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FOR IMMEDIATE RELEASE

DATE: July 28, 2022

SARATOGA COUNTY RELEASES PUBLIC REPORT ON INFRASTRUCTURE RESILIENCY

BALLSTON SPA, NY -- Saratoga County and Saratoga Economic Development Corporation (SEDC) today released a public report on infrastructure resiliency in Saratoga County.

SEDC presented the report's findings to the Saratoga County Board of Supervisors at its July 19 Board meeting. Funding for the project was provided by the Capital District Regional Planning Council (CDRPC).

Saratoga County engaged SEDC for the project to gain insight on the business community's infrastructure resiliency concerns and to assess government's role in buffering residents and businesses against future events and regional impacts relating to infrastructure and energy needs. The report recognizes the County's successful track record of proactive attention to potential risks and provides a path forward to improve on its strong foundation, citing a collaborative and involved business community and the county's robust growth of economic activity, population, and average income.

"This very important project and final report serves as the beginning of enhanced communication and planning amongst all entities responsible for critical infrastructure serving Saratoga County," said Phil Barrett, Clifton Park Town Supervisor and Chairman of the project. "The report also identifies the challenges and cost of New York State's Climate Leadership and Community Protection Act and the effects all residents and businesses face in the future."

The public infrastructure resiliency report focuses on the impact to regional businesses and the economy. The report includes a description of the infrastructure scope, rationale for taking a sector-specific approach to evaluating risks and impact, and a summary of the input from dozens of regional stakeholders. Report authors also make recommendations for ongoing coordination when risks and potential challenges emerge.

The project's working group was comprised of regional leaders including representatives from National Grid, Verizon, Arnoff Global Logistics, NYSEG and public infrastructure entities, who shared various viewpoints and trends. These included macro-level concerns and risks as well as state and local issues in the following categories.

- **Regional growth is increasing needs for reliable infrastructure.** Multiple scenarios for growth and related infrastructure needs should be evaluated to determine regional gaps due to broad trends and emerging resource requirements.

(more)

- **Energy is an essential economic driver.** Business and government leaders should have a voice in the planning and deployment of energy investments to ensure that they are prioritized for community-wide benefit.
- **External factors are causing significant and often uncontrollable challenges.** Coordinated efforts by regional stakeholder can help to proactively evaluate potential issues and identify solutions, support, resources, and advocates that may be outside the region.
- **The NY State Climate Leadership and Community Protection Act (CLCPA) will present significant challenges for business and industry.** Careful consideration must be given to energy infrastructure plans and regulations to enable our economy to thrive and to avoid challenges related to prohibitive costs and reliable, consistent energy availability.

The report included recommendations for the County to consider when assessing future infrastructure needs including prioritizing infrastructure investments in areas with medium and high economic impacts; building out capacity for future development to reduce risks and coordinating efforts across the region; ongoing planning and emergency coordination; and continuing the County's forward-looking, proactive attention to potential risks and opportunities.

The report recommends the members of the working group meet biannually and Supervisor Barrett working with SEDC will coordinate the meetings.

SEDC will begin sharing the findings with local officials throughout Saratoga County.

The Resilient Infrastructure for Saratoga County Report was authored by Dennis Brobston, President, SEDC, Benjamin Foster, President Fosterra, LLC, and Phi Barrett, Supervisor Saratoga County (Clifton Park).

Business leaders, residents and local government officials are encouraged to read the full report, available on the Saratoga County website at www.SaratogaCountyNY.gov.

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2022 Assessment and Report



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Resilient Infrastructure for Saratoga County

2022 Assessment and Report

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ACKNOWLEDGEMENTS

SEDC would like to acknowledge and thank the following organizations and people for their guidance, input, and effort in helping to assess our regional infrastructure and plan for resiliency improvements. Without their support and commitment to the success of Saratoga County, this report would not be possible.

Saratoga County Board of Supervisors

Todd Kusnierz (Moreau), Chair

Supervisor Philip Barrett (Clifton Park), Public Works Committee Chair

Supervisor Kevin Tollisen (Halfmoon), Economic Development Committee Chair

Steve Bulger, County Administrator

Ridge Harris, Deputy County Administrator

SEDC Board of Directors

SEDC members and business community representatives including:

Doug Ford (Curtis Lumber)

Tammy Rehm (CDPHP)

Craig Arnoff (Arnoff)

Kevin Brassler (Quad Graphics)

Brian Osterhout, PE (Environmental Design Partnership, LLP)

Tom Samascott (Malta Development)

Ron Richards (Rasp Controls)

Jason MacGregor (Minich MacGregor)

Mike Coffey (Mangino Buick GMC)

Amanda Bergin (Sweeney's Restaurant)

Peter Bardunias (Capital Region Chamber)

Infrastructure providers and Saratoga County stakeholders including:

Chad Cooke, Commissioner, Saratoga County Department of Public Works

Carl Zeilman, Commissioner, Saratoga County Office of Emergency Services

Ed Hernandez, Executive Director, Saratoga County Water Authority

Dan Rourke, Executive Director, Saratoga County Sewer District

Melany Putman, Government and Community Relations, NYSEG

Kyle Phelix, Manager, Regional Operations, NYSEG

Laurie Poltynski, Director Government and Community Management, National Grid

Scott Gresens, Account Manager Community and Customer Management, National Grid

Paul Miller, Verizon

Chris McDonough, Managing Partner for Public Sector, Verizon

CDRPC for sponsoring this assessment and report.



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INTRODUCTION

BACKGROUND & OVERVIEW

In mid-2021, the Capital District Regional Planning Council (CDRPC) provided a grant for Saratoga Economic Development Corporation (SEDC) to evaluate public infrastructure resiliency in Saratoga County with a specific focus on impact to regional businesses and the economy. This project required outreach and engagement with business community leaders and infrastructure providers to develop an assessment and report of the findings. This document and related resources are the output and final deliverable for the Resilient Infrastructure for Saratoga County (RISC) project.

Due to recent experiences with the devastating economic downturn from the global COVID pandemic and the cascading impact to local residents and businesses, the RISC project and findings were deemed to be a high-priority planning effort. Improved public infrastructure resiliency strengthens Saratoga County's ability to buffer residents and businesses against future events and regional shocks. As we have collectively realized, there is no substitute for a healthy, vibrant economy that provides for the needs of our community. In fact, resiliency for residents relies on economic continuity for all aspects of daily life, including:

- Availability of services – personal, home, and government
- Employment
- Food and essential supplies
- Safe and comfortable housing
- Healthcare access
- Education
- Entertainment
- Transportation options

This report recognizes the County's successful track record of proactive attention to potential risks and provides a path forward to improve on our strong foundation. We have a collaborative and involved business community and longstanding organizations to support their retention, recruiting, and prosperity. With robust growth of economic activity, population and average income, the time is right for focusing on public infrastructure resilience needs to support this trend.

This assessment builds upon the findings from the Saratoga County 2019 Hazard Mitigation Plan (HMP) and 2021 County Emergency Management Plan (CEMP) and increases their effectiveness by addressing areas that benefit from a dedicated research effort. By developing a deeper understanding of the risks and their potential impacts by business sector, SEDC created a prioritized list of action items for strengthening our regional resilience. Included in the assessment process was the creation of a Geographic Information System (GIS) inventory of major public infrastructure that includes all available elements that are in scope for this report.

The intended audience for this assessment includes infrastructure providers, the business community, local and regional leaders, and stakeholders in the success of the region. This report includes a description of the infrastructure scope definitions, the rationale for taking a sector-specific approach to

evaluating risks and impact, and a summary of the input from dozens of regional stakeholders. The specific risk areas and project recommendations are presented in the categories of: already completed or underway; short-term priorities; and, longer-term capacity building opportunities. The final sections of this report identify pathways for ongoing coordination when risks emerge and other potential challenges on the horizon. Resources and websites are provided at the end for further research.

INFRASTRUCTURE SCOPE

The first step in the assessment process was defining the specific infrastructure categories that are under review, within the agreed-to scope of the RISC project. This includes nine categories that cover all major, essential services along with their respective boundaries and risk materiality to determine potential issues and opportunities for improvement. The table below describes what was included in the assessment for Saratoga County.

