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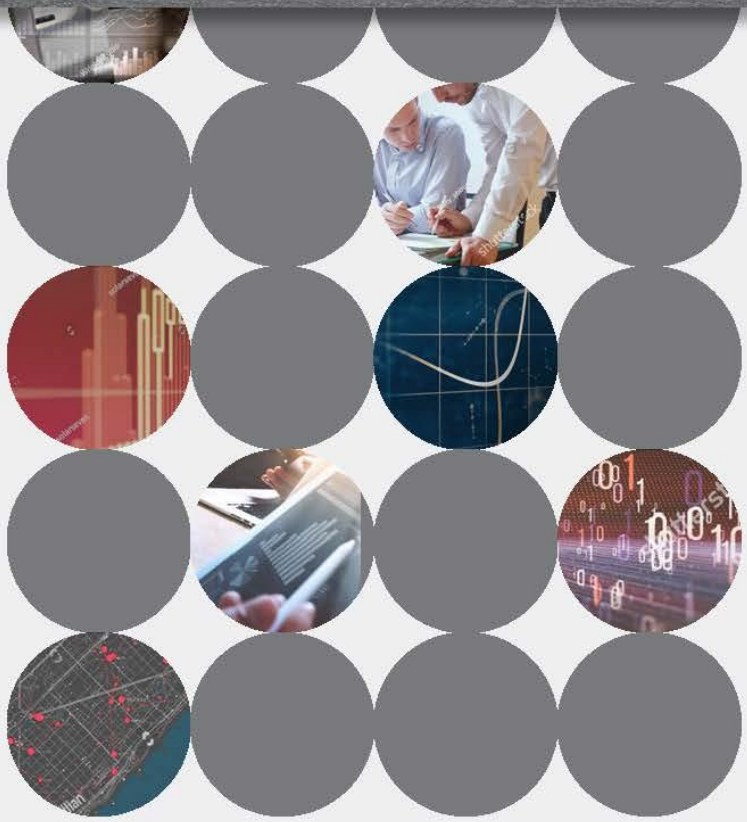

Land Recycling & Industrial Development

April 2022

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Introduction

Land recycling involves the reuse of abandoned, vacant, or underused properties for redevelopment. This report will focus on land recycling in an industrial context. Northeastern Pennsylvania has seen significant new investments in industrial developments, particularly in the logistics sector. While the region still has a supply of land ripe for industrial development in existing and planned business parks, continued growth of this sector is likely to increase costs of prime industrial land. Emphasizing the recycling of land already served by infrastructure rather than expanding business parks at the fringes of the urbanized areas is likely to have many benefits.

Background

Industrial Development Trends

Traditionally, the region's job centers have been clustered near its largest cities, like Hazleton, Scranton, and Wilkes-Barre, as well as areas of natural resource extraction. Under historical models of development, factories, warehouses, and freight facilities were relatively close to population centers. However, as highways and suburban development came into prominence after World War 2, industrial development also became less centralized to the urban core.

In Northeastern Pennsylvania, a large portion of industrial development has occurred in industrial and business parks located near highways. Major business parks exist in the Hazleton area, Mountain Top, Hanover Township, Pittston, West Scranton, Dunmore/Throop, and Jessup.

