Public Infrastructure and Economic Development

A proposed Framework for Smart Investments in Michigan

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Michigan State University EDA University Center for Regional Economic Innovation

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ABSTRACT

The Co-Learning Plan provides an analysis of federal, state and local policies designed to direct publicly funded infrastructure investments for strategic economic development purposes. Public policies from multiple levels of government are assessed based on factors such as geographic context, program criteria, economic impact, effects on equity, efficiency of job creation and investment leverage. Data is drawn from public documents, surveys and interviews with local and state officials from across the country, and policy staff in national and regional development associations. A framework is recommended for Michigan to address the state's infrastructure crisis while also investing in economic development in order to move Michigan forward with true economic growth. In addition to adequate resources for implementation, the policy framework needs to have four features: a) an integrated infrastructure systems planning partnership; b) an infrastructure bank with a diverse portfolio; c) a set of flexible tools for economic development; d) incentives to increase area wide equity and sustainability.

INTRODUCTION

Michigan's infrastructure is failing and so are the public policies and programs in place to protect public health and to stimulate economic growth related to infrastructure systems. Michigan significantly lags in state and local public infrastructure investment. Based on 2013 U.S. Census Bureau data, Michigan is second to last in the country with public infrastructure only receiving 3.4% of state spending. The neighboring states of Ohio, Illinois, Indiana and Wisconsin are all above 5%. The Governor's 21st Century Infrastructure Commission affirmed the pattern of disinvestment noting data from Deloitte that state and local infrastructure spending combined is at 6.4% in Michigan but 8.5% to 9.9% in the same neighboring states.[1] At the same time, Michigan's economic performance continues to be lackluster. The state's seasonally adjusted unemployment rate in August 2017, according to the U.S. Bureau of Labor Statistics was 3.9%. This translates into a national ranking of 18th out of 51, including states and the District of Columbia.[2] This past winter the unemployment rate was above 5% and one of the concerns is that the state's labor market is relatively shrinking. The state coincident index published monthly by the Federal Reserve Bank of Philadelphia identifies Michigan as one of only three states with nominal or negative projected economic growth in the coming six months.[3] While Michigan performs better than the national average in areas of research and innovation, the overall economic picture is parallel with the state of the infrastructure systems.

The challenge Michigan faces with infrastructure is far greater than a fiscal threat. While the Flint Water Crisis is the most tragic example, the Governor's 21st Century Infrastructure Commission cited numerous disturbing statistics: 39 percent of roads are in poor condition; 12 percent of the state's households lack access to advanced broadband service; 10 percent of the state's 1.3 million septic systems are likely experiencing operational problems; and 5.7 billion gallons of untreated sewage flows into Michigan waterways every year.[4] In the United States it is expected that drinking water is safe, roads are passable, bridges are solid, telecommunication services are accessible, and rivers and lakes are clean but these are no longer assured in Michigan.

The link between investment in public infrastructure and economic growth is widely recognized. Infrastructure, as stated in a recent publication from the Brookings Institute, is by definition tied to the economy. Infrastructure is "a broad range of public capital that facilitates economic activity," including airports, bridges, roads, highways, transit systems, water and sewerage systems, public buildings, dams, power plants, schools, and information technology systems.[5] At the same time, designing, creating and maintaining infrastructure is an economic activity in and of itself that requires construction jobs, materials, and professional skills. In 2014, the total public expenditure on infrastructure by federal, state, and local governments totaled $416 billion. Over 75% ($320 billion) came from state and local government whereas federal agencies accounted for less than 25% ($96 billion). An evaluation by the Congressional Budget Office found "public investment has raised overall economic output, although the effects on output of particular investments have varied widely."[6]

This Co-Learning Plan is focused on the intersection of public infrastructure and economic development policies. A wide range of infrastructure-focused and economic development-related agencies, policies and programs across the spectrum of federal, state, metropolitan, county, and municipal governments and other public and district authorities are assessed. The challenging questions for policymakers in regards to leveraging and focusing infrastructure investments for economic development purposes, which are examined in this paper, include the following:

A) What federal, state and local infrastructure policies and programs have demonstrated effectiveness in creating jobs and economic growth?

B) What is the tradeoff between the costs of public infrastructure investments and traditional tax incentives to private businesses for economic development?

C) How do factors of equity and sustainability around infrastructure projects affect economic outcomes?

Given the 21st Century Infrastructure Commission recommendation that $59.6 billion be spent in Michigan over the next 20 years to close the gap and create a fully modern set of systems, it is vital for policy reforms to be made in order for public investments in infrastructure to have a positive economic benefit. Moreover, policies should explicitly value equity, efficiency and innovation, particularly around distressed regions, municipalities and neighborhoods because quality infrastructure supports economic activity but also protects public health, quality of life, and equality of opportunity—the true foundations for sustainable growth. In this light, the most recent bills to support transformational brownfield transformation and attract large employers to Michigan are of limited benefit.

As Michigan policymakers continue to consider policies to address the infrastructure challenge and encourage economic growth, the preliminary research indicates the most efficient infrastructure investments with the largest payoffs are into existing public systems and that the greatest economic returns are in distressed areas with the highest rates of underinvestment.[7] Moreover, investments in public infrastructure may do more to spur economic activity and increase quality of life for residents than tax incentives to private businesses. An optimal policy framework needs to include new methods of planning, financing, and incentivizing infrastructure systems that will support long-term economic growth and greater equity.

POLICY DEVELOPMENT MATRIX

In the current landscape of economic development offerings, infrastructure improvement programs constitute a relatively small portion of those available and their associated expenditures. At the federal level, only a handful of economic development programs prioritize infrastructure funding. In one of the agencies with this authority, the U.S. Department of Commerce Economic Development Administration, public works and other construction programs granted $134 million in FY2015. This is an average of less than $3 million per state.[8] The transportation infrastructure programs that explicitly focus on economic outcomes are the exception to the rule, such as the TIGER grants (Transportation Investments Generating Economic Recovery) that seeks to promote economic competitiveness and improve the working environments of communities. More than $5 billion in TIGER grants have been awarded since the program's creation in 2009.

To put this in perspective, the U.S. Department of Transportation spends more than $90 billion annually and transportation funding accounts for the largest outlay of discretionary federal grants to state and local governments.[9] While job creation is often cited as a goal of national infrastructure programs due to the necessity of public systems for economic activity and the fact that fixing roads requires workers, there are a limited number of federal programs with explicit project-based economic growth outcomes. Another example is the FASTLANE grants (Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies) which was created in the most recent federal transportation legislation, Fixing America's Surface Transportation (FAST) Act of 2015. Economic outcomes is a primary criteria for the $4.5 billion over five years competitive grant program for significant highway, rail, port and intermodal infrastructure. Because of the large infrastructure expenditures at all levels of government of more than $400 billion annually, there is a great potential for achieving significant economic development outcomes. As the Congressional Budget Office concluded in a review of public spending on transportation and water infrastructure between 1956 and 2014, "although, returns on individual infrastructure projects vary considerably, they are typically higher when infrastructure-spending decisions are based on the anticipated economic effects of proposed projects."[10]

At the state level, the Center for Regional Economic Competitiveness and the Pew Charitable Trusts have created a comprehensive database of economic development and business incentives and catalogued nearly 2,000 programs across the following areas of business needs: business management; capital access or formation; facility/site location; infrastructure improvement; marketing/sales assistance; product/process improvement; fax/regulatory burden reduction; tech/research development; and workforce development. The programs are delivered in the form of collateral support, equity investment, grants, insurance, loan/loan participation/guarantee, tax abatements and tax exemption/deferral.[11] Wisconsin, for instance, has a large number of business incentive programs with 55 yet only 6 are designed to provide infrastructure improvements.[12]

Michigan is an outlier according to the data. Michigan has a relatively moderate number of state-funded economic development programs with 36, however none of them provide funding or other tools to assist businesses or communities with meeting infrastructure needs.[13] However, in addition to this data, the research for this Co-Learning Plan has identified how Michigan has provided funding for targeted infrastructure for economic development through the Michigan's Department of Transportation's Office of Economic Development. Instead of being managed by the Michigan Economic Development Corporation as a conventional economic development program with state general funds, Michigan has

legislation that established the Transportation Economic Development Fund within the Department of Transportation.

Infrastructure and economic development policies and programs from each level of government are assessed to find effective models and innovative approaches.

FEDERAL

The federal government offers a range of grants and programs that support infrastructure around economic development across a number of departments such as the U.S. Department of Commerce, the U.S. Department of Housing and Urban Development, the U.S. Department of Transportation, and the U.S. Environmental Protection Agency. The best example is the TIGER grants. Despite the competitive nature of the awards and the complex application requirements, the demand has far exceeded available funds. Total requests over 8 years are topping $140 billion from nearly 8,000 applications and only about 5% were funded. This illustrates a major opportunity for the federal government to expand this initiative and adopt its components into other infrastructure funding programs. State governments also could create similar initiatives given the substantial leverage and returns that have been shown.

U.S. Department of Transportation: Transportation Investment Generating Economic Recovery (TIGER): The TIGER grant program is a highly competitive flexible fund that supports innovative projects such as multi-modal and multi-jurisdictional projects that are difficult to fund through traditional federal programs. One of the unique features of the TIGER program is the consideration of economic competitiveness. Since its inception in 2009, TIGER has provided $5.1 billion to 421 projects. Projects leverage additional funds from state and local governments, metropolitan planning organizations, transit agencies and other partners. The 2016 TIGER projects are expected to leverage $500 million in federal investment to support $1.74 billion in overall transportation investments. From the most recent awards, grants went to projects supporting the movement of freight to boost economic competitiveness including an inland port in Little Rock, Arkansas, a highway freight interchange in Minnesota, and a rural freight project at the South Carolina/North Carolina border. An example of a quality of life and equity project is a new cap over I-579 in downtown Pittsburgh to reconnect adjacent neighborhoods to downtown with improvements to nearby streets, sidewalks, and crosswalks, a new bus stop, bike-sharing station, and ADA-compliant walkways. The cap also will create open space for transportation and recreation.

TIGER has been an important program for funding infrastructure projects in Michigan as well. Michigan has received ten (10) grants for a total of $125 Million in federal funds. Three of the awards were for Detroit light rail and intermodal infrastructure and brought in over $47 Million in federal funds. Awards were also made for road and bridge projects in Ann Arbor and Port Huron and Smith's Creek in St. Clair County. A rural bus infrastructure system was funded in Muskegon. Rail infrastructure was improved from Dearborn to Kalamazoo. Pontiac received a planning grant for downtown and neighborhood connectivity. Most recently, Flint was granted $20 Million for transportation infrastructure improvements on top of sections with water pipe replacements.[14]

U.S. Department of Transportation: Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE): The FASTLANE grant program is mainly for highways but $500 million of the $4.5 billion authorized over 5 years is dedicated to freight, port and intermodal projects. The primary criteria are economic, mobility, safety, and environmental outcomes. The first round of 18 FASTLANE projects was announced in September 2016. The awards ranged from $40 million to $165 million. No Michigan projects were awarded in the first round, although

Michigan has developed the "Michigan Freight Plan," that is aligned with the broader federal multimodal policies and planning framework contained in the FASTLANE authorizing legislation, the FAST Act. One of the projects with a clear local economic development benefit is a corridor improvement in Rochester, NY that connects I-490, NY Route 390 and NY Route 31 to the Eastman Business Park, which is the former site of the Kodak company that is working to attract new businesses to revitalize and fill the 1,200 acre campus.

U.S. Department of Commerce: Economic Development Administration (EDA): The EDA is the only federal government agency focused exclusively on economic development. It also has a long-standing program in public works to provide infrastructure around business development and other local community needs for economic growth. In general, In FY2015, approximately $100 million or 40% of the agency's budget, was budgeted for public works. In general, EDA grants support a range of business and industrial development activities, including infrastructure development, that create or retain jobs. EDA-capitalized revolving loan funds encourage new business development in economically distressed communities. In FY2015, EDA invested $238 million in locally-driven economic development projects nationwide, including approximately $143 million in construction projects that communities determined would enhance their local economic development efforts. The programs track job numbers and leveraged investments. In FY2015, 35,000 jobs are projected to be created or retained and more than $4.2 billion in private investment will be leveraged.[15]

U.S. Department of Housing and Urban Development: Community Development Block Grant (CDBG): CDBG is a $3 billion a year flexible block grant program that offers resources to cities, counties and states to support the availability of decent affordable housing, to provide services to the most vulnerable populations, and to create jobs through expanding and retaining businesses in underserved areas. CDBG-financed projects can incorporate public infrastructure into their design and construction and a portion of the funds may be used by local governments for infrastructure improvements in low-income areas. As a reference point for Michigan, communities in Southeast Michigan receive more than $60 million in CDBG funds on an annual basis. According to the South East Michigan Council of Governments the most popular uses relate to housing, senior centers, community programs, and sidewalk and infrastructure projects. As an example, *"In 2010, the City of Port Huron focused its CDBG allocation on an important water/sewer separation and a neighborhood preservation project, while the City of Lincoln Park focused on reconstruction of a major thoroughfare and a water main, as well as home owner rehab."*[16] CDBG funds are also directed to state governments to be allocated to eligible projects in smaller communities. Approximately half of the federal funds to states and about one-third of dollars to cities is used for infrastructure systems.[17] An additional program related to CDBG is the Section 108 Loan Guarantee Program which allows future CDBG allocations to be used to guarantee loans for neighborhood revitalization and business expansion projects including the construction and installation of public facilities and infrastructure.

U.S. Environmental Protection Agency Brownfield Grants: EPA Brownfields program provides funding for assessment, planning, cleanup, redevelopment and related job training. The program has been funded at approximately $190 million per year although proposals by the current administration would eliminate the programs altogether. EPA has other grants and also performs direct remediation activities to clean up communities and advance sustainable development. The total federal expenditure to promote sustainable and livable communities is more than $400 million annually.

U.S. Environmental Protection Agency Infrastructure Programs: EPA also supports safe drinking water and utility systems. More than $1.2 billion is spent annually to protect human health in this regard.

Of note, "As part of the agency's long-term strategy, the EPA is implementing a Sustainable Water Infrastructure Policy that focuses on working with states and communities to significantly expand more effective management and enhance technical, managerial and financial capacity within the drinking water and wastewater sectors. Important to the enhanced technical capacity will be alternatives analyses to expand green infrastructure options and their multiple benefits. Federal dollars provided through the State Revolving Funds will act as a catalyst for efficient system-wide planning and ongoing management of sustainable water infrastructure." This is an opportunity for targeted economic development areas to leverage innovative infrastructure solutions.[18] One of the new financing tools in place is through the Water Infrastructure Finance and Innovation Act (WIFIA). With $25 million in budget authority available through the two most recent continuing resolutions, EPA will be able to extend $1.5 billion in credit assistance for, "a wide array of water and wastewater projects, including repair, rehabilitation, and replacement of aging treatment plants and pipe systems and construction of new infrastructure for desalination, water recycling, and drought mitigation."[19]

Upcoming Infrastructure Initiatives of the Trump Administration: President Trump has focused on infrastructure as a policy priority. The White House released a fact sheet outlining the proposed infrastructure initiative. It states that: "the Nation's infrastructure needs to be rebuilt and modernized to create jobs, maintain America's competitiveness, and connect communities and people to more opportunities."[20] The first of four key principles is to "make targeted federal investments…that are a priority from the perspective or a region or the Nation, or projects that lead to long-term changes in how infrastructure is designed, built and maintained."[21] However, as is all too common with general infrastructure policies, there is no language proposed about how to achieve specific economic outcomes at the local or even national level. The rest of the principles illustrates that the focus is on shifting costs to state and local governments, reducing the bureaucracy around environmental reviews, and engaging private financing for infrastructure. Federal programs like TIGER and FASTLANE are expected to be reformed with the notices for funding availability (NOFAs) released later this summer. This will fundamentally shift the point where public infrastructure funding and economic development interests intersect.

The White House also has compiled a list of priority projects to be considered for federal funding, presumably to follow through on supporting nationally significant infrastructure improvements. APM Reports assembled a database of more than 500 projects totaling $500 billion that have been requested by governors, consultants, contractors, and unions. The database includes nine projects from Michigan with the following information attached: Soo Locks Modernization Project ($580 million); Brandon Road Lock and Dam; American Center for Mobility; Gordie Howe International Bridge ($4.5 billion); Blue Water Bridge Customs Plaza Expansion; M-1 Rail, Detroit ($528 million); Broadband Telecommunications; Fraser Sewer Line Reconstruction; and Lead Service Pipe Replacement. [22]

STATE

The State of Michigan's economic development programs largely exclude infrastructure improvements financed with public funds. None of the state-funded programs offered by the Michigan Economic Development Corporation (MEDC) provide dollars for infrastructure. MEDC does administer approximately $30 million per year from the federally-funded CDBG program for those Michigan municipalities under 50,000 in population which do not receive grants directly from the HUD. The CDBG program is described above. Here eligible projects include strengthening infrastructure in downtown areas and in support of new businesses and jobs although historically only a handful of projects each year fit into this category.[23] With the infrastructure program portfolio, the Michigan Department of Transportation

has an Office of Economic Development that manages the State Infrastructure Bank (SIB) and the Transportation Economic Development Fund (TEDF).

Michigan State Infrastructure Bank (MSIB): Michigan is one of more than thirty states that currently have a State Infrastructure Bank (SIB). The model was created by the 1995 National Highway System Designation Act which allowed states to use federal funds for capitalizing the banks, similar to existing revolving loan funds for water and wastewater. Under the federal guidelines, SIBs may offer low interest flexible term loans, debt service guarantees, lines of credit, and other capital financing support. The Michigan SIB is small and narrow with only a, "limited amount of money for low-interest loans for eligible transportation improvements—approximately $17 million."24 According to the MSIB program guidelines, "There is no minimum loan amount. Due to capital restrictions, SIB financing will generally not exceed $2 million. MDOT will work with applicants to identify other financing sources for larger projects. The level of SIB participation in proposed projects will be determined on a case-by-case basis."[25] A review published by Brookings show the MSIB provided financing of $43 million for 58 projects between 1995 and 2012. The most active SIB is California with $2 billion and thirteen states loaned more than $100 million.[26]

Transportation Economic Development Fund (TEDF): TEDF was created by Act 231 of 1987, "for the purposes of enhancing the state's ability to compete in an international economy, serving as a catalyst for the economic growth of this state, and to improve the quality of life in the rural and urban areas of this state."[27] In FY2016, existing carry-over funds were utilized to expand the funding pool to $108 million with the majority going to improve the rural all-season road and forest road systems.[28] The funds are able to be used for road improvements and reducing congestion where there is "a particular transportation need that is shown to exist" and there will be "an immediate positive impact on local employment and the economy." Targeted industries include: " Agriculture or food processing; Tourism; Forestry; High technology research; Manufacturing; Mining; Office centers of not less than 50,000 square feet; Medical research or medical tourism facilities of not less than 50,000 square feet."[29] In FY2017, with only current funds available, the total pool is less than $25 million and zero is available for targeted industries (Category A).[30] In fact, "Prior to the fifth FY 2016 application review, the FY 2017 state budget was passed, redirecting all Category A revenues ($19.8 million) to other uses. A total of $10.4 million was directed to the STF [State Transportation Fund] and over $9.4 million was directed to the General Fund."[31]

Additional Authorizations: Michigan, like other states also authorize the infrastructure and economic development programs that may be created at the metropolitan, county, city and other levels or authorities. Michigan makes available a local tax capture tool for downtown districts and these revenues may be used for infrastructure. Other local development authorities, including those for brownfield areas, have tax capture abilities and those funds may be used for infrastructure improvements. In general tax increment financing (TIF) programs have been scaled back in Michigan as impacted taxing districts can opt-out and the types of properties affected are limited, but they are a common tool in other states and in prior projects here for providing funding for infrastructure projects. A number of public documents outline the local development authorities in Michigan including a recent update from the Senate Fiscal Agency.[32]

Additional Examples:

Ohio State Infrastructure Bank (OSIB): The OSIB has the important advantage compared with the MSIB of being larger and having been capitalized with both state and federal funds: $40 million in state general fund, $10 million in motor fuel tax revenue, and $87 million in federal highway funds. The OSIB has a portfolio of: "highway, rail, transit, intermodal, and other transportation facilities and projects which

produce revenue to amortize debt while contributing to the connectivity of Ohio's transportation system and further the goals such as corridor completion, economic development, competitiveness in a global economy, and quality of life."[33] The OSIB has 107 open loans approved for over $340 million in capital.[34] This is an example of an expanded yet conventional state infrastructure bank that has leveraged private financing tools and completed a large number of projects.

California Infrastructure and Economic Development Bank (I-Bank): The most unique aspect of the I-Bank is not its scale, even though it has $32 billion in loans, but its broad authority to finance projects in multiple infrastructure areas even beyond transportation: city streets, county highways, and state highways; drainage and flood control; environmental mitigation measures; goods movement-related infrastructure; military infrastructure and defense conversion; parks and recreational facilities; port facilities; power and communications facilities; public safety facilities; public transit; schools, educational, cultural and social facilities; sewage collection and treatment; solid waste collection and disposal; water supply, treatment and distribution; and utility infrastructure for industrial development.[35] The I-Bank was created in 1994 with an appropriation from the state's general fund and then supplemented for a total today of over $180 million in holdings of public funds.[36] Apart from the unusual scale of the institution being in California, the I-Bank shows the value of an integrated approach to infrastructure development and financing.

New York State Brownfields Opportunity Areas Program: One of the New York State Department of Environmental Conservation's programs created by the Superfund and Brownfield reform in October 2003 provides local governments and nonprofit organizations with funding for revitalization plans and implementation strategies for areas or communities affected by the presence of brownfield sites, as well as funding for site assessments for strategic brownfield sites. A comprehensive assessment of the New York State Brownfields Opportunity Areas Program found a correlation between the planning, engagement, and investments of the program and the increased land values in the brownfield opportunity areas (BOAs). In fact, "BOAs that entered the Program in or before 2005 experienced land value increases that were over $7,000 per acre greater than non-BOAs between 2004 and 2014. BOAs that entered the Program later also outperformed non-BOAs over this period, but by a much smaller margin."37 This provides a model for a way to understand the area-wide characteristics of brownfield sites and to deploy funding. It is also an example of how to require broad citizen participation. Every brownfield and superfund project in New York State is required to have a participation plan that meets the requirements in the "Citizen Participation Handbook for Remedial Programs."[38]

METROPOLITAN, COUNTY & MUNICIPAL

In Michigan, local government units have access to a number of funding streams and tools for infrastructure including bonds, weight and gas tax revenues through Act 51, mileages, tax increment financing (TIF) and special assessments in addition to general funds. While recent restrictions and opt-outs on TIF districts are limiting available revenues, this remains one of the most viable means of dedicating funding to public infrastructure and controlling projects at the local level.[39] Moreover, local government officials, particularly county executives and mayors, are also positioned to provide leadership on infrastructure issues that require engagement with multiple public, private and nonprofit sectors. The challenge is to balance the ongoing maintenance and operation costs of infrastructure with the opportunity of developing expanded, redesigned and innovative infrastructure for the purposes of economic growth. Good planning and the need for multi-use and flexible tools are themes identified in the research for this Co-Learning Plan and are reflected the following best practices.

Examples:

Bay Area Metropolitan Transportation Commission, Transportation for Livable Communities (TLC): The TLC program awards grants for projects designed to enhance neighborhood and community quality. The structure of the TLC program encouraged local transportation and infrastructure planners to think and plan across urban systems rather than remain in their funding-determined silos, and resulted in huge improvements in community livability (as well as increases in property values) for not much money. The program promoted innovative and cross-disciplinary thinking.[40] This highlights the value of planning and cross-systems thinking.

Burlington Town Center: Burlington, VT is in the process of redesigning the town center with proposals for over $20 million in public street, stormwater and energy grid improvements along with approximately $250 million in private investments for mixed-use housing, office and retail space, parking, and alternative energy installations. This is an example of a comprehensive approach to infrastructure renewal that was coordinated by local elected leadership to overcome the inherent challenges in integrating multiple funding streams and government programs. The public infrastructure improvements will be paid for with tax increment financing which was approved by voters in 2016. One of the merits of the City of Burlington's approach was to keep the increased tax collections exclusively for public infrastructure. The commitment is for, "All of the streets and public improvements will be fully public, and owned and maintained by the City. No public funds will be utilized to fund any portion of the private development, and the City will not have any relationship to the private revenue generated by the project."[41]

ChattanoogaGig: Chattanooga, TN is providing all residential customers and businesses with a 1-Gigabit per second fiber network. This is the next generation in IT infrastructure to support business and entrepreneurial development as well as to provide smarter public, education and health services. The leading-edge system developed over more than 10 years starting with EPB, the region's public utility, commitment to a new fiber-to-home and smart grid initiative in 2006 with the unanimous support of the city council. The plans attracted over $100 million in federal investment in stimulus funds from the U.S. Department of Energy in 2009. University of Tennessee at Chattanooga Professor of Finance Bento Lobo found: "the fiber infrastructure has generated incremental economic and social benefits ranging from $865.3 million to $1.3 billion while additionally creating between 2,800 and 5,200 new jobs. We find that the realized benefits have exceeded the projected benefits by at least 27 percent and, possibly, by as much as 95 percent."42 As a digital infrastructure initiative, this illustrates both the opportunity for public leadership around utility and IT services and the substantial economic benefit that results from long-range investments.

Cincinnati Central Riverfront Redevelopment: Cincinnati, OH is completing a multi-faceted and mixed-use redevelopment of the near downtown riverfront area with approximately $130 million for infrastructure leveraging an additional more than $600 million in private investment. The central redevelopment will complete the larger revitalization initiated in the mid-1990s when Hamilton County voters approved a half-percent sales tax for forty years to partially fund the building of new riverfront stadiums for the NFL's Cincinnati Bengals and the MLB's Cincinnati Reds. The central partnership integrates federal, state, county and city infrastructure programs to support the corridor's flood control, public parks, parking, streets and landscape. The initial vision was adopted in public plan in 2000. Project leaders note, "planning is at the heart of a successful development project."[43] The other notable feature of the riverfront revitalization is the use of regional tax revenues. Like in Chattanooga where EPB is a regional energy utility, the base of countywide sales tax for the riverfront work and ongoing funding from Hamilton County for infrastructure and planning illustrates the power of regional collaboration.

INFRASTRUCTURE INVESTMENTS & TAX INCENTIVES

There is an ongoing debate about the value of providing, and the optimal purposes of, public funds for targeted economic development programs. Recognizing the relationship between robust infrastructure and sustained economic growth in general, what is the tradeoff between the costs of infrastructure investments programs and traditional tax incentives for economic development? And which comes first, the necessary infrastructure for economic activity or the economic growth that demands expanded infrastructure? The research for this Co-Learning Plan suggests that it varies based on geographic context and the economic conditions, which is an argument for a state offering a number of different tools in the development tool box. Michigan is an interesting case because the state is not providing adequate targeted infrastructure programs or significant tax incentives for businesses except now in the case of transformational brownfield redevelopment projects.

Michigan's tax incentive and tax credit programs for economic development were nearly eliminated in 2011. The state tax credits for redeveloping historic buildings, brownfield sites and abandoned properties were discarded. The tax incentives for businesses, like the Big Three, adding or retaining jobs, called the MEGA credits, were phased out. The Renaissance Zone programs were cut off from further renewal. Except for a few limited programs on manufacturing equipment and intermodal districts, Michigan shifted to providing general fund dollars to the Business Development Program and the Community Revitalization Program, both administered by the Michigan Economic Development Corporation, for performance-based grants to businesses.

BROWNFIELD REVITALIZATION

Michigan historically had been a leader in brownfield cleanup and revitalization, however the elimination of brownfield redevelopment tax credits in 2011 in favor of a lower overall tax climate had the affect of slowing down the rate of projects, many of which would have included public infrastructure improvements, not to mention economic benefits. Indeed, data from 2000-2007 showed that 500 brownfield projects brought in $2.5 billion in investment.[44] Now, a new package of bills has been signed into law creating a new tax incentive program that would capture a portion of property tax increment, sales, use and income taxes for developers of large brownfield sites with transformative projects. Under the legislation, in addition to the property tax increment capture available to conventional brownfield revitalizations, the equivalent of the income tax revenues generated by the construction costs of the project and up to 50 percent of the income tax revenues generated by those newly working and living within the development would be provided back to the initial developer and investors as an off-set against the higher costs of redeveloping contaminated and blighted sites. The approval process for the transformational brownfield plans (TBP) require the support of both the local government unit and the Michigan Strategic Fund..[45]

The standard advantages and disadvantages of this tax incentive are noted by the Michigan Senate Fiscal Agency: "The bills would increase State revenue over the long-term, assuming that the developments included in transformational brownfield plans (TBPs) would not have occurred in the absence of the bill and that development in a TBP did not shift economic activity from other locations in Michigan to the area of the TBP."[46] To the extent that businesses and workers are simply shifted from another Michigan location to the new subsidized location then the program is simply a shift from the public sector to the private one. The program is limited, however, to a maximum of $40 million per year being captured and reimbursed, and the cap on total disbursements is $1 billion. Only five transformational brownfield plans may be authorized each year in general with an additional five being available under a waiver criteria of

being subject to a drinking water emergency as in Flint or having received federal funds for blight elimination, a category of more than twenty Michigan municipalities and counties ranging from Ironwood to River Rouge and including the major population centers of Detroit, Grand Rapids, Lansing and Kalamazoo. The brownfield focus of the program does affect the economic patterns and may have additional benefits. Based on the EPA's brownfield projects nationally, it has been shown that brownfield revitalization reduces miles driven for workers, reduces stormwater management costs, and increases surrounding property values compared with new greenfield developments.[47]

The expanded tax incentive approach, while innovative, misses an opportunity to leverage the new tax revenues for public assets particularly infrastructure. Large brownfield sites, by definition, not only contain outdated transportation, utility and information technology infrastructure but they are often surrounded by similarly deteriorating roadways and water systems. Adding an incentive to use new tax revenues to pay for necessary on-site infrastructure would reduce development project costs while increasing directly the value of public assets. An additional component of improving adjacent infrastructure systems would broaden the benefits of the redevelopment. This was part of the rationale for the U.S. EPA Area Wide Brownfield Planning program, which was inspired by the New York State Brownfields Opportunity Areas Program.[48]

JOB GROWTH

The monetary caps on the size of community revitalization and business attraction incentives that have been offered by the Michigan Economic Development Corporation and the Michigan Strategic Fund since 2011 resulted in Michigan being unable to compete with the economic developments of other states. Ten million dollars in a performance-based grant does little against another state's offer of hundreds of millions of dollars in tax credits to encourage a large company to come to Michigan. With the passage of the "Good Jobs for Michigan" bills in June of 2017 with bipartisan legislative support, Michigan will be able to offer income tax capture incentives to up to 15 new businesses a year. The incentive period may be five or ten years and the rate of capture would be limited to 50%. The total incentive is capped at $250 million. Using the statewide average wage, the incentive for a new business works out to approximately $800 per employee per year. Therefore, a new business office with 500 employees would be eligible for a $4 million per year tax incentive, whereas a major industrial complex with 5,000 employees could be eligible for tens of millions per year. The program has a total lifetime cap of $250 million—which could be quickly reached if successful.

The new program was created with bipartisan support but there were detractors on both sides of the aisle as well because of the benefit being offered to private businesses. The "Good Jobs for Michigan" bill was derided by critics as, "poor public policy," "bad for taxpayers," "corporate welfare," and "crony capitalism."[49] The transfer of public dollars into private hands will always have ideological opposition, however the support for program may have broadened if provisions for public infrastructure investments were included, thereby ensuring the benefits of the new economic activity were more broadly shared. The policy discussions about economic development in Michigan need to shift towards an understanding of the multi-faceted nature of business growth and encompassing considerations of infrastructure, talent, and quality of life that go beyond conventional bottom-line calculations of tax burdens and labor costs.

EQUITY & SUSTAINABILITY

All infrastructure projects are not equal. As the Congressional Budget Office concluded in a review of public spending on transportation and water infrastructure between 1956 and 2014, "although, returns on individual infrastructure projects vary considerably, they are typically higher when infrastructure-spending decisions are based on the anticipated economic effects of proposed projects."[50] Further research suggests that the most efficient infrastructure investments with the largest payoffs are into existing public systems and that the greatest economic returns are in distressed areas with the highest rates of underinvestment.[51] These findings point to how factors of equity and sustainability around infrastructure projects affect the broader fiscal performance of public systems and socio-economic outcomes. Moreover, it has been recognized that more compact development patterns impose fewer infrastructure system costs in the long-run. A review of studies across diverse regions in the states of New Jersey and South Carolina and metropolitan assessments including Denver, Philadelphia, Kansas City, Albuquerque, and Minneapolis-St. Paul show an average savings of 20-40% for compact development versus the trajectory of continued sprawl.[52]

ACCESS TO OPPORTUNITY

There are many facets to equal opportunity in the 21st Century including access to broadband technology, transportation connections to employment, and basic protections of public health and clean water. Increasing funding for public infrastructure in economically distressed areas would have a positive affect of providing opportunity for under-served residents. This, in turn, generates a wider economic ripple effect especially compared with resurfacing streets in fair condition in corridors with more stable market conditions. This begins to answer the policy question about whether public dollars should be spent to attract a business in one community when excess infrastructure and under-utilized labor capacity exists in other communities. The public return to the state would likely be greater when investments are made into existing under-developed areas. In addition, investing more public dollars in infrastructure in places, instead of sending public tax dollars to private businesses as larger incentives, will create a more attractive environment for economic resilience and growth.

GREEN INFRASTRUCTURE

A similar result is hypothesized for investments in innovative and sustainable infrastructure systems from the information gathered for this Co-Learning Plan, although this will require further research and analysis. The future of infrastructure is blue and green, not grey but as the 21st Century Commission on Infrastructure noted in Michigan, "Currently, there are few funding and financing mechanisms to support green infrastructure."[53] The State of Michigan could implement a program along the lines of the U.S. Department of Energy's Energy Efficiency Savings program. For the federal program, green infrastructure can be integrated into project design to claim tax incentives and rebates. For example, in Eugene, Oregon, a new biofuel station built on an abandoned gas station site included a green roof, bioswales and rain gardens. Nearly $250,000 worth of tax credits reduced income and sales tax for the private company that built and operated the project. In addition to funding, Michigan should promote new voluntary data assessment tools such as the "Green Infrastructure Portfolio Standards" system designed on the leading-edge work in Grand Rapids and Milwaukee on sustainable stormwater management.[54]

NEW MICHIGAN MODEL

In addition to the increased base of funding that has been deemed necessary by every study of the state's infrastructure systems, Michigan needs a smart framework for investing in infrastructure and making a greater impact on economic development through public programs. In order for infrastructure to be reconstructed for the 21st Century economy, communities need strategic and predictable funding from federal and state governments, better communication around innovation and opportunities, and the authority, resources and capacity to implement solutions.[55] The framework needs to have four features: a) an integrated infrastructure systems planning partnership; b) an infrastructure bank with a diverse portfolio; c) a set of flexible tools for economic development; d) incentives to increase area wide equity and sustainability.

Integrated Infrastructure Systems Planning: One approach is to develop an infrastructure partnership modeled on the federal Sustainable Communities Partnership. One element of the federal Sustainable Communities Partnership was planning grants. This innovative program led by HUD and supported by a number of federal departments and agencies including DOT and EPA supports metropolitan and municipal planning efforts to integrate housing, land use, economic and workforce development, transportation, and infrastructure investments in a manner that addresses the interdependent challenges of economic competitiveness and revitalization, social equity, inclusion, and access to opportunity, energy use and climate change, and public health and environmental impact. The plans that resulted from the planning grants enhanced the impact of numerous existing federal and public resources. This is one way to increase the effectiveness of existing state infrastructure dollars. In Michigan, an interagency infrastructure partnership of state agencies that interface intentionally with regional, county, and municipal public units would be in the position to identify critical improvements, either systems that are failing or where there is an opportunity to encourage and support growth. A recent convening by the National Association of Development Organizations (NADO) Research Foundation report affirmed the value of collaborative planning in designing truly effective and sustainable development: *"Economic development…involves deliberate interventions to produce tangible benefits that are specific to the context, are sustained over time, and make a place more resilient.* By reducing costs for businesses and removing barriers to mobility for goods and people, transportation and economic development efforts can support a variety of economic sectors and root existing and future businesses more firmly within a region's economic network."[56]

Flexible Development Tools: The common denominator of successful economic development programs that have eligibility for infrastructure improvements is the flexible use of state funds. In Michigan, the tools are narrowly focused and have circumscribed funding. For instance, the federal CDBG program could be utilized for many more projects but the narrowness of the criteria and the lengthy approval timelines render it less effective. Likewise, the local development authorities in Michigan, which could use TIF and tax capture funds for infrastructure, have been subjected to new limitations with increased opt-outs and exemptions for various classes of property. The MEDC/MSF Community Revitalization Program funds site and adjacent improvements but is not a general public infrastructure program. TEDF dollars are limited to transportation systems. In response to the extraordinary need for funding for public infrastructure, it is recommended for Michigan's economic and community development programs to have broadened project expense eligibility to include a district's multiple public infrastructure systems. If an infrastructure council is created, as suggested by the 21st Century Infrastructure Commission, then the focus should be on funding regionally significant transformative infrastructure initiatives such as the Cincinnati Central Riverfront more so than simply data collection. Across the board, more state general fund economic development dollars should go into public infrastructure systems. Investments in publicly

owned assets are just as important as paying down public liabilities such as pension and other post employment benefits of employees.

Infrastructure Bank with a Diverse Portfolio: The recent 21st Century Infrastructure Commission reports cites the California I-Bank as a model for Michigan. The California I-Bank has streamlined processes and multiple different programs to draw from in order to finance the full array of infrastructure systems. Michigan's current conventional State Infrastructure Bank (SIB) and Transportation Economic Development Fund (TEDF) could form the nucleus of a Michigan Infrastructure and Economic Development Bank. With additional capitalization of $50 million from state general funds like was done in Ohio, Michigan would multiply the speed of the current investment rate by five-fold. In order to further diversify the bank, a Michigan Clean Water Trust Fund could be established under the umbrella. The American Public Works Association (APWA) has called for the creation of a federal Clean Water Trust Fund.[57] The intention is to create another funding mechanism for critical infrastructure. The funding would come from additional taxes on purchases of water appliances and plumbing fixtures or on potential new contaminant sources such as pharmaceuticals. The taxes are justified along the same rationale that former Treasury Secretary Summers and Governor Snyder have used to argue for higher gas taxes and vehicle registration fees: a modest cost imposed upfront actually saves consumers money. One of the challenges with any loan or credit-based program is the ability to repay. While every local infrastructure system has its own funding streams, from ongoing state and federal revenues or user fees, the ability to cover the costs of borrowing for larger or targeted economic development projects could be expanded if the authority was granted for tax increment financing to be broadened and used for repayment. Other revenue options could be offered to Michigan's units of governments such as local option sales taxes, local option fuel taxes, and local option motor vehicle registration fees—all of which are available in dozens of other states.[58]

Area Wide Equity and Sustainability: A comprehensive investment strategy should have elements that reinforce the positive impact on equity and economic growth of development and revitalization. The recent transformation brownfield program is a step in the right direction however the public infrastructure needs in and around such brownfields deserve more investment. Toward this end, an expanded Michigan infrastructure bank could set a goal of funding a high volume of projects in areas with under-developed, at-risk, and outdated existing infrastructure and provide financing for street repairs, utility improvements, and place-making amenities not only on-site but in the surrounding area as well. Another step in improving the existing tools to deal with community development would be to expand the definition of blight to include dysfunctional infrastructure, whether outdated or over-sized or a threat to public health. As the data from the EPA Brownfields program has shown in particular, and the economic analysis of infrastructure programs has shown in general, public investments in distressed and under-developed areas has the greatest return. At the same time, putting more public investments into infrastructure systems that are innovate and sustainable results in a greater long-term return and imposes lower maintenance costs, which is a goal of asset management. Most importantly, regional systems are required to efficiently connect workers to employment opportunities and residents to a range of educational, health, recreational and retail amenities. More compact development is more efficient in the long-run. Major investments are needed to create public transit systems across the state. The 21st Century Infrastructure Commission estimates that 16% of the total $40 billion investment gap in Michigan's transportation system is for multi-modal public transit.[59]

CONCLUSION

Poor infrastructure is a barrier to all economic development in Michigan. The disincentive in Michigan's economic development environment may be greater than the affect of the fragmented and uneven business tax system of a decade ago. A D rating from the American Society of Engineers is a weak foundation to build upon. The recommendations from the 21st Century Infrastructure Commission do not go far enough toward accomplishing the economic prosperity that is envisioned by Michiganders. Increasing user fees, maximizing federal funding, and more efficient project delivery will not fundamentally reverse either the state's economic trajectory or that of Michigan's distressed communities. At the same time, simply spending billions of dollars on upgrading infrastructure systems will not stimulate the next generation economy. Economic growth, sustainability and equity need to be central to Michigan's public infrastructure investment strategy. The fact is that we are already spending the money that could fix the roads, for instance, but we are buying tires and windshields that are damaged by the crumbling infrastructure instead of fixing the underlying system. Former U.S. Treasury Secretary Larry Summers made this point in a column for the Washington Post cites data on the cost savings to drivers for vehicle repairs when roads are in good condition and concludes that, "a gas tax to finance road repairs is about as close to a free lunch as we can ever get in economics."[60] There are numerous common-sense and evidence-based policy changes that would simultaneously strengthen public infrastructure, spur economic development, and make Michigan's communities healthier and more sustainable.

Policy Recommendation Summary

- Create an interagency infrastructure partnership of state agencies that interfaces with regional, county, and municipal public units;
- Broaden economic and community development project funding expense eligibility to include both a site and surrounding district's multiple public infrastructure systems;
- Establish an integrated Michigan Infrastructure and Economic Development Bank;
- Supplement Michigan's current conventional State Infrastructure Bank (SIB) with additional capitalization of $50 million from state general funds;
- Diversify the bank's funding sources with the initiation of a new Michigan Clean Water Trust Fund;
- Expand definition of blight to include properties with outdated and wrong-sized infrastructure;
- Invest in multi-modal transit systems to encourage greater access to opportunity and more compact development;
- Assign an economic development and sustainability analysis to all public infrastructure spending.

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