Infrastructure Category	Scope/Boundary	Risk Materiality
Utilities - Electricity	All major transmission and distribution lines and substations	Electric service is interrupted for more than 1 week or multiple times in 1 week.
Utilities - Renewable Power Plants	Resources over 1MW	Renewable resource goes offline for more than 1 week.
Utilities - Natural Gas	Major lines and distribution controls	Gas service is interrupted for more than 1 week.
Utilities - Water	Major trunk lines, pumping stations, and treatment plants	Water service is interrupted for more than 1 week.
Utilities - Sewer	Major trunk lines, pumping stations, and treatment plants	Sewer service is interrupted for more than 1 week.
Communications - Cell & Landline	Regional impact to communications	Phone services are interrupted for more than 1 week.
Internet/Cable	Regional impact to communications	Major cable/internet services are interrupted for more than 1 week.
Transportation - Vehicles	Highways and county roads and bridges	Section or bridge impassable for at least 1 week.
Transportation - Trains	All major railroad lines and bridges	Unable to run trains to commercial locations for at least 1 week.

To avoid minor issues that can be resolved more rapidly and with a lesser impact, most risks were assessed based on an outage lasting at least one week that impacts multiple business locations. Additional considerations that were out of scope for this report include infrastructure and risks outside of Saratoga County, and non-infrastructure categories (e.g. labor shortages and supply chain constraints). Also, any pervasive, extended duration risks were not explored as part of this assessment (e.g. a catastrophic event that impairs multiple infrastructure categories at the same time.)

The assessment focused on infrastructure risks, impact, outcomes, and mitigation opportunities for the business community, but did not dive into the specific potential sources or causes of risk (e.g. accidents, wildfire, flooding, and terrorism). Those sources are well defined in the County’s 2019 HMP and 2021 CEMP, therefore it was not necessary to re-visit the comprehensive work that was previously completed.

RESILIENT INFRASTRUCTURE IS VITAL FOR THE SARATOGA COUNTY ECONOMY

In aggregate, the Saratoga County economy generates over \$11 billion in gross regional product (GRP) per year and creates over 95,000 jobs that support all aspects of life and business activity across the county. Saratoga is fortunate because it has a great location in the state and has overall low risks relative to many other counties and locations across the USA. However when issues arise, they can have a dramatic and potentially lasting impact. This is why infrastructure resilience is vital for the Saratoga County economy and quality of life.

SEDC analyzed industry-specific risks and connected those risks to the jobs and level of economic activity that each sector generates or supports. A summary of the individual industry sectors that contribute the largest share GRP and jobs are shown in the table below. This data comes from the latest CDRPC database of economic activity by county and covers all sectors from retail and entertainment to manufacturing and government services.

Industry	2020 Jobs	2020 Earnings Per Worker	2020 GRP (\$M)
<i>Manufacturing</i>	8,248	\$ 109,144	\$ 2,020.0
<i>Government</i>	14,406	\$ 78,972	\$ 1,510.0
<i>Finance and Insurance</i>	4,341	\$ 123,032	\$ 1,290.0
<i>Professional, Scientific, and Technical Services</i>	6,451	\$ 89,171	\$ 950.9
<i>Health Care and Social Assistance</i>	12,256	\$ 59,144	\$ 909.8
<i>Retail Trade</i>	11,139	\$ 39,395	\$ 878.0
<i>Wholesale Trade</i>	3,846	\$ 85,317	\$ 874.8
<i>Construction</i>	5,865	\$ 72,668	\$ 648.5
<i>Accommodation and Food Services</i>	8,531	\$ 29,085	\$ 470.3
<i>Real Estate, Rental and Leasing</i>	1,764	\$ 63,382	\$ 334.6
<i>Utilities</i>	269	\$ 182,089	\$ 272.4
<i>Administrative and Support, Waste Management, and Remediation Services</i>	3,271	\$ 51,823	\$ 259.8
<i>Information</i>	971	\$ 72,708	\$ 229.0
<i>Other Services (except Public Administration)</i>	4,311	\$ 31,588	\$ 227.5
<i>Transportation and Warehousing</i>	2,572	\$ 58,845	\$ 201.4
<i>Arts, Entertainment, and Recreation</i>	2,392	\$ 35,988	\$ 171.9

Industry	2020 Jobs	2020 Earnings Per Worker	2020 GRP (\$M)
<i>Educational Services</i>	2,634	\$ 43,781	\$ 164.5
<i>Management of Companies and Enterprises</i>	1,214	\$ 99,317	\$ 149.5
<i>Mining, Quarrying, and Oil and Gas Extraction</i>	145	\$ 90,864	\$ 54.3
<i>Agriculture, Forestry, Fishing and Hunting</i>	774	\$ 44,282	\$ 38.6
TOTAL	95,400	\$ 66,784	\$ 11,655.7

After the sector breakdowns, there is a summary by major category to indicate the level of economic activity and job creation that comes from the public sector, private sector – services, and private sector - products. It’s clear that services account for the majority of the economic activity in jobs in Saratoga County, however manufacturing and products for consumption inside and external to the county are major contributors. The public sector (i.e. government, education, healthcare, and social-related activities) drives not only economic activity directly, but also serves multiple functions for the long-term growth and health of our county.

Industry Summary by Category	2020 Jobs	2020 Earnings Per Worker	2020 GRP (\$M)
<i>Subtotal - Gov't, Education, Health Care, and Social</i>	29,296	\$ 75,348	\$ 2,584.3
<i>Subtotal - Services</i>	53,091	\$ 59,752	\$ 6,083.7
<i>Subtotal - Products</i>	13,013	\$ 76,195	\$ 2,987.7

With a solid understanding of the economic benefits and potential by sector, SEDC developed a matrix of infrastructure categories and risk levels by business sector. The initial step was to create a preliminary assessment of the intersections of risks associated with an infrastructure outage on the individual business sectors. This assessment was refined based on input from business sector leaders and infrastructure providers. The table below documents the key risks and impact on business sectors - with “high” and “medium” risks highlighted in red and yellow, respectively.

KEY RISKS AND IMPACT ON BUSINESS SECTORS

Infrastructure Category	Utilities - Electricity	Utilities - Renewables	Utilities - Natural Gas	Utilities - Water	Utilities - Sewer	Communications - Cell & Landline	Internet/Cable	Transportation - Vehicles	Transportation - Trains	GRP 2020 (\$M)	# of Employees 2020
Manufacturing	High	Low	High	Medium	Medium	Medium	Medium	High	High	\$ 2,020.0	8,248
Government & Non-Profit, Utilities	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Low	\$ 1,782.4	14,675
Finance, Insurance & Other Services	High	Low	Low	Low	Low	High	High	Medium	Low	\$ 1,746.5	9,623
Professional Services	High	Low	Low	Low	Low	Medium	High	Medium	Low	\$ 1,360.2	10,936
Logistics	Medium	Low	Low	Low	Low	High	Medium	High	Medium	\$ 1,076.2	6,418
Healthcare	High	Low	High	High	High	High	High	High	Low	\$ 909.8	12,256
Retail	High	Low	Medium	Low	Low	Medium	High	Medium	Low	\$ 878.0	11,139
Construction	Low	Low	Low	Low	Low	Medium	Low	Medium	Low	\$ 648.5	5,865
Restaurants, Bars & Hotels	High	Low	High	High	High	Medium	High	High	Low	\$ 470.3	8,531
Housing & Real Estate	High	Low	High	High	High	Medium	Low	Medium	Low	\$ 334.6	1,764
Arts, Entertainment & Recreation	Medium	Low	Low	Medium	High	Medium	Low	Medium	Low	\$ 171.9	2,392
Education	High	Low	Medium	Medium	Medium	High	High	Medium	Low	\$ 164.5	2,634
Mining & Oil/Gas	Medium	Low	Low	Medium	Low	Low	Low	Medium	Low	\$ 54.3	145
Agriculture	Medium	Low	Low	High	Medium	Low	Low	Medium	Low	\$ 38.6	774

GRP and number of employees by sector are shown in the columns at the right to quantify the relative impact across the various sectors. This table clearly indicates the sectors that have the highest overall potential risk if there is any interruption in infrastructure. It also highlights which infrastructure categories have the highest potential impact on all or most industries. For example, healthcare is at high risk from an interruption in nearly all infrastructure categories, while electric utilities outages can negatively affect nearly every business sector. For planning purposes, municipalities should carefully weigh their efforts and priorities to effectively minimize risks across sectors and infrastructure categories. Definitions used for sector impact assessment:

High – indicates that major interruptions where the core services or products would not be possible if that infrastructure category was interrupted.

Medium – indicates that there would be a significant and sustained disruption resulting in a loss of business and operational capabilities if infrastructure services were interrupted.

Low – indicates that there would be minimal disruption if infrastructure was interrupted for up to one week for a specific business sector.

For the purposes of this infrastructure-sector risk matrix, the definitions of “high”, “medium”, and “low” impact were based on the perceived impact by business and infrastructure leaders. Businesses can vary widely within a given sector, so this categorization is not uniform across an entire sector. However, the risk assessment creates a clear picture of the trends and overall concerns that were captured through research and interviews. The primary focus for estimating project prioritization in the following sections used the “high” and “medium” impact assessment only.

MAPPING/GIS RESEARCH

As part of the RISC research and risk assessment process, geographical data and map layers were gathered and integrated into a dedicated map for this project using ArcGIS. This information was used to: review potential infrastructure resilience project sites; evaluate overall constraints; and, communicate countywide challenges and opportunities for improving resiliency. Shown below are examples of the mapping layers that illustrate the content and applicability for planning purposes.

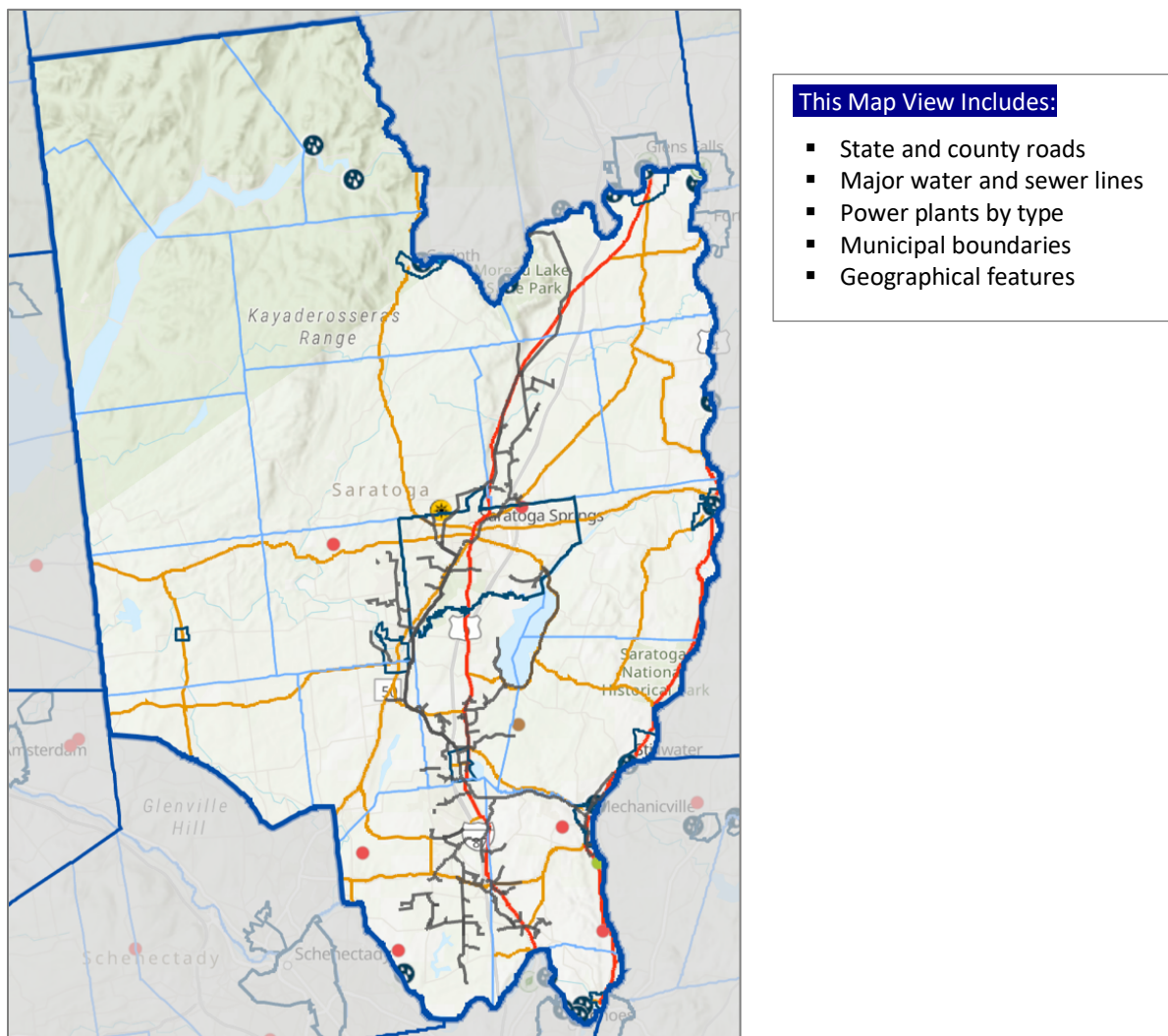


Figure 1: Overall view of the County and major mapping elements

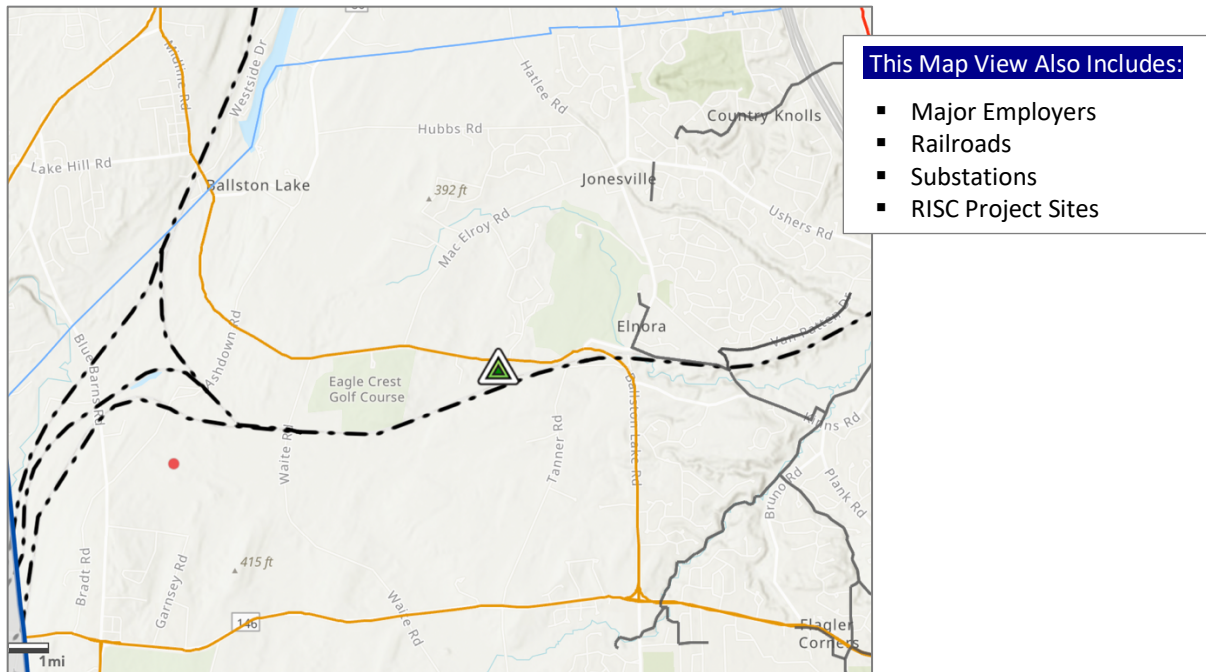


Figure 2: Detailed view of railways, boundaries, roadways, and electrical infrastructure

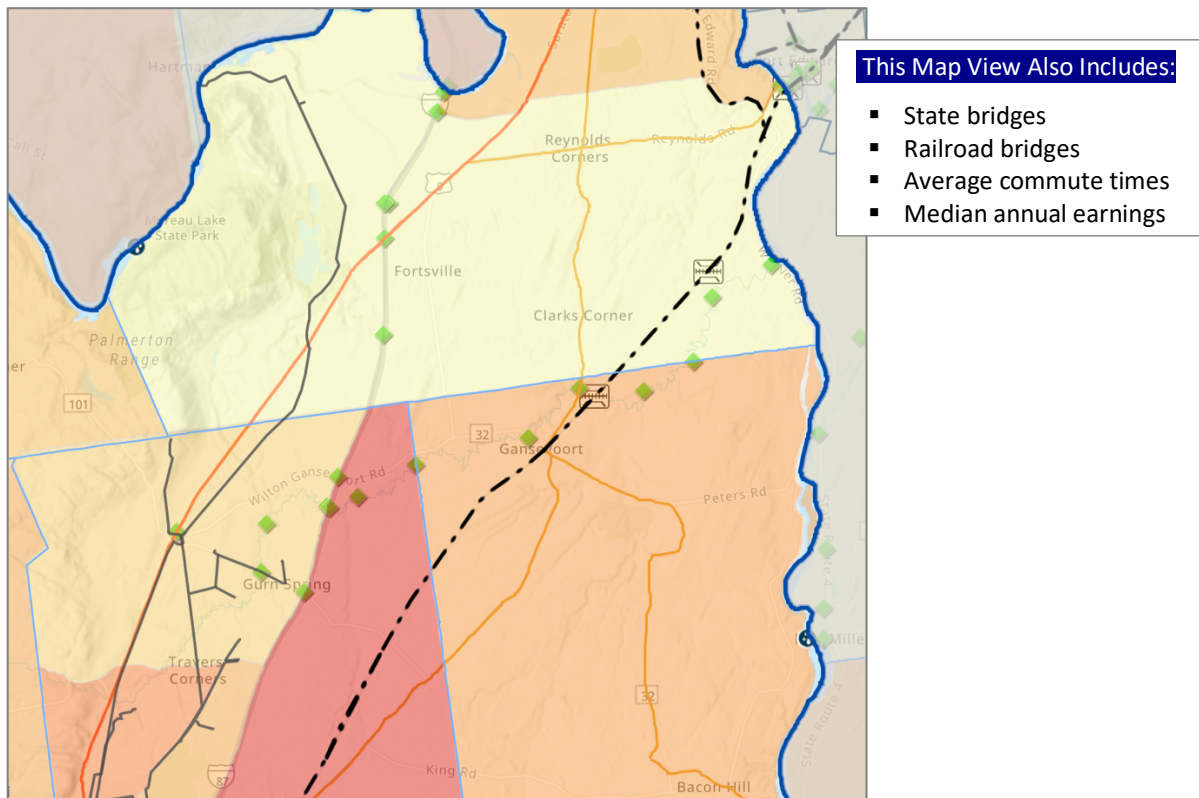


Figure 1: View of demographic data, bridges, and railways

This resource is available to interested and qualified stakeholders in GIS format and includes the following mapping layers:

- Roadways – county, state, and federal
- Bridges – on selected roadways and railroads
- Railways
- Major water lines
- Major sewer lines
- Selected regional demographics
- Major employers
- RISC recommended project sites
- Municipal boundaries
- Utility service territories
- Power plant locations and types

FINDINGS AND INPUT FROM STAKEHOLDERS

An essential element of developing the findings for this assessment was engagement with stakeholders representing all sectors and types of infrastructure. SEDC held a number of meetings, interviews, and group reviews of the approach to gather input. Each meeting explained the scope and overall project goals, and participants received a structured evaluation template. SEDC used an open interview process to help draw out the real-world examples and potential risks that create the most concerns from leaders across the county. The initial findings were consolidated and refined to develop a regional resilience action plan with a defined list of projects that should be pursued. In addition, SEDC gathered information on projects that have been recently completed or are underway to demonstrate the ongoing activities that are working toward a more resilient future. Finally, forward thinking ideas and concerns, as well as opportunities, from the business sector and infrastructure providers were captured for further exploration.

Business owners and senior managers provided their initial thoughts on infrastructure risk areas that would greatly impact their operations and are listed below. They clearly indicated a variety of essential needs and how one interruption can impact many different parts of our economy. This initial input was further refined for the overall risk matrix by sector.

- Manufacturing – electricity, natural gas, water, and trains
- Logistics – transportation and communications
- Healthcare – all areas
- Construction – supply chain concerns primarily
- Housing – electricity, water, and sewer
- Professional Services – electricity, and communications/internet
- Government & Education – all areas
- Retail – electricity and communications
- Restaurants and Hospitality – electricity, water, communications, and natural gas
- Financial Services & Insurance – communications/internet and electricity

STAKEHOLDER INPUT

BUSINESS COMMUNITY

Interviews were held with more than a dozen business leaders across the county and covered all of the major business sectors. We also heard from stakeholders that represent multiple business sectors or are part of the supply chain for others. This input, combined with SEDC’s long history of supporting the regional economy, insured that we had a robust understanding of the potential risks and needs. Shown below is table of the companies, contacts, and sectors that were interviewed.

Organization	Contact	Title	Sector
Curtis Lumber	Doug Ford	VP Sales & Purchasing	Retail, Construction
CDPHP	Tammy Rehm	SVP Assurance & Audit	Healthcare
Arnoff	Craig Arnoff	COO	Logistics
Quad Graphics	Kevin Brassler	Operations Manager	Manufacturing
Environmental Design Partnership	Brian Osterhout, PE	Partner	Professional Services
Malta Development	Tom Samascott	President	Construction
Rasp Controls	Ron Richards	CEO	Manufacturing
Minich MacGregor Wealth Management	Jason MacGregor	RIA Principal	Financial Services
Mangino Chevrolet	Mike Coffey	Vice President	Retail
Sweeney's	Amanda Bergin	Owner	Restaurants
Capital Region Chamber	Pete Bardunias	SVP	Multiple Sectors

During our interviews and outreach to the business community in early 2022, we heard that the stakeholders appreciated the opportunity to provide input to this process. Their main observations and comments on the risk assessment process included:

- This is an important area that is often overlooked and in need of focus and attention
- There is an openness and interest in working toward solutions across private and public entities.
- The economy has become very interconnected so issues that persist in any one area can cascade into multiple other areas of their business and other related businesses.
- Capacity building opportunities above and beyond resilience projects would be good for both businesses and residents communitywide.
- Working together is important and many ideas were shared to ensure larger and lasting benefits across the county through ongoing coordination.
- Non-infrastructure factors are more pressing in the short-term, including labor shortages, supply chain issues, costs, and changing market factors.

Manufacturer's input: *Their processes and products are very time sensitive so any interruption in key infrastructure (electricity, gas, transportation, and railroads) causes major issues for their customers, revenue, and national competitiveness.*

INFRASTRUCTURE PROVIDERS

While developing this assessment, SEDC held multiple meetings with infrastructure leaders that represent all different categories, with the exception of railroad infrastructure (representatives have been non-responsive). Leaders in each infrastructure category were very open and willing to participate,

provide their input and guidance, and share information about priority projects and needs. SEDC gathered input from independent research, infrastructure maps, and available data sources. Then, meetings were scheduled to review plans, risks, and recently completed projects from each area.

Shown below is a table of the organizations, infrastructure categories, and contacts that were interviewed to develop this assessment.