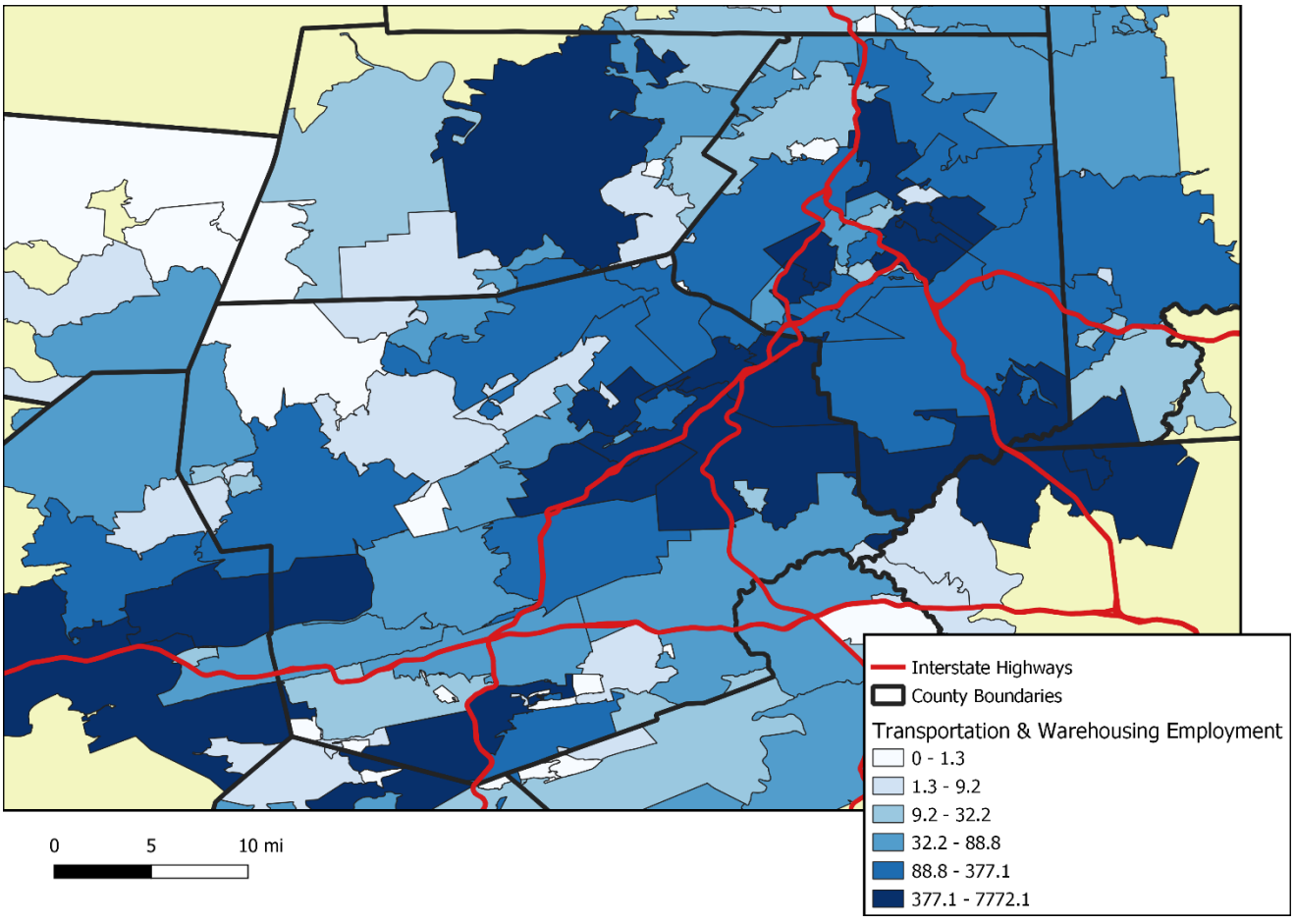
In recent years, development has occurred at a rapid pace, led by explosive growth of the logistics and distribution sector. Compared with ten years prior, total employment (as of the four quarters ending in the second quarter of 2021, when pandemic effects were still apparent) had fallen in both counties: a 2.2 percent drop in Luzerne County and a 6.2 percent decline in Lackawanna County. During the same time period, manufacturing and transportation and warehousing both outperformed the economy as a whole in both counties, including a six percent increase in Luzerne County.

Transportation and warehousing, which includes distribution centers, trucking companies, as well as other activities saw the fastest growth of any broad industry group. There was a 64 percent job growth in Luzerne over the previous decade, and a 22 percent increase in Lackawanna County. A narrower category, general warehousing and storage, which primarily includes warehouses and distribution centers, showed ten-year employment increases of 105 percent and 90.6 percent in Luzerne and Lackawanna, respectively.

10 Year Industrial Development Trends in Northeastern Pennsylvania						
	Lackawanna County		Luzerne County		PA	USA
Industry	Current Employment*	10 Year % Employment Change	Current Employment*	10 Year % Employment Change	10 Year % Employment Change	10 Year % Employment Change
Total - All Industries	95,114	-6.2%	141,989	-2.2%	0.2%	9.2%
Manufacturing	9,676	-0.3%	15,703	5.9%	-4.7%	4.1%
Transportation and Warehousing	5,876	22.1%	18,531	64.0%	23.4%	34.9%
General Warehousing and Storage	2,186	90.6%	12,217	105.0%	76.3%	163.3%
** Current employment is average for 4 quarters ending Q2 2021. Data Source: JobsEQ*						

The map below shows average employment levels in the transportation and warehousing industry group, the fastest growing sector in the region. This industry is not evenly distributed across the region – the largest clusters coincide with the business parks mentioned above, as well as along Interstate highway corridors.

