Recovery from COVID-19

It's time to build a U.S. national infrastructure for economic resilience

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BY JEB BRUGMANN
RESILIENT CITIES CATALYST

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ABOUT RESILIENT CITIES CATALYST

Building on the pioneering legacy of 100 Resilient Cities (100RC), senior 100RC executives have now established Resilient Cities Catalyst (RCC). RCC is a new non-profit designed to help cities build the capacities and partnerships needed to understand, prioritize, and concretely address their risks and chronic stresses as they pursue their strategic goals or recover from crisis.

RCC partners with city governments, businesses, neighborhoods, and community stakeholders around the globe to:

1. Develop an enabling environment to build strong partnerships between cities and their communities allowing them to drive policy, planning, design, finance, and institutional resources for resilience-building efforts.
2. Ensure that ideas are turned into meaningful action by addressing gaps between project plans, project implementation and desired impacts.
3. Share and replicate learnings through a growing community of practice.

ABOUT JEB BRUGMANN

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Introduction

In the coming months trillions of dollars will be deployed to re-start the U.S. economy and prevent further cascading economic decline. Together with other shock events of the last two decades, the COVID-19 crisis has made it sufficiently evident that the economic infrastructure of the last century does not prepare us for the economic disruptions of today—and coming decades. Pending recovery efforts provide a critical opportunity to build the national infrastructure needed to prevent and mitigate similar, future economic shocks, while expanding economic opportunity on an everyday basis as well. The following paper outlines the key areas of U.S. national economic vulnerability, and four key components of a resilience-building response.

From Y2K and 9/11 at the start of the century, to hurricanes Katrina, Sandy, Maria and Harvey and California's wildfires; from the 2007-8 financial crisis to today's COVID-19 crisis, the American economy has been confronted with a degree of catastrophic shock last experienced in the early 20th century. Each of these shock events have widely exposed the same underlying economic vulnerabilities in the nation's economy.

Systemic shocks such as COVID-19 and the 2007-8 financial crisis are unlike regional shocks arising from extreme weather, fires, or earthquakes, even if these also ripple through the national economy. Systemic shocks exacerbate the underlying vulnerabilities in the national economy, because they eliminate the redundancies in the economy—the ability of unaffected suppliers, service providers, and employers—to fill economic gaps and kick-start recovery.

A true recovery—and a more resilient future—will involve direct action to address both regional and systemic vulnerabilities. This can be achieved in good part by scaling proven innovations in new institutional, finance, and economic development infrastructure. Given the clear nature of the exposed economic vulnerabilities, these investments will need to focus on the most distressed and at-risk communities in the country, where more than 100 million Americans reside.

What is a 'resilient economy'?

Resilience is the capacity of households, communities, businesses and institutions to survive, adapt, and thrive in the face of acute shocks (e.g., pandemics, financial crises, super storms) and the interaction of these shocks with underlying chronic stresses (e.g., chronic poverty and household debt, increasing inequality, underfunded institutions, poorly maintained infrastructures). The word 'thrive' is an essential part of the resilience equation.

> A resilient country, city, or community has the institutional capacity to 'bounce forward' in the face of shock events, and not just bounce back to a still-vulnerable pre-crisis state. It has the wherewithal to adapt and recover from shock events in ways that advance its fulfilment of development and societal ambitions.

An economy has resilience, and it builds resilience in society, when it is developed and managed in ways that contribute substantially to the reduction of chronic stresses in the national economy as a whole and in its households, communities and businesses. The key words here are **preparedness** and **contribution:** prepared to continue economic function during a crisis and contributing to that 'bouncing forward' as communities adapt and recover.

There is a third factor: economic resilience is not ephemeral; it is built in places. Unlike financial markets, which exist largely virtually, a nation's economic life takes place in neighborhoods and in specialized business districts, in ports, farm regions, and industrial campuses. To build resilience, the work of preparedness and economic stress reduction needs to **focus on the evident and distinct vulnerabilities within these foundational units of the nation's economic life.**

Understanding current U.S. economic vulnerability

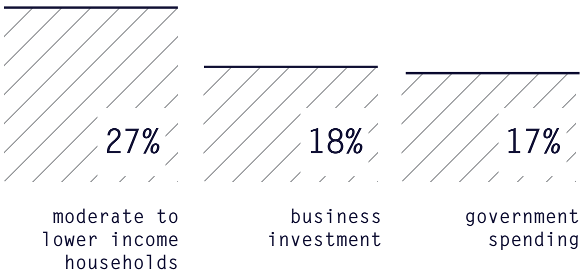
The last decade's economic shocks have clearly exposed the chronic stress points in the footings of the United States economy. Three of these stress points are critical to the country's ability to adapt and thrive in the face of future shocks and large-scale disruptions: the resilience of moderate to lower income households, the resilience of small business communities, and the resilience of the sum of the two: local economies. All leaders, industries, and governments interested in the sustained health and stability of the American economy share a common, and now imperative interest in building a better infrastructure of local economic resilience in these three areas.

Economic Footing #1: Household Purchasing Power

The **U.S. economy is notable for its heavy dependence on personal consumption expenditure (PCE)**. PCE accounts for 68-69% of U.S. gross domestic product (GDP). **Figure 1** illustrates how U.S. GDP depends on PCE to keep the economy afloat. Over the last two decades, PCE has been instrumental when business investment bubbles burst (e.g., the 2000 dot com recession), in leading recovery from major recessions (e.g., the 2008-2009 global financial crisis), and in prolonging periods of growth when business and government investment wanes (e.g., the 2016-2018 period).

U.S. PCE has a highly vulnerable flank. Thirty-eight per cent of U.S. PCE is made by households whose collective income is less than $70,000/year. (U.S. average household size of 2.52 persons.) **These more vulnerable moderate to lower income households account for 27% of US GDP.** By comparison, business investment generates 18% of U.S. GDP; government spending accounts for 17%.

Contribution to U.S. GDP (percentage)



These households have made slow, steady progress in recovering from the household debt crisis triggered by the 2008-2009 financial crisis. However, U.S. total household debt in 2019 was still high: equivalent to 75% of total GDP. Home ownership, the traditional foundation and opportunity for household-level wealth building, has not recovered, contributing to inequality. The new households that are now forming in the United States—the future foundation of U.S. PCE—are doing so under generational economic strain: among 30-year-olds median net worth is only $7,500 among those in the lower 30% of the income spectrum. For 20-year-olds in the same income spectrum, median net worth is zero-to-negative.

The above cornerstone households in the U.S. PCE equation remain highly vulnerable to the range of economic shocks experienced so far in this century. In 2014-15, before the current COVID-19 crisis and still at the top of the business cycle, PCE growth was already beginning to level. In some key areas—such as purchases by older Americans, and purchases from local businesses—it was beginning to decline.

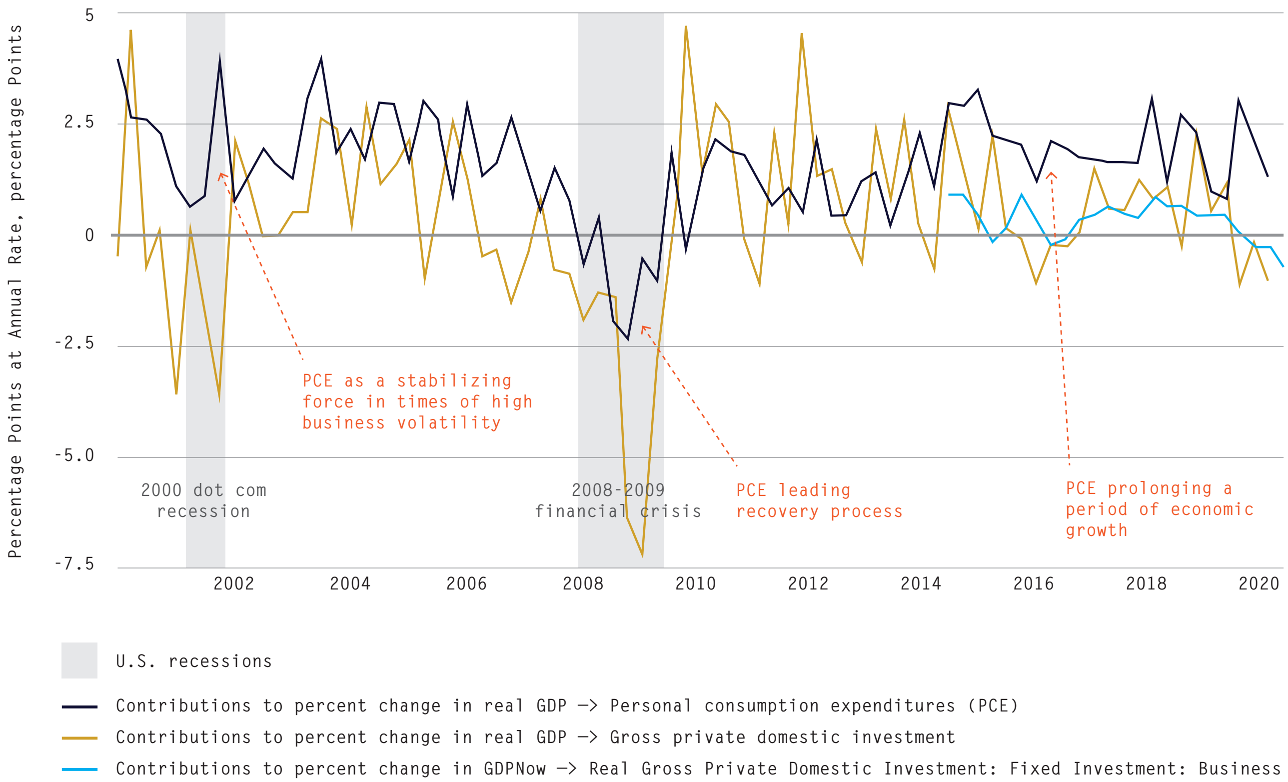
30%

of the American workforce is now self-employed

> As is widely known, the new, younger households forming in the country are more likely to be earning incomes as self-employed people or entrepreneurs without income backstops such as unemployment insurance. Approximately 30% of the American workforce is now self-employed. Employment insurance payouts and household savings backstops are generally inadequate to help moderate to low income households get through a sustained income crisis. When these backstops fail, credit cards, usurious loans, bankruptcy proceedings, and food banks hardly constitute a systemic infrastructure of household or national PCE resilience.

We know that consumption patterns need to change, in particular shifting towards low-carbon sources of energy and reduced food waste. Household PCE in the U.S. has already been shifting–most recently towards increased health expenditures. But these shifts can be made in ways that better reflect the economic realities of lower income households.

Figure 1. The Contribution of Personal Consumption Expenditure to Economic Resilience in the United States Economy



Sources: Atlanta Fed, BEA myf.red/g/qDrj

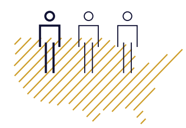
Economic Footing #2: Small Businesses

The United States has some 30 million SMEs that account for "nearly two-thirds of net new private sector jobs in recent decades," according to the Office of the U.S. Trade Representative. Even before the COVID-19 crisis, J.P. Morgan Chase (JPMC) documented **declining purchases from local small and medium-sized businesses (SMEs)**. SME's serving the middle to lower income households of metro and local economies remain particularly vulnerable to economic shock and to other forms of competitive disruption (e.g., to the disruptive impact of online retail). JPMC's April 2020 report on the economic impacts of COVID-19 highlights the particular vulnerabilities of small businesses in majority-minority communities and communities with lower amounts of human and financial capital [that] have materially lower levels of cash liquidity and small businesses operating on smaller profit margins."[1]

1 Farrell, D., Greig, F., and Wheat, C.. April 2020. *The potential economic impacts of COVID-19 on families, small businesses, and communities: Insights from five years of big data research*. New York: J.P. Morgan Chase & Co., p. 4. https://institute.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/institute/pdf/potential-economic-impacts-covid-19-families-small-businesses-communities.pdf Accessed April 3, 2020.

Economic Footing #3: Local Economic Hubs

Downward pressures on expenditures by moderate to low income households—particularly on local expenditures—combine with declining small business cash flows and purchases to compound each other in particular places: in cities and neighborhoods that face longstanding challenges of de-industrialization, rural economic decline, mortgage foreclosure, and inadequate infrastructure investment. It is at this level, in local economic hubs, that the infrastructure of national economic resilience needs greatest attention so that the country has the necessary ground-level capacity of service, inventory, employment and income, and stability in times of crisis. The importance of localized economic systems has been made all the more evident by the COVID crisis, which has again exposed the fragility of economic life that is highly dependent upon globalized supply chains and just-in-time production.



1 in 3

106 million Americans—nearly a third of the country—live in economically distressed and at-risk zip code areas

In 2018, the Economic Innovation Group determined that 106 million Americans—nearly a third of the country—live in economically distressed and at-risk zip code areas, based on EIG's Distressed Communities Index.[2] The EIG index measures levels of poverty, education, available housing, employment, income, and new business formation. EIG's analysis is one of many among think tanks, government agencies, and business associations that pinpoint the geographic fault lines in American economic life to these lower income, poorly served, and lower investment areas. It is in such communities—urban, suburban, and rural—that shock events cascade most rapidly and deeply into insolvency, foreclosures, loss of credit, business closures, property market collapse, associated decline of local government tax bases, and ultimate disinvestment. These cascading dynamics often produce a chronic weight of further declines in health, mortality, safety, and other social outcomes that register in national-level outcomes that are more akin to the world's middle income countries than to the higher income countries that are counterparts to the wealthy United States. The loss of local businesses, jobs, and services, including closures and cuts to accessible local hospitals, clinics and schools, strips large parts of the country of its capacity to withstand shocks. It undermines the essential social economy of mutual assistance, trust, leadership, and voluntary collaboration that is most needed in times of crisis, when public services are most strained.

2 Fikri, K. and Lettieri, J.. October 2018. From Great Recession to Great Reshuffling: Charting a decade of change across American communities, findings from the 2018 distressed communities index. Washington, D.C.: Economic Innovation Group. https://eig.org/dci. Accessed April 4, 2020.

Bouncing Forward: Leveraging COVID-19 recovery efforts to build future-oriented resilience

To address the above chronic weaknesses in the U.S. economy, to prevent further cascading failure during the current COVID-19 crisis, and to build capacity to weather future shocks, cities and counties can use pending recovery funds to more fully develop their local economic resilience infrastructure. Resilient Cities Catalyst recommends that efforts in the following four areas be included in any local or regional COVID-19 recovery program:

1

Establish stable mechanisms to support household income & to stabilize household wealth

2

Establish stable mechanisms for reducing, mitigating, and transferring risk in the local small business ecosystem

3

Increase incentives and reinforce innovations for (re)building 'complete communities'

4

Integrate resilience assessment and measures into local economic development planning

Further details on possible actions and innovation efforts related to each of these four action areas are provided below. Pending efforts to re-start and mend local economies provide an obvious opportunity to take stock of the successful models developed by communities prior to the COVID crisis. These innovations can be knit together into comprehensive local economic resilience programs, and scaled across the country's distressed neighborhoods.

This can be done. Historically, the United States and its cities and counties have faced similar imperatives in their development, establishing other new infrastructures for economic resilience. When the scourge of fire disasters burnt large swaths of the nation's cities to the ground in the late 19th century, public and private sectors worked together to establish today's comprehensive system of fire prevention and fire codes, insurance, new construction and building materials, and the techniques and systems of fire containment and response. In the 1980-90s, government at all levels joined with the private sector to develop the complex system of technical, legal, finance, and insurance solutions required to bring investment and development, markets, and business back into millions of acres of contaminated brownfield sites in America's de-industrialized urban areas. These are examples of infrastructures of resilience, which underpin the progress of the country.

The following recommendations refer mainly to local and supportive state-level actions. But these will not be enough. Building, repairing, and modernizing an infrastructure for 21st century economic resilience will also surely require national-level action: new national public welfare benefits and protections that are supported by more equitable tax regimes and more responsible, collective sharing of costs between the public, private, and household sectors.

1 Establish stable mechanisms to support household income & to stabilize household wealth

The COVID-19 crisis, among other 21st century shock events, has highlighted the need to establish standing mechanisms to help moderate and low income households maintain a basic level of income through deep and extended crisis periods, in particular households with limited savings buffers and who depend upon credit to cover week-to-week expenses. The 20th century solution for such a buffer has been unemployment insurance. In today's economy, however, a growing proportion of the working population is self-employed, is employed without benefits, or makes a living as a micro-entrepreneur. This large segment of the American workforce is not covered by unemployment insurance schemes.[3]

3 A 2018 study revealed that 44% of unemployed Americans who had worked in the previous 12 months had not applied for unemployment insurance benefits because they did not believe they were eligible to receive benefits. U.S. Bureau of Labor Statistics. October 1, 2019. *Most unemployed people in 2018 did not apply for unemployment insurance benefits.* https://www.bls.gov/opub/ted/2019/most-unemployed-people-in-2018-did-not-apply-for-unemployment-insurance-benefits.htm?view_full. Accessed April 8, 2020.

Added to this, the process of laying off valued employees during extended economic contractions adds to the burdens upon businesses both during the crisis and upon recovery, requiring that they have to re-recruit, -hire, and -train staff at the early stage of recovery. For individuals, being laid off can also mean the loss of health insurance and adds to psychological stress.

1.1 CRISIS INCOME SUPPORT FUNDS

Facing the inadequacy of 20th century unemployment insurance schemes, and in the context of the changing nature of employment, Canada and many European countries have reallocated resources they would have paid to cover unemployment insurance claims during the dramatic COVID-19 contraction by establishing national wage subsidy programs, supporting and encouraging businesses to maintain their employees as an alternative to termination of employment. Proposals for guaranteed minimum income schemes have also now been widely discussed and piloted in some jurisdictions. However such proposals might be further considered in years to come, U.S. state and city/county governments can begin the work of stabilizing local economies and national PCE by establishing more localized emergency income funds. A local fund can be designed to address more localized, known vulnerabilities, and can be linked to existing federal funding mechanisms such as CDBG-DR grants, and with new mechanisms to come. Disbursements from local emergency income funds can be set to trigger when pre-defined shock impacts and sector-specific economic disruptions are measured.

In addition to government endowment of such funds, they might be partially financed through mechanisms such as parametric insurance policies. Since the funds are established and saved 'for a rainy day', their capital balances could be used to leverage or backstop (e.g., via guarantees) targeted other household income resilience mechanisms, such as work disruption and health care insurances, childcare support, crisis food access support, and wi-fi connectivity.

1.2 COMPREHENSIVE HOUSEHOLD ECONOMIC RESILIENCE SUPPORT

Low-income households often confront a complex of financial challenges arising from a mix of housing, banking and credit, health, family support, immigration, employment, and transportation (employment access) challenges, from which it is difficult for them to plan a way forward.

In the first instance, local governments and charities can re-double their education and counseling support programs in distressed communities, focused on basic budget planning and management, preparation of payment plans, and (re)establishment of creditworthiness. The U.S. Consumer Financial Protection Bureau, among others, offers an array of tested, user-friendly support materials for this purpose (https://www.consumerfinance.gov/practitioner-resources/economically-vulnerable/). Cities for Financial Empowerment (https://cfefund.org/about/) provides local governments with access to funds and technical assistance to develop local financial empowerment initiatives. In the advent of large-scale economic shocks, local governments also need to monitor the local emergence of inappropriate or exploitative financial services schemes, equivalent to usurious payday loans, subprime mortgage lending, and other schemes that would only worsen household budget, credit, and debt challenges.

Beyond financial education and counseling measures, building household economic resilience in chronically distressed areas ultimately requires a partnership across all spheres of government, including schools, social services, public health, utilities, policing and enforcement, and the courts. As revealed by the 2014 crisis in Ferguson, MO, household financial challenges can be compounded when governments target their enforcement resources towards distressed communities, or when they are inflexible or even punitive when working with low-income households to resolve fees, fines, liens, and other legal matters. Such a negative and debilitating government-community dynamic has been reversed in a range of U.S. communities through establishment of community renewal partnerships, often involving partnerships with anchor institutions such as hospitals and affordable housing developers. For example, in Stamford, CT the local hospital, public housing agency, and city government established the Vita Health & Wellness District partnership with the city's low-income West End neighborhood. The Vita partnership coordinates the development and provision of an extensive range of community renewal and household support services, including health care, affordable housing, nutrition, social services, job training, community facilities and programming, and has engaged more than 20 other support organizations (http://vitastamford.com/).

2. Establish stable mechanisms for reducing, mitigating, and transferring risk in the local small business ecosystem

Small and medium businesses that serve local and metro markets often operate on lean margins and with limited cash flows, and face increasing competition from large fixed location and on-line companies. When local purchasing power contracts due to a shock event, few local businesses have recourse, as do large operators, to the mechanisms needed to help local businesses survive, adapt, and bounce forward more competitively from the crisis. Existing mechanisms, such as local business associations and business improvement areas, often lack capacity to address their members' underlying vulnerabilities.

Drawing from a wide range of innovative experiments in local business support, now is an excellent time for local business associations and local governments to further develop and consolidate their infrastructure of local business development, risk management, crisis relief, and market area development. A comprehensive local business community resilience approach would minimally include: business continuity planning; local community development finance institutions and business relief funds; risk transfer solutions; local money multiplier schemes; and strategies for re-establishment of each commercial area's competitive niche.

2.1 BUSINESS CONTINUITY PLANNING & CAPACITY-BUILDING

Many small businesses have not had professional support to evaluate and address their financial, operational, and other business risks in the face of extreme events, or even under emerging market conditions (e.g., change in customer demographics, competition with online retail). The risks faced by small businesses vary widely from one business to another, reflecting the proprietor's own family and financial condition, the business location, the market catchment, local demographic change, and the product of service type. Any thorough local economic recovery and resilience-building initiative would ensure that all businesses serving the local market and negatively affected by the crisis would have access to comprehensive continuity planning support. Many guides and other resources are available from chambers of commerce and other business associations. The provision of recovery resources to expand these programs, perhaps in partnership with insurers, should be a priority investment. Drexel University's Nowak Metro Finance Lab recommends the further step of "cross-sector 'stabilization teams' that can communicate, provide technical assistance, and support wraparound services for small businesses and first time entrepreneurs," in particular during a crisis event and in the early stages of recovery.[4]

2.2 LOCAL SMALL BUSINESS RELIEF FUNDS & CDFIs

The same Drexel University team, led by prominent urbanist and urban policy expert Bruce Katz, has monitored and assessed emerging models of standing Local Relief Funds. These funds are targeted and sufficiently capitalized to support small business communities in the event of a major economic shock. Their report, *Saving Small Business: Emerging Typologies for Local Relief Funds*[5], describes the range of approaches. Existing local funds secure their financial and operational support either singly or collaboratively through local governments, economic development authorities, local philanthropies, banks and community development finance institutions (CDFIs), and local business associations. Public sector contributions to such funds (including CDBG-DR funds) can be used to leverage additional contributions from philanthropies or from business owners themselves via their business improvement area special assessments. Whatever model and financing arrangement is most feasible within the context of each locality, in the face of the last decades' economic shocks and the strain placed on small business community, such standing relief funds should now be considered a foundational support infrastructure for local economic life.

4 Katz, B., Higgins, C., Saadine, M., and Schalliol, F. 2020. Saving Small Business: Emerging Typologies for Local Relief Funds. Philadelphia: Drexel University. https://drexel.edu/nowak-lab/publications/reports/Covid-Emergency-Fund-Typologies/ Accessed April 2, 2020.

5 Ibid.

From a comprehensive resilience perspective, the establishment of such relief funds can also be leveraged to achieve other local resilience objectives, rather than setting them up as a new silo of support. (The siloing of city/county operations itself can be an impediment to effective crisis response and recovery, increasing costs and the burden of coordination.) Where possible, the development of local relief funds should be considered together with the establishment or strengthening of local CDFIs (and vice versa). As quasi bank institutions whose dedicated business mission is local economic development and community development for the most vulnerable areas of a city/county, CDFIs can serve multiple aspects of local preparedness, risk mitigation, and recovery with knowledge of a community's household, business, non-profit sector, and housing sector vulnerabilities and opportunities. Following the provision of immediate cash flow support, debt relief, and essential repairs during crisis, CDFIs may be able to help finance essential building retrofits or inventory purchases to improve the prospects of competitive recovery.

2.3 RISK TRANSFER SOLUTIONS

As local business communities receive support to identify and evaluate their risk exposures, and as they identify measures and quantify costs to reduce these, opportunities may arise to work with insurers to develop collective risk 'pools' or to create an insurance mutual to which selected catastrophic risks could be transferred. A risk pool involves a group of businesses that share the costs for a collective policy, written by an insurer, that would compensate any one or more of the pool member's losses covered by the policy. A mutual is an insurance fund or entity created and owned by the business community members to cover specified losses from defined shock events.

2.4 LOCAL MONEY MULTIPLIER SCHEMES

A key strategy for increasing and stabilizing local purchases is to increase the local 'money multiplier'. The multiplier is the number of times a dollar spent within an area—a neighborhood, city, or region—creates other purchases within the area before it 'leaks' out through purchases outside of the area. For instance, a purchase from a local restaurant might stimulate further local purchases from a local baker, a local grocer, and via wages paid to local workers. In contrast, an online retail purchase stimulates further purchases from wages paid to workers in distant warehouse locations and from manufacturers abroad. The New Economics Foundation has developed a participatory local multiplier exercise to aid local communities in identifying ways they can best increase the local economic impacts of their purchases (https://www.nefconsulting.com/our-services/evaluation-impact-assessment/local-multiplier-3/). One way to prepare and mitigate the impacts of a shock upon small business communities is to establish purchasing partnerships between anchor institutions, with their generally stable finances and operations, and local small businesses.

A growing number of communities, and recently also some for-profit companies, have established alternative or complementary local currencies to strengthen local purchases multipliers. Community-based currencies often incorporate both volunteer and bartered services as well as purchases, i.e., a volunteer service provided can be compensated with local currency, which can only be used for purchases from a participating local business entity. The company Colu seeks to address the challenges of sustaining and scaling such volunteer- or grant-supported systems by pairing a local currency with a revenue-generating digital wallet platform (www.colu.com). In addition to compensating bartered activities and promoting local purchasing with a Colu-supported local 'city coin,' Colu works with city governments to customize the rewarding of city coin for voluntary actions that specifically advance the implementation of the local government's strategic plan initiatives.

2.5 RENEWING COMPETITIVE NICHE: SPECIALIZED LOCAL RETAIL AND PRODUCTION

Ultimately, to build small business community resilience, proprietors in many neighborhoods require more technical support and improved partnerships with landlords and local government to help analyze and transition their commercial function to one that is more robust and competitive within a broader, changing metro and online retail and services economy. Retail chains and franchises are able to make location, inventory, shop design, and marketing decisions based on rich data about evolving location demographics and consumer profiles, but small businesses and neighborhood business clusters generally lack updated access to such studies. COVID recovery efforts are a timely occasion to provide local proprietors with up-to-date assessments on consumer purchasing patterns, shopping habits, and desired cultural/social experiences in their market areas. On this basis, proprietors and partners can work together to fill gaps in local offerings and to develop programs and experiences that will increase the number, frequency, and predictability of shopping visits.

3 Increase incentives and reinforce innovations for (re)building complete communities

The solutions indicated in the above two sections highlight the extent to which more 'complete communities'—inclusive, fully served neighborhoods, towns and villages, with strong social bonds, local business communities and service providers, and organizational partnerships—are best prepared to survive, adapt, and thrive, in both normal times and particularly during crisis periods. The promotion of complete communities' development has been a priority for urban planners and designers since the 1990s. The concept draws from earlier history of American community life when people lived, shopped, made a living, worshipped, raised families, and came to each other's aid in times of need within mixed-use and mixed-income neighborhoods. Reflecting broad acceptance of the benefits of such community development, even contemporary high-rise condominium developers have promoted 'live-work-play' locations as a marketing hook if not an innovative model of mixed-use development.

3.1 FILLING GAPS IN THE NATION'S CDC AND CDFI INFRASTRUCTURE

Today, the understanding of what creates and preserves a truly vibrant and resilient community extends beyond the design of walkable streets, access to public transit, local retail spaces, and public parks and recreation. It includes, as in the case of Vita Health & Wellness District, mixed-income housing to minimize exclusion and increase social ties and local purchasing power; an organized and supported small business community; programmed activities and cultural life; and a mix of schools, health facilities, and service agencies that matches the needs of the resident community.

The most successful complete communities initiatives were led by strong, local community development organizations—Community Development Corporations (CDCs) and other innovative affordable housing developers, supported by Community Development Finance Institutions (CDFIs), 'anchor institutions' such as hospitals, and municipal community development agencies. Building a true foundation for economic and community resilience across the United States will require that all distressed communities have such institutional capacity. Many chronically distressed communities do not have any community partner of this nature. In many communities that do, the CDC or other partner itself is lacking resources for anything more than small projects.

As part of the resilience-building process, dedicated support should be provided to develop and strengthen CDCs and CDFIs, filling gaps and enabling them advance more 'complete' mix of services and investments for their areas.

3.2 LINKING MUNICIPAL LAND USE PLANS, ECONOMIC DEVELOPMENT STRATEGY, AND CAPITAL PROJECTS TO BUILD COMPLETE COMMUNITIES

Local governments can do more to leverage the array of investments, plans, regulations, and assets in their jurisdictions to foster neighborhood and other localized nodes of small business, civic organizations, and public facilities and services, which include designated resilience hubs. Land use plans can be reformed to facilitate land assembly for the development of such nodes. Transportation and infrastructure plans can factor the location of planned nodes, so that these are accessible and integrated with transit, cycling, and trail infrastructures, and well serviced. Projects located in a designated neighborhood node area that are consistent with complete communities aims could be offered tax abatements, or a tax increment financing district could be established for the node area to provide front-end finance assistance.

3.3 BUILDING ON THE FOUNDATION OF LOW-INCOME HOUSING TAX CREDITS

The Tax Cuts and Jobs Act of 2017 created a capital gains tax benefit for investors in projects in designated Opportunity Zones, in principle to drive commercial and residential property development investment towards the country's lower income neighborhoods. Controversies aside regarding the designation of Zones and the projects' actual beneficiaries, the Opportunity Zone approach is proving a blunt and inefficient instrument for filling the fundamental infrastructural gap in America's distressed neighborhoods: the need for stronger and better supported mixed-use and mixed-income development, designed with, for, and in low income communities.

Since 1986, Low Income Housing Tax Credit (LIHTC) mechanism has provided the main tax incentive for private investors to support affordable housing projects in local income areas. Since its establishment the LIHTC has mobilized more than $100 billion in investments and the construction more than three million housing units. Unlike Opportunity Zones, LIHTC projects typically engage CDCs, CDFIs, and other community development and low-income housing agencies in the preparation of projects.

Amendments to the LIHTC standards were made in 2018 to better promote mixed-income housing projects. However, the qualifications for LIHTC credits, the financial and bureaucratic complexity of putting together LIHTC deals, together with industry specialization between residential developers (who can benefit from LIHTC projects) and commercial developers (who cannot) have made it difficult to use the LIHTC to scale mixed commercial-residential projects within a complete communities framework. As governments explore ways to incent and match private investment with public investment to redevelop and revitalize distressed areas, renewed consideration should be given to how to broaden the purpose of such tax credits and simplify their use for innovative complete communities projects.

4 Integrate resilience assessment and measures into local economic development planning

Local economic development planning has generally focused on the identification and improvement of the competitive advantages and investment attraction opportunities available to a region or locality. However, the assessments typically made to identify these opportunities often do not substantially evaluate the region's risks and vulnerabilities. Even in best of times this can leave the best of ambitions exposed to impediments that have not been substantially considered. Integrating the development of a city's foundational economic resilience into local economic development practice generally requires greater:

- Anticipation, mitigation, and management of emergency scenarios, including future/dynamic hazards (e.g., extreme weather, pandemic) and proactive responses to long-term trends (e.g., demographic and technology change).

- Consideration of interdependencies between urban infrastructure and services systems, workforce groups and their communities, and industries, factoring how each impacts the performance of others under normal circumstances, under stress scenarios, and during extreme, acute events.

Systems and sectors need to be developed to mitigate exposure to cascading impacts of probable shocks. Giving greater attention to the interdependencies between sectors can also help identify opportunities to increase collective efficiency and performance across sectors.

- In addition to risk reduction and mitigation, local economic measures can be designed to address chronic stress conditions, in particular those affecting regional productivity. This involves specific efforts to increase the "co-benefits" or "dividends" from economic development policies, incentives, and investments. For example, economic development investments, incentives, and projects can be designed to increase the efficiency of natural resource use or to introduce more resilient and sustainable energy or waste management systems; to improve educational outcomes; to reduce pollution hotspots and improve localized health outcomes; to foster a local culture of creative collaboration among industries, institutions, and professions; and to otherwise better distribute the benefits of economic investments to distressed communities and households.

4.1 ASSESSING ECONOMIC RESILIENCE

Local economic development strategies can serve as a complement to the city's overall all resilience strategy. To adopt such an approach, Resilient Cities Catalyst has recommended consideration of the following adjustments to standard economic development planning studies (and related RFPs):

- Planning studies should identify and evaluate the conditions that reinforce chronic stresses in particular neighborhoods and housing markets, business sectors, occupational groups, and economic districts, and that identify opportunities to address them. Factors that should be considered include: household income volatility, wealth and credit levels; the impact of poverty; education levels; property values and trends in property ownership; skills gaps, joblessness, underemployment, and transportation access to employment opportunity; and race- and immigration-related economic exclusion. Factoring critical asset exposures under different scenarios (e.g., demographic change, technology change, or factoring climate change) could improve industrial and employment district development location decisions and reduce future economic losses.

- Resilience thinking can be integrated into the standard quantitative assessments of comparative advantage in local economic development planning, such as location quotient (LQ) or shift-share analysis. This would allow decision makers to factor risk and vulnerability considerations into business attraction and organic cluster development strategies. To do so, relative risk scores could be developed for different industries based upon the cyclical nature of each industry's output and growth; competitive risk; policy risk; supply chain risk; the status and resilience of key occupational groups; and technology (disruption) risk. Resulting context-specific industry risk scores reflecting industry volatility and vulnerability could then be integrated as weighting factors into the assessment of relative comparative advantages. Vulnerability arising from lack of diversification in the local economy may also need to be considered. If a priority is to foster homegrown firms or to strengthen the small business segment, additional weightings could factor the relative distribution of each industry's input demands from local small, medium, and large firms.

- Qualitative assessments such as Strength-Weaknesses-Opportunities-Threats (SWOT) analysis could include consideration of exposures to systemic risks or 'shocks,' of both a direct economic and non-economic nature, including the shock exposures identified in the city's resilience strategy. Analyses of exposure to external shocks can be factored into the "threats" aspect of the SWOT analysis. Analyses of chronic stresses can be factored into the "weaknesses" aspect of the SWOT analysis.

- Further consideration can be given on measures to maintain the region's or city's occupational advantages in the face of evolving technologies, automation, employer requirements, and educational/certification standards.

- Community economic development planning and neighborhood revitalization measures can be incorporated into city-wide economic development strategies, recognizing that distressed and at-risk neighborhoods not only weaken a city's overall economic productivity and potential, but are often the loci of cascading failures in the face of shock events. Determine how to leverage government, local anchor institutions, and new private sector investments to develop skills and to provide business opportunities (e.g. through contracted services from local small and micro-enterprises), and how such investments can foster development of facilities, and quality retail and services hubs that can serve both institutional or corporate employees as well as local residents.