Organization	Primary Contact	Title	Infrastructure
SC Board of Supervisors	Philip Barrett	Supervisor	Coordination & Leadership
SC Board of Supervisors	Kevin Tollisen	Supervisor	Coordination & Leadership
SC Planning	Jason Kemper	Planning Director	Coordination & Leadership
SC Administration	Steve Bulger	County Administrator	Coordination & Leadership
SC Administration	Ridge Harris	Deputy County Administrator	Coordination & Leadership
SC Public Works	Chad Cooke	Public Works Commissioner	Transit & Public Works
SC Water Authority	Ed Hernandez	Executive Director	Water
SC Sewer District	Dan Rourke	Executive Director	Sewer
SC Emergency Services	Carl Zeilman	Commissioner	Emergency Mgmt
NYSEG	Melany Putman	Govt & Community Relations Mgr	Electricity & Gas
National Grid	Laurie Poltynski	Eastern NY Executive	Electricity & Gas
Verizon	Chris McDonough	Managing Partner for Public Sector	Communications

Infrastructure upgrades require long planning horizons that includes assessment of needs, acquisition of funding, approval from various boards and stakeholders, final design, and construction. Over the full project lifecycle, infrastructure related projects can take multiple years from initial vision through full deployment. Planning and reviewing infrastructure needs and risks on a periodic basis is an important task - because urgent needs can sometimes overtake longer-term considerations.

Infrastructure providers were also focused on broader trends that affect the region but may originate from outside of the region. This could include societal changes, policy changes at state and federal level, as well as general economic and population demographic trends. Stakeholders were open to considering ideas generated by this project and understanding what external risk factors may not be included in the traditional planning process for infrastructure resilience. These forward-thinking considerations have their own dedicated section toward the end of this report.

Infrastructure providers understand the impact: *they are acutely aware of the significant impacts of outages on both businesses and the community at large. This could include loss of business and products, damage to public and private property, and increased risks to*

OVERVIEW OF INFRASTRUCTURE RESILIENCE PROJECT RECOMMENDATIONS

Based on interviews and research, nearly 100 high-impact projects and initiative ideas were generated. These were individually reviewed, discussed, summarized by group, and organized by category. The table below provides an overview of the recommended resilience projects and shows a clear action plan that will benefit from follow-up by regional stakeholders and SEDC.

SEDC 2022 Resilient Infrastructure Assessment

Infrastructure Category	Recent & Current Improvement Projects	Resilience Focus Areas 1-5 Years	Capacity Building Opportunities
Utilities - Electricity	1. Ongoing upgrades to grid infrastructure and controls.	1. Prioritize network upgrades to reduce power fluctuations and risk of outages. 2. Increase remote access, monitoring and controls for safety, security, and reliability.	1. Expand service capacity to small/medium businesses. 2. Expand EVSE infrastructure to accommodate EVs.
Utilities - Renewable Power Plants	1. Upgrades for Mohawk River hydro plants. 2. Expanded Solar-For-All community solar program.	1. Business owners can expand on-site renewables for resiliency and cost stability. 2. Increase storage capacity for renewable (and non-renewable) electricity for resiliency.	1. Improve ability of renewables to provide reliability and capacity for expanding regional power needs. 2. Ensure that energy costs remain stable and affordable for businesses and residents.
Utilities - Natural Gas	1. Critical facility redundancy improvements to reduce risks of catastrophic failure.	1. Increase inspection and maintenance activities and technology usage to reduce risks for major gas lines. 2. Increase Remote access, monitoring and controls for safety, security, and reliability.	1. Forward-looking support and alignment to the 2050 vision for fossil-free gas. 2. Support planning for RNG infrastructure.
Utilities - Water	1. Expansion of County drinking water treatment facility. 2. Saratoga Springs Loughberry Reservoir treatment plant improvements.	1. Build second Cordero Blvd 5M gallon water storage tank. 2. Build water storage tank near Curtis Lumber. 3. Backup generator improvements for pumping and treatment.	1. Need sufficient on-site water resources for industrial parks for emergency usage. 2. Connect County water to municipal water systems for redundancy and resiliency.
Utilities - Sewer	1. Provided emergency back-up power to all 99 pump stations (completed 2020). 2. Rehabilitated large trunk sewers in the Town of Clifton Park that serves a large portion of exit 9 (Completed 2020). 3. Completed a pump station upgrade and almost complete with pipe rehab work in Stillwater that is along the Hudson River.	1. Setup ongoing maintenance contract(s) for all back-up generators that serve pump stations, especially the larger units. 2. Enter into emergency contracts with surrounding sewer districts to be able to easily assist one another in an emergency. 3. Currently under design to upgrade our Saratoga springs pump station that handles the whole city and North including the town of Wilton. 4. Analyze the risk of failure and ability to get equipment and have shelf spares ready to go where appropriate. 5. Continue to maintain an emergency on-call contractor to get infrastructure repaired in a timely manner when it fails.	1. Build in easily operable bypasses to our large stations i.e. Saratoga Springs and Milton where large diesel pumps could be used. 2. Rehabilitate aging concrete trunk sewers. 3. Share and coordinate long-term plans for agencies to improve resiliency in an area and identify cascading risk areas (i.e. electricity interruptions). 4. Final design to rehab the entirety of the concrete sewer interceptor which serves every sewer user in the county. Once completed, this will remove the likelihood of a catastrophic failure and interruption to sewer service. 5. Provide public outreach and education on the importance of reporting possible incidents to SCSD for faster response.
Communications - Cell & Landline	1. Recent expansion efforts in northern areas of the County.	1. Expand cell service across the region in weak areas. 2. Evaluate options to improve reliability of backup generators.	1. Raise tower heights at Lake Luzerne and in Town of Day, add microwave dish. 2. Add 800 MHz radio infrastructure in large buildings. 3. Connect school district communication to County EMS
Internet/Cable	1. New fiber carrier in Clifton Park.	1. County will develop a broadband study to increase access and recommend in new projects for improvement.	1. Improve access to fiber network for commercial customers.
Transportation - Vehicles	1. Replacing 4 at-risk bridges by 2023. 2. Ongoing County DPW capital projects.	1. Prioritize improvements for 7 bridges in "Poor" condition. 2. Traffic study for Exit 16 Ballard Rd. Bridge.	1. Selected road widening and improvements. 2. Procure extra bridge segments in case of emergency replacement needs.
Transportation - Trains	1. Ongoing safety improvement via technology deployment for rail inspections and remote train inspections. 2. Proactive annual weather-based contingency and safety planning.	1. Projects and technology to reduce incidents at key rail crossings and underpasses including on 146 in Glenville and at Charlton Road.	1. Reactivate short line railroad in Moreau Industrial Park. 2. Develop resources and plan for major incident and/or hazardous materials spill.
Other Important Areas for Consideration	1. Conklingville Dam Improvements planned to reduce risk of failure. 2. Increased communications between key agency contacts.	1. Address electric grid planning concerns over increased load from EVs and building electrification targets.	1. Expand availability of trucker services 2. Expand/create industrial park shared services 3. Better coordination with communications providers 4. Improve labor availability and recruiting 5. Identify local/regional alternatives to supply chain issues

In addition to documenting recent and current projects, resilience projects and ideas were separated into two primary groups. The first group is “resilience focus areas” in the next 1 to 5 years. This time horizon was chosen because it is within current typical planning processes for capital improvements and also is in a window where the benefits can be realized in the short- to mid-term. The second group is “capacity building opportunities” and includes ideas have a benefit beyond just resilience - meaning that they can increase overall benefits for businesses and residents that use those services. The recommendation is to pursue capacity building opportunities in parallel with the resilience focus areas and because they will have a positive impact on resilience as well.

A new category was added to our assessment based on stakeholder feedback. This is shown in “other important areas for consideration” at the end of the table. It is organized in the same grouping as the rest of the project ideas, although these don’t neatly fit into an existing infrastructure category. However, they are important to the business community for overall resilience and capacity building and may need a collaborative approach among all regional stakeholders to implement.

The details for the table above are broken out in the following sections for each activity group and described by infrastructure category.

ACTIONS TAKEN AND UNDERWAY TO IMPROVE RESILIENCY

Participants in the data gathering phase were asked to provide projects and initiatives that were recently completed or are underway that improve infrastructure resilience. These were documented to recognize efforts and planning already underway and is consistent with the County's traditional proactive approach. This list enables the region to leverage momentum across all infrastructure categories and conveys the importance and benefits for current and prospective businesses.

The major projects, as highlighted by infrastructure providers, and their expected benefits are briefly described below by category.

Utilities – Electricity

1. Ongoing upgrades to grid infrastructure and controls to identify issues quickly and resolve them faster when they occur.

Utilities – Renewable Power Plants

1. Upgrades for Mohawk River hydro plants improve efficiency and reliability.
2. Expanding Solar-For-All community solar program to increase renewable deployment and deliver savings to income-qualified customers across the region.

Utilities – Natural Gas

1. Critical facility redundancy improvements to reduce risks of catastrophic failure.

Utilities – Water

1. Expansion of County drinking water treatment facility to improve reliability and capacity.
2. Saratoga Springs Loughberry Reservoir treatment plant improvements to improve reliability and capacity.

Utilities – Sewer

1. Provided emergency back-up power to all 99 pump stations (completed 2020) to improve reliability during power outages.
2. Rehabilitated large trunk sewers in the Town of Clifton Park that serves a large portion of exit 9 (Completed 2020) to improve reliability and capacity.
3. Completed a pump station upgrade and pipe rehabilitation work in Stillwater (underway) that is along the Hudson River to improve capacity and reliability.

Communications – Cell & Landline

1. Recent expansion and resiliency projects in northern areas of the County located in the Adirondack Park have increased access to essential emergency services communications to underserved areas.

Internet/Cable

1. New fiber carrier in Clifton Park will increase overall capacity and access to high-speed internet.

Transportation – Vehicles

1. Currently replacing or repairing three at-risk bridges in the County by 2023. (see appendix with list of county bridges)
2. Ongoing County DPW capital projects to improve transportation infrastructure.

Transportation – Trains

1. Ongoing safety improvement via technology deployment for rail inspections and remote train inspections.
2. Proactive annual weather-based contingency and safety planning.

Other Important Areas for Consideration

1. Conklingville Dam Improvements are planned to reduce risk of failure.
2. Increased communications between key agency contacts as part of the overall County emergency management plan.

RESILIENCE FOCUS AREAS AND RECOMMENDED PROJECTS

Focus areas for resilience projects are shown in the table below over the next one to five years. These projects are recommended based on the inputs provided from infrastructure providers and business stakeholders. These projects demonstrate that there are many areas that need improvement to continue to strengthen our infrastructure across the county.

In addition to the list of projects by category, the estimated the number of jobs and economic activity at stake is calculated. These economic impacts are based on the “medium” and “high” impact industries as shown in the sections above if that industry is negatively impacted for a period of seven days. For example, if water services are not available for a period of seven days in the county then nearly 1,000 jobs are at risk as well as \$114 million in total regional economic activity during that period alone.

Infrastructure Category	Resilience Focus Areas 1-5 Years	Jobs at Stake	Economic Impact (\$M)
<i>Utilities - Electricity</i>	<ol style="list-style-type: none"> 1. Prioritize network upgrades to reduce power fluctuations and risk of outages. 2. Increase remote access, monitoring and controls for safety, security, and reliability. 	1,722	211.7
<i>Utilities - Renewable Power Plants</i>	<ol style="list-style-type: none"> 1. Business owners can expand on-site renewables for resiliency and cost stability. 2. Increase storage capacity for renewable (and non-renewable) electricity for resiliency. 	-	-
<i>Utilities - Natural Gas</i>	<ol style="list-style-type: none"> 1. Increase inspection and maintenance activities and technology usage to reduce risks for major gas lines. 2. Increase Remote access, monitoring and controls for safety, security, and reliability. 	1,139	126.1
<i>Utilities - Water</i>	<ol style="list-style-type: none"> 1. Build second Cordero Blvd 5M gallon water storage tank. 2. Build water storage tank near Curtis Lumber. 3. Backup generator improvements for pumping and treatment. 	989	114.4
<i>Utilities - Sewer</i>	<ol style="list-style-type: none"> 1. Setup ongoing maintenance contract(s) for all back-up generators that serve pump stations, especially the larger units. 2. Enter into emergency contracts with surrounding sewer districts to be able to easily assist one another in an emergency. 3. Currently under design to upgrade our Saratoga springs pump station that handles the whole city and North including the town of Wilton. 4. Analyze the risk of failure and ability to get equipment and have shelf spares ready to go where appropriate. 5. Continue to maintain an emergency on-call contractor to get infrastructure repaired in a timely manner when it fails. 	986	113.3
<i>Communications - Cell & Landline</i>	<ol style="list-style-type: none"> 1. Expand cell service across the region in weak areas. 2. Evaluate options to improve reliability of backup generators. 	1,817	222.4
<i>Internet/Cable</i>	<ol style="list-style-type: none"> 1. County will develop a broadband study to increase access and recommend in new projects for improvement. 	1,624	200.2
<i>Transportation - Vehicles</i>	<ol style="list-style-type: none"> 1. Prioritize improvements for 7 bridges in "Poor" condition. (See appendix with list of county bridges) 2. Traffic study for Exit 16 Ballard Rd. Bridge. 	1,835	224.1
<i>Transportation - Trains</i>	<ol style="list-style-type: none"> 1. Projects and technology to reduce incidents at key rail crossings and underpasses including on 146 in Glenville and at Charlton Road. 	282	59.5

Infrastructure Category	Resilience Focus Areas 1-5 Years	Jobs at Stake	Economic Impact (\$M)
<i>Other Important Areas for Consideration</i>	1. Address electric grid planning concerns over increased load from EVs and building electrification targets.	-	-

The specific list of projects has not been prioritized beyond the effort to evaluate and document them as important for countywide resilience. However, SEDC has vetted the list and strongly recommends that they are supported to improve regional resilience. Stakeholders should seek resources and support to pursue as many if not all of these project recommendations as possible in the next one to five years. Fortunately many of these recommended projects are already in the planning phases or part of county public works project lists. Our job as regional stakeholders is to provide guidance and identify potential resources to complete these in a timely fashion while quantifying benefits across the commercial, government, and residential sectors.

The key takeaways are that most of these projects are clearly actionable and have a defined outcome that benefits the regional economy and delivers risk reduction for the community-at-large.

CAPACITY-BUILDING OPPORTUNITIES

In addition to the recommended projects listed above there are a number of opportunities to build capacity for future development, reduce risks, and coordinate efforts across the region. These were identified by infrastructure providers, regional stakeholders, and commercial sector leaders as well as from insight from the SEDC staff. These recommended opportunities can be pursued in parallel with the actions described above, although resources, staffing and funding availability can be a limiting factor. Many of these capacity building opportunities involve study and evaluation for future plans and projects. Therefore, they do not take as many resources or time and effort as might be involved in infrastructure build-out. The activities that do not require capital funding are highlighted for deployment in the short-term.

Infrastructure Category	Capacity Building Opportunities
<i>Utilities - Electricity</i>	<ol style="list-style-type: none"> 1. Expand service capacity to small/medium businesses. 2. Expand EVSE infrastructure to accommodate EVs.
<i>Utilities - Renewable Power Plants</i>	<ol style="list-style-type: none"> 1. Improve ability of renewables to provide reliability and capacity for expanding regional power needs. 2. Ensure that energy costs remain stable and affordable for businesses and residents.
<i>Utilities - Natural Gas</i>	<ol style="list-style-type: none"> 1. Forward-looking support and alignment to the 2050 vision for fossil-free gas. 2. Support planning for RNG infrastructure.
<i>Utilities - Water</i>	<ol style="list-style-type: none"> 1. Need sufficient on-site water resources for industrial parks for emergency usage. 2. Connect County water to municipal water systems for redundancy and resiliency.
<i>Utilities - Sewer</i>	<ol style="list-style-type: none"> 1. Build in easily operable bypasses to our large stations i.e. Saratoga Springs and Milton where large diesel pumps could be used. 2. Rehabilitate aging concrete trunk sewers. 3. Share and coordinate long-term plans for agencies to improve resiliency in an

Infrastructure Category	Capacity Building Opportunities
	area and identify cascading risk areas (i.e. electricity interruptions). 4. Final design to rehab the entirety of the concrete sewer interceptor which serves every sewer user in the county. Once completed, this will remove the likelihood of a catastrophic failure and interruption to sewer service. 5. Provide public outreach and education on the importance of reporting possible incidents to SCSD for faster response.
<i>Communications - Cell & Landline</i>	1. Raise tower heights at Lake Luzerne and in Town of Day, add microwave dish. 2. Add 800 MHz radio infrastructure in large buildings. 3. Connect school district communication to County EMS system. 4. Add radio tower in Mechanicville for communications.
<i>Internet/Cable</i>	1. Improve access to fiber network for commercial customers.
<i>Transportation - Vehicles</i>	1. Selected road widening and improvements. 2. Procure extra bridge segments in case of emergency replacement needs.
<i>Transportation - Trains</i>	1. Reactivate short line railroad in Moreau Industrial Park for commercial use. 2. Develop resources and plan for major incident and/or hazardous materials spill.
<i>Other Important Areas for Consideration</i>	1. Expand availability of trucker services 2. Expand/create industrial park shared services 3. Better coordination with communications providers 4. Improve labor availability and recruiting 5. Identify local/regional alternatives to supply chain issues

The key takeaways from this list are that some require long-term focus and resources to achieve the desired outcomes and could be quite challenging, while others are easier to implement in the short term and would benefit from involvement and leadership from organizations like the County and SEDC.