Transportation and Warehousing Employment, by ZIP Code Tabulation Area



Data Source: JobsEQ

The COVID-19 pandemic has not appeared to cause a significant change in these trends. If anything, the pandemic may have accelerated the growth of ecommerce, which drives much of the development of distribution centers partially or totally dedicated to fulfillment of online orders. A 2021 United Nations report found that during the lockdown phases of the pandemic, the digital share of global retail trade grew from 14 percent in 2019 to about 17 percent. The report also predicted that this global shift was likely to continue throughout the recovery from COVID-19.[1] The International Trade Administration has also forecast a continued growth in the online share of retail sales from 18 percent in 2020 to nearly 22 percent in 2024.[2]

Thus, it appears likely that many firms will need to continue to expand their distribution capacity. Demand is already strong in virtually all markets in the United States for warehouse space from both large retailers and third-party logistics providers (3PLs). In the fourth quarter of 2020, 104 million square feet of industrial space were absorbed during the fourth quarter of 2020[3], accelerating again in 2021 to 586.7 million square feet in the first half of the year. CBRE, a commercial real estate services firm, predicts that "rising transportation costs will continue to drive industrial demand for the foreseeable future, leading to continued rental rate growth, strong leasing volume and low vacancies."[4]

Demand can be expected to be highest in markets well served by seaports, airports, freight rail, and interstate highways.[5] Lackawanna and Luzerne Counties are well-served in several of these areas, especially a highly advantageous position near Interstates 80 and 81. The region is also within several hours drive to some of the most important ports along the eastern seaboard, and offers land and labor costs lower than the markets where those ports are located.

Supply of Open Space

Based on a property search covering several counties in the Northeastern part of Pennsylvania, there appear to be over 150 lots of 1 acre or more with industrial, manufacturing, or warehouse zoning.[6] However, some of these properties may not be suitable for large distribution centers and some are not located adjacent to interstate highways. Nonetheless, there are a significant number of sites being marketed for development in many of the region's business parks. Recent expansions have occurred in business parks throughout the region, with opportunities for further expansion planned.

Foundational to the region's industrial development has been available and cost-effective open space for development. As development continues, the supply of prime land for development will eventually be further constrained, and market forces can be expected to push development activity to less favorable land: areas further from interstate access or unserved by existing infrastructure.

Supply of land suitable for large-scale industrial development along Interstate highway corridors is ultimately limited – new land cannot be created, and the interstate system and physical constraints like steep slopes and waterways are fixed. Given a continuation of current development trends, prime

available land will increase in cost and some development may be pushed further from highways and population centers, resulting in costs associated with new infrastructure and loss of open space.

Multi-story warehouses, which are more space efficient, are being used in some markets like Seattle where developable land is scarce and prices are high. However, this may not be cost effective outside the largest and most expensive metro areas. Thus, the most clear path to provide for economic development while limiting urban sprawl and loss of open space is by redeveloping underutilized land already served by infrastructure, a practice broadly called land recycling.

Alternative Approaches to Greenfield Development

Land recycling involves the reuse of abandoned, vacant, or underused properties for redevelopment. When land that has already been used is returned to productive use, communities involved reap many benefits. Developers can also see significant cost savings, especially when open space for development in a given market has become scarce. A related concept is infill development, which refers to development on vacant or underutilized properties in already urbanized areas which make use of existing infrastructure.[7] Land recycling can be contrasted with greenfield development. Greenfields refer to sites that have not previously been developed for residential, commercial, or industrial use. Greenfields are typically located at the edges of the urbanized part of a region, and may include fields, forests, or agricultural lands. Greenfield development typically necessitates the construction of new infrastructure and is associated with urban sprawl.

One particular type of land recycling is brownfield redevelopment. Brownfields, as defined by the U.S. EPA, is a property where redevelopment "may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[8] Brownfields often include former industrial sites and abandoned mine lands. The nature and extent of remediation needed to make a brownfield site suitable for redevelopment varies greatly.

Benefits of Land Recycling

Public Services

By focusing development activity where existing infrastructure exists, the private and public costs to build and maintain these systems is reduced significantly. Land recycling allows for reduced sprawl, reusing and maximizing the efficiency of existing infrastructure. Both public agencies that build infrastructure like roads and bridges and private sector players like business park developers and utility providers can gain from this added efficiency. [9]

Infrastructure costs include ongoing maintenance as well as initial construction. As a result, overbuilding infrastructure can result in long-term fiscal challenges. When communities promