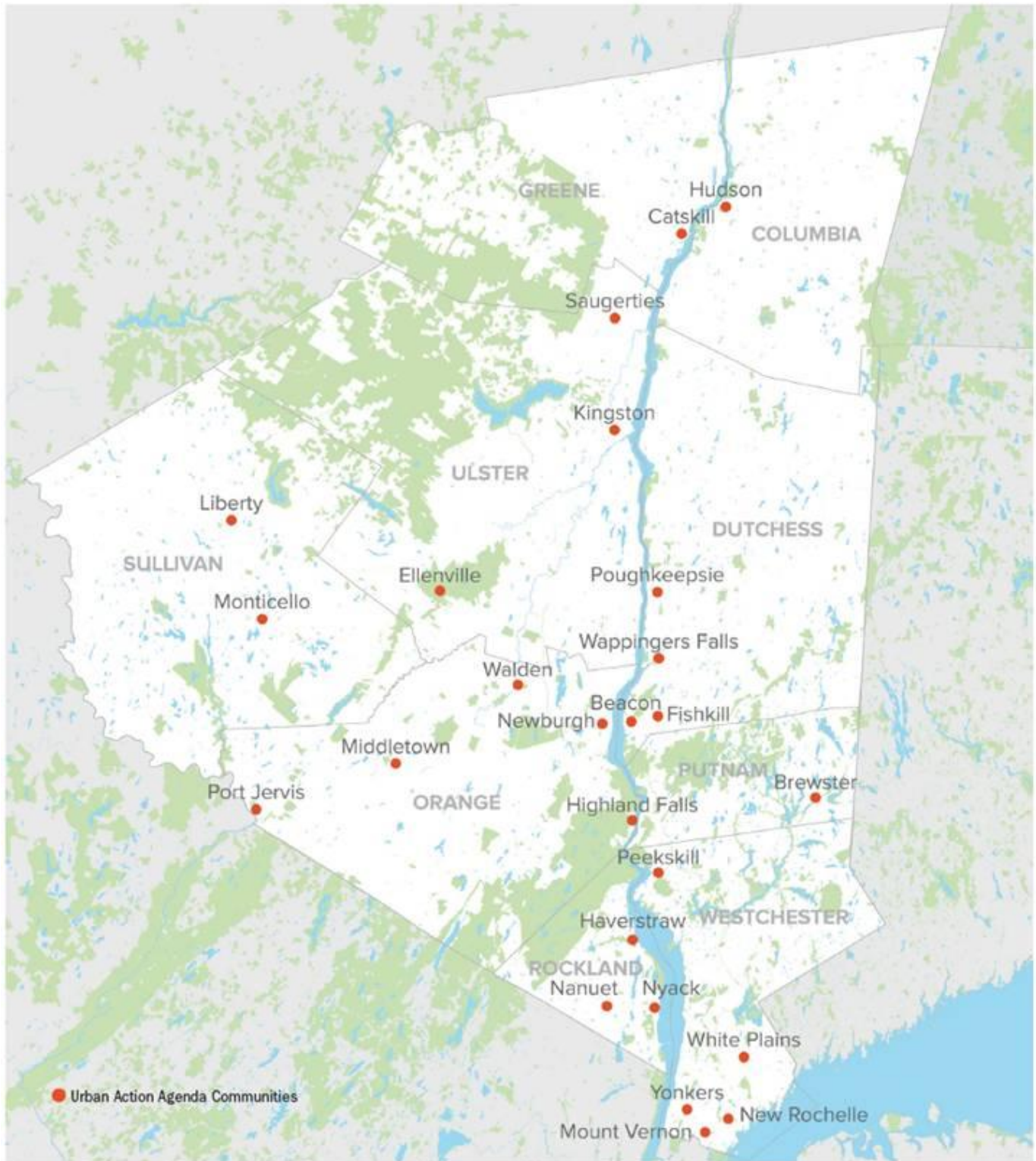
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Citation

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URBAN ACTION AGENDA COMMUNITIES



POUGHKEEPSIE 8 OF 8

APPENDIX E- INTERVIEW QUESTIONS AND ANSWERS

A research component of this report included interviewing representatives of NYSDOT Region 8 and NYSDEC Region 3. We present those Q&As here.

INTERVIEW: NYSDOT REGION 8

Answers provided via Lisa D. Weiss, assistant to the regional director.

How would the DOT characterize the state of infrastructure in the region (roads, bridges, etc.)?

Much of the roadway and bridge infrastructure in New York State, and in particular in the Hudson Valley, is aging and can be a challenge to manage. The Hudson Valley has many roadways and bridges that were first constructed in the early part of the 20th century and at times lack the functionality afforded by current standards.