ONGOING PLANNING AND EMERGENCY COORDINATION

During the outreach and engagement process for this project, two important needs became apparent: ongoing planning to help support these efforts as we move forward and improving coordination during emergencies.

SEDC recommends that a group of infrastructure stakeholders is convened at least twice per year with the primary purpose of reviewing and prioritizing projects that improve regional resilience. This group will include business and public sector leaders to address existing challenges and identify emerging issues. As part of this process, progress toward the goals in this report will be tracked and shared so that the group can gather support and potential funding to accelerate actions and benefits for the community-at-large.

Some of the recommended projects and initiatives include better planning and data sharing for businesses in case of major issues. This includes high-priority improvements to emergency communications for first responders. Therefore, SEDC also recommends additional support for further coordination at the outset and during emergencies that impact the region as a whole. The County Office

of Emergency Management has been very engaged with this project and would be an essential partner in this expanded ongoing effort.

FORWARD-LOOKING RISKS AND OPPORTUNITIES

During interviews and group meetings, regional leaders shared various viewpoints and trends that were worthy of further consideration. These included macro-level concerns and risks as well as state and local issues. The top three forward-looking risks and opportunities have been summarized below. These would be excellent topics to include in future stakeholder meetings for further discussion and planning.

Regional growth is increasing needs for reliable infrastructure. The county is experiencing state-leading growth across the board – from population and housing to economic expansion and traffic volumes. Capacity expansion and resilience projects are underway, but they are built on an aging infrastructure that was designed for regional activity that was a fraction of the planned levels for the coming decades. Multiple scenarios for growth and related infrastructure needs should be evaluated to determine regional gaps due to broad trends in resource requirements.

Energy is an essential economic driver. Modern life, business operations, and government services require electricity. Any significant interruption of this essential utility service impacts nearly all sectors and has add-on impacts far beyond the immediate lack of power. As the needs for reliable electricity increase due to population growth, state and local regulations, electrification efforts, and new intermittent renewables, there is an emerging gap in the capacity required to serve expected demand on an hourly and annual basis. The size and scale of the existing grid infrastructure and required upgrades is a key challenge in the mid- and long-term. For example, a recent public filing from NYSEG forecasted the need for a 25.4% increase in their annual costs for delivery services due to a variety of market factors – including supporting the transition to a cleaner energy mix and overall capacity and resiliency improvements. Costs and operational impacts from the evolving electricity system that increase well above average are also deemed a business risk – especially for energy-intensive sectors. Business and government leaders should be engaged in this process and have a voice in the planning and deployment of energy investments to ensure that efforts are aligned and prioritized for community-wide benefit.

External factors are causing significant and often uncontrollable challenges. As we have all experienced over the past two years, issues arising from outside of the County can emerge rapidly and have devastating effects on business continuity. These are often difficult to forecast and can be driven by natural events, manmade hazards, global trade constraints, demographic trends, changes in capital markets, and major policy shifts at the state and national levels. Because of the sources and pervasive nature of these challenges, they can be uncontrollable or unavoidable by local businesses – creating risks that evade mitigation efforts. Roundtable discussions and coordinated efforts by regional stakeholder can help to proactively evaluate potential issues and identify solutions, support, resources, and advocates that may be outside the region.

CONCLUDING OBSERVATIONS

Resilience can be defined as positive adaptation despite adversity. Since a significant loss of jobs in the late 1960's through the late 1970's, Saratoga County continues to adapt to the ever-changing business climate. Saratoga County is an oasis in Upstate New York for both economic and population growth with a well-educated workforce that enjoys living, working, and playing in our region. After meeting with the business community and public sector for this report, it is clear this will continue.

Saratoga County will still need to focus on the future due to risks both known and unknown. The concept of “unless you're growing, you're dying” truly means that in a world of constant and rapid change, if you are only maintaining the status quo, you are actually falling behind! New and upgraded infrastructure must always be in the plans for a successful company and so it is with Saratoga County.

This study of infrastructure resiliency shows the efforts of Saratoga County providers as they serve their constituents and plan for change. Some concerns are more policy driven. For example, there are risks with New York State's rapid reduction and eventual elimination of fossil fuels for production of electricity and other heating uses. Costs to business and residential consumers are expected to rise due to this requirement and other factors. Will these trends put our manufacturers in an uncompetitive situation with their competitors in other areas of the country? Will this alter expansion plans of existing businesses as they consider additional facilities or new plants? How will new policies be implemented, and will their planned time frame need to adapt due to unknown impact and constraints? Whatever occurs, Saratoga County's infrastructure providers will certainly need to adjust their business plans as well.

With this study completed, SEDC will begin sharing the findings with the County Board of Supervisors Economic Development Committee and the Cities, Towns, and Villages in the County. We also will communicate with Saratoga County businesses and the general public through meetings, emails, newsletters, press releases, websites, and outreach opportunities. SEDC will schedule a meeting of infrastructure stakeholders next year to advance this effort and learn of new projects and risks and how they could affect regional stakeholders. This will encourage deeper future coordination and communication between the groups and improve our preparedness for future challenges.

REFERENCES AND RESOURCES

CDRPC economic development statistics for Saratoga County

<https://cdrpc.org/saratoga-recovery-dashboard>

<https://www.capitalregionindicators.org/profile/36091>

SEDC member directory and links to all County communities

<https://saratogaedc.com/our-investors/member-investors-alphabetical-directory>

<https://saratogaedc.com/select-saratoga-county/community-connections>

Saratoga County Emergency Planning Reports and Contacts

<https://www.saratogacountyny.gov/departments/office-of-emergency-services/>

<https://www.saratogacountyny.gov/departments/office-of-emergency-services/hazard-mitigation-plan/>

<https://www.saratogacountyny.gov/wp/wp-content/uploads/2021/02/2021-Saratoga-County-Emergency-Management-Plan-CEMP1.pdf>

Capital District Planning Committee Latest 5-Year Transportation Improvement Program

<https://www.cdtcmpto.org/images/tip/22->

[27_TIP_Solicitation/Proposed_Funded_Projects/New_Project_List_For_PB.pdf](https://www.cdtcmpto.org/images/tip/22-27_TIP_Solicitation/Proposed_Funded_Projects/New_Project_List_For_PB.pdf)

New York State Resilience Planning Resources

<https://dos.ny.gov/resilience-planning>

https://dos.ny.gov/system/files/documents/2020/06/community_resilience_c-rise.pdf

https://dos.ny.gov/system/files/documents/2021/08/resilienceprinciples_opd.pdf

<https://www.dec.ny.gov/lands/117819.html>

National information on economic resilience planning

<https://www.eda.gov/ceds/content/economic-resilience.htm>

<https://www.epa.gov/smartgrowth/regional-resilience-toolkit>

<https://www.nist.gov/community-resilience/planning-guide>

CP Rail Emergency Planning Guides and Requests for Public Works Projects

<https://www.cpr.ca/en/safety/transporting-dangerous-goods/community-emergency-planning-guide>

<https://www.cpr.ca/en/community/public-works-usa>

<https://sustainability.cpr.ca/operational-excellence/asset-and-rail-network-resiliency/#enhancing-resiliency-and-safety-through-technology>

Map Saratoga County infrastructure layers available for qualified GIS users

ADDENDUM: ENERGY RISK CONSIDERATIONS

As mentioned in the section above, electricity and energy needs are the basis of our modern economy. Energy is a requirement for businesses across Saratoga County and they are concerned about two major issues. One is availability. Businesses need power consistently; they need it to be delivered reliably; and they need it in the volumes that are required for their current and future operations. The second issue is cost. Even when availability meets expectations, if the cost of that energy or capacity delivered to the facility is too expensive, then it becomes challenging to maintain competitive products and services. This can be an exceptionally large risk for small businesses, those that rely on power as a major input, and businesses that have especially tight margins.

We recognize that these are uncertain times for all commodities, especially for the energy sector, and we are likely experiencing some of the greatest economic challenges of our lifetimes. The risks to local, regional, and global infrastructure can have a profound impact on the pricing and availability of electricity, oil, and natural gas. Supply chain issues, war, pandemic, extreme weather events, and domestic and foreign energy policies are converging to cause disruptions that create wide ranging risks and market volatility. As of the writing of this report, the costs for gasoline and electricity are at historic nominal highs in New York State with an expectation for continued increases in the near future.

With these largely uncontrollable risks as a pervasive backdrop to business planning and resiliency, we also see the emergence of self-imposed challenges that are driven by emerging laws, policies, and regulations. For energy-related impacts, the Climate Leadership and Community Protection Act (CLCPA¹), creates an unprecedented level of uncertainty for the business sector. The targets have been passed into law: 100% zero emissions electricity by 2040 and an 85% reduction in statewide GHG emissions by 2050. But the plan, regulations, and cost-sharing approach have not been finalized. However, the estimated net present value of the incremental investments and costs through 2050 to reach these targets will be over \$300 billion systemwide, largely funded by ratepayers and taxpayers. Revisiting the two main issues for the business community, policy-led risks must be considered.

Availability concerns related to policy and the CLCPA:

- How will changes to the grid and power supply impact reliability?
- How will heating and transportation electrification change the available capacity for businesses?
- When will mandatory requirements be put into place and who will be impacted?
- How will EV targets impact the availability and utilization of passenger vehicles and trucks?
- How should companies plan for facility investments, equipment upgrades, and potential early retirements?
- What production processes will need to be significantly altered?
- What happens to all the decommissioned infrastructure – both gas and electric?
- What impact will this have on customers and markets for existing and new products?

¹ <https://climate.ny.gov/Our-Climate-Act/Draft-Scoping-Plan>

Cost concerns related to policy and the CLCPA:

- Who will bear the costs for upgrades and impacts?
- What is the realistic forecast for costs during the transition and afterwards?
- How much cost pressure will this put on end customers and inflation in general?
- What products and services may become non-viable based on costs?
- How will this change our competitiveness nationally and globally?

Nationally, there are significant grid constraints that impact the ability of both large-scale renewable integration and mass deployment of all electric technologies². While these can hopefully be solved in the long-term, the impact from independent actions by the energy sector, states, and consumers are exposing the challenges faster than grid owners and operators may be able to adapt. In early-mover states that are further ahead in this planned transition, some signs of concern are already emerging.

In California, with the transition to greater deployment of renewables well underway and aggressive emissions targets (100% carbon neutral by 2045) being pursued, there has been pushback from various stakeholders on the plan going forward. On availability and reliability of low-carbon energy sources, nuclear energy has proponents³ including the former Secretary of the Department of Energy, Steven Chu, who said that closing the Diablo Canyon nuclear facility would ultimately slow the transition away from fossil fuels and “You can’t wave a magic wand and say we go 100% wind and solar because they are intermittent. It’s easy to go from zero to 50%. It’s much harder to go from 50 to 75% and nearly impossible to get to 100%.” On costs, there are concerns about the rapid transition away from natural gas and how costs will be shifted to vulnerable customers and those who cannot afford early upgrades to all-electric equipment⁴. These emerging issues on the vanguard of energy transition should be taken into consideration for New York State planning.

National Grid, the primary electricity and gas supplier in Saratoga County and a major provider regionally has a well-developed plan to meet the State’s 2050 goals⁵. Their clean energy vision includes a commitment “to fully eliminate fossil fuels from both our gas and electric systems by 2050 – sooner if possible – setting clear and measurable milestones along the way.” However they are taking a pragmatic, diversified approach that does not phase out gas as a resource entirely, but rather uses hybrid technologies and utilization of hydrogen and renewable natural gas resources from across the region.

As stakeholders focused on a healthy and prosperous future, balancing these competing priorities is a requirement and requires ingenuity, realism, and investment. Choices that we make today have a ripple effect on the risks and opportunities of tomorrow. Careful consideration must be given to energy infrastructure plans and regulations to avoid unsurmountable challenges and enable our economy to thrive.

² <https://www.reuters.com/investigates/special-report/usa-renewables-electric-grid/>

³ <https://calmatters.org/environment/2022/05/nuclear-power-california/>

⁴ <https://www.utilitydive.com/news/as-california-confronts-the-future-of-its-natural-gas-system-who-could-get/>

⁵ <https://www.nationalgrid.com/document/146251/download>

APPENDIX: LIST OF COUNTY BRIDGES IN POOR STATUS

The table below shows all bridges in Saratoga County that were reported as being in “poor” status as of the latest NY State Highway Bridge Report on February 28, 2022.

County	Municipality	BIN	Location	Feature Carried	Feature Crossed	Owner	Year Built or Replaced	Last Inspected	Poor?	RISC Priority/Notes
Saratoga	Saratoga Springs (City)	1095940	2.0 MI N RT 9 & I87 LT	NELSON AVE EXT	871 87115091183	NYSDOT	1962	7/14/21	Y	HIGH
Saratoga	Saratoga Springs (City)	1033330	2.0 MI N JCT RT 9 & I87RT	NELSON AVE EXT	871 87115091184	NYSDOT	1962	7/14/21	Y	HIGH
Saratoga	Clifton Park (Town)	1033210	0.7 MI S JCT I87 & RT 146	SITTERLY ROAD	871 87115091043	NYSDOT	1958	6/22/21	Y	HIGH - Underway
Saratoga	Day (Town)	3304780	4.2 MI NE OF EDINBURG	NORTH SHORE ROAD	SAND CREEK	30 - County	1995	5/3/21	Y	LOW
Saratoga	Hadley (Town)	3304230	3 MI NORTH OF HADLEY	CR 1, STONY CREEK ROAD	WOLF CREEK	30 - County	1997	7/7/21	Y	HIGH - Complete July 2022
Saratoga	Halfmoon (Town)	1033190	I87-0.7 MI N OF MOHAWK RV	RIVER VIEW ROAD	871 87115091007	NYSDOT	1958	11/8/21	Y	HIGH
Saratoga	Moreau (Town)	1005679	JCT RTE 9 & I87	9 9 15093108	I87	NYSDOT	1958	7/29/21	Y	HIGH - Underway
Saratoga	Northumberland (Town)	4001020	0.2 MI N JCT RTES 4 & 32	4 4 15023167	HUDSON RIVER&CANAL	NYSDOT	1916	8/23/21	Y	HIGH
Saratoga	Saratoga (Town)	1022530	1.7 MI SW JT RTS 4 & 32	32 32 15053156	FISH CREEK	NYSDOT	1993	7/6/21	Y	HIGH
Saratoga	Stillwater (Town)	5523790	SARATOGA NATL.HIST.PARK	NPS ROUTE 10	KROMA KILL	53 - NPS	1962	5/20/93	Y	LOW
Saratoga	Stillwater (Village)	1001000	.4MI.S JCT RTE 4<67	4 4 15023021	SCHUYLER CREEK	NYSDOT	1885	6/10/21	Y	HIGH
Saratoga	Waterford (Town)	4415130	GUARD GATE #2 & ERIE C ES	ACCESS RD-CANAL	ERIE CANAL	NYSDOT	1912	5/26/21	Y	LOW
Saratoga	Waterford (Village)	4000950	JCT RTE 4 HUDSON RIVER	4 4 15021000	HUDSON R & CANAL	NYSDOT	1909	9/21/21	Y	HIGH

Accessed, downloaded, and filtered in May 2022: <https://www.dot.ny.gov/main/bridgedata>

Note: “poor” status indicates advanced deterioration but does not warrant structural review.