Fortunately, in recent years, both Governor Cuomo and members of the legislature have focused on the age and condition of the State's infrastructure and therefore the New York State Department of Transportation (NYSDOT) has received a record amount of funding to address our roads and bridges, and we've been able to address numerous bridges and roadways that were in need of repair. Of course the large inventory of roads and bridges in the region means our funding requirements can't always be met to address every need or potential improvement to the system. We still have many bridges and roadways that are in need of rehabilitation, replacement, or upgrades to meet the needs of current traffic volumes and usage, but, if the trend to focus on infrastructure continues, it can only benefit NYSDOT and the traveling public throughout the region, state, and country.

What are key trends regarding infrastructure (repairs, maintenance, availability of financing, etc.) that the DOT is seeing?

There are several trends in the way infrastructure is repaired and financed. One of the trends is accelerated bridge construction, which employs various strategies to reduce the length of time it takes to replace a bridge thereby minimizing the impact of construction on the travelling public. One example of a NYSDOT accelerated bridge replacement was on I-84 in Putnam County in 2014. Replacement bridges for I-84 over Dingle Ridge Road were constructed adjacent to the highway without impacting traffic, then with traffic diverted over separate weekends, each existing bridge was demolished and the new bridges slid into place. Not only

did the strategy reduce the impact to motorists, it resulted in a less expensive project than the typical process of reducing the number of lanes or shifting traffic during a one or two year project.

Another trend in construction is the Design-Build delivery method where consultants team up with contractors to deliver the detail design plans and construct the project, which can lead to innovative solutions to infrastructure needs. The New York State Legislature has provided NYSDOT with a two year window to utilize this project delivery method on highway and bridge projects. The traditional Design-Bid-Build method is still the primary means of delivering projects but Design-Build allows NYSDOT flexibility, and often results in cost-savings.

Financing of infrastructure projects is also changing as a result of an overall leveling off of public funding for transportation. One trend on both the state and federal level is competitive funding programs for large projects. Often these programs stress multiple project goals such as reconstructing infrastructure, improving mobility, and enhancing economic development.

How does the DOT prioritize projects?

In general NYSDOT prioritizes infrastructure projects based on asset conditions, functional classification of the roadways, and traffic volumes. There are many nuances to project scheduling that NYSDOT must consider, including: coordination with other projects, restrictions associated with certain funding, and balancing the needs of various types of infrastructure assets.

How far ahead does the DOT plan projects?

Project planning is dependent on the type of improvements envisioned. Many projects fall under the classification of “Preservation.” Some examples of Preservation projects are bridge painting, minor bridge rehabilitation, pavement resurfacing, and guide rail replacement. There are needs for these types of improvements on a continuous basis due to the quantity of the assets and deterioration rates associated with these assets’ elements. The asset needs are identified from the condition assessments that are done as part of the normal practice of NYSDOT. Preservation projects are included in each year of the NYSDOT capital program to address these needs, though the specific project locations may only be selected a year prior to the project going to construction. Bridge, pavement and culvert major rehabilitations or replacements are identified by our asset management teams and recommended for inclusion in the capital program. Major rehabilitation projects have higher costs and are typically added to the capital program several years prior to the start of construction due to the high cost and the need for an extensive design effort and possibly the acquisition of additional right of way.

Intersection, interchange or corridor projects may take many years to plan, design and construct due to the complexity of such projects and the need to involve the community in the planning process. Large projects may not have an identified funding source when initiated, which can extend the length of time between the start of planning and construction. Many of these projects are identified as needs in the Long Range Plans of the Metropolitan Planning Organizations (MPO's) prior to the start of formal project planning.

Is there a backlog of projects?

Maintenance work and capital improvements continue to keep the highways and bridges safe, but the condition of the nation's infrastructure and the backlog of infrastructure needs that need to be addressed have been well documented. Additional funding would allow the nation to address the unmet infrastructure needs which would extend the service life of the infrastructure and improve the functionality of the system.

Has DOT staffing affected the speed with which projects are completed or maintenance is done?

Though NYSDOT staffing levels are lower than in the past, project delivery and construction is not affected. Innovative project development strategies, improvements in technology and the use of consultants have enabled the NYSDOT to continue to deliver these projects. Likewise maintenance staff levels are lower than years past however they are sized to provide snow and ice coverage, and with the addition of some maintenance contracts, deliver year round essential maintenance functions.

How has technology changed how the DOT evaluates the status/safety/condition of infrastructure? (are there new tools, software to track projects, etc.?)

NYSDOT has adopted a Project Management software that enables designers to manage their project schedules and also enables Regional and statewide managers to view and analyze the capital program to support staffing and financial decision making.

Computer Aided Design (CAD) has been around for years however refinements continue to bring efficiencies to the design process. 3D modeling software enables designers of bridge abutments and piers to visualize potential conflicts with utilities and other objects in the right of way. Global Positioning System (GPS) technology is used in survey, asset inventory collection, and in guiding construction equipment. In the future, drones may be utilized for aerial surveys and bridge inspections.

INTERVIEW: NYSDEC REGION 3

Answers secured by Wendy Rosenbach, Regional Citizen Participation Specialist, Office of Communication Services, from the Division of Water

Q) How would the DEC characterize the state of infrastructure in the region (water systems, sewage systems, etc.)?

A) The Hudson River estuary watershed north of NYC and south of the Troy Dam includes 140 municipal wastewater treatment plants, including 9 combined sewer systems (CSS). The area also includes 52 satellite sewer systems (also called Publically Owned Sewer Systems or POSSs), which discharge to 13 of the wastewater treatment facilities. Most of these municipal wastewater treatment plants are operating beyond their original design life. The area has over 2,600 miles of sanitary sewer line associated with the 140 wastewater treatment plants. This does not include the satellite sewer systems. About 11% of sanitary sewer pipes in the Hudson region were installed before 1925. About 26% are over 65 years old.

Q) What are key trends regarding infrastructure (repairs, maintenance, availability of financing, etc.) that the DEC is seeing?

A) The sewage system infrastructure are aging and many are operating beyond their original design life and more funding is needed to address the problems. The EPA's 2012 Clean Watersheds Needs Survey reports that New York State would need \$31.4 billion dollars to replace, repair, and rehabilitate wastewater infrastructure, while the 2008 CWNS reported a \$29.7 billion dollars need. DEC believes the trend is similar in the Hudson River Estuary.

Q) How does the DEC prioritize projects?

A) Projects are prioritized mainly based on protection of public health and safety, and the benefit to improving or restoring water quality.

Q) How far ahead does the DEC plan projects (I believe there is long-term planning that goes several years into the future, but if you could confirm, that'd be appreciated.)?

A) DEC works with EFC in planning for water quality improvement and restoration projects. The Clean Watershed Need Survey is conducted every four years and projects the municipal needs to 20-years. Every year, EFC publishes the Intended Use Plan for projects that are ready for financing. DEC also plans ahead for water quality improvement projects like disinfection and nutrient removal as required by a TMDL.

Q) Is there a backlog of projects to work on? If so, how deep is the backlog and what created it (financing shortfalls, weather issues, etc.)

A) DEC works with municipalities to ensure infrastructure projects that have significant environment impact or public health concerns are not backlogged or delayed. EFC's 2017 Intended Use Plan provides the following details on a statewide perspective:

"EFC anticipates that the demand for financing will continue to exceed the amount of financial assistance that EFC can provide each year. This CWSRF Intended Use Plan ("IUP"), which covers FFY 2017, identifies clean water infrastructure projects that would require over \$3 billion in funding. EFC anticipates that it will be able to provide zero-percent interest rate or low-cost financing for approximately \$830 million of projects costs, which comprises approximately 25% of the identified demand."

Q) Has DEC staffing affected the speed with which projects are completed or maintenance is done?

A) Wastewater infrastructure projects are carried out primarily by municipalities. The maintenance of all completed projects are also the responsibility of the municipalities. DEC's staffing level has no impact on the speed of project completion or the maintenance of them.

Q) How has technology changed how the DEC, and communities, evaluates the status/safety/condition of infrastructure? (are there new tools, software to track projects, gauge repair needs, etc.?)

A) Technology will help DEC to work with communities to better manage and maintain the community municipal wastewater infrastructure. DEC plans to launch a pilot program in 2017 to work with 10 – 20 communities across New York State on developing computerized program template to assist each community in implementing an asset management program. DEC has also been developing electronic reporting tools like NetDMR, electronic NOI (Notice of Intent) and electronic reporting tools to acquire and track permitting and compliance information.

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Pattern for Progress is the Hudson Valley's public policy and planning organization that creates regional solutions to quality-of-life issues by bringing together business, nonprofit, academic and government leaders from across nine counties to collaborate on regional approaches to affordable/workforce housing, municipal sharing and local government efficiency, land use policy, transportation and other infrastructure issues that most impact the growth and vitality of the regional economy. To read this report and others please go to <http://www.pattern-for-progress.org/what-we-do/libraries/reports/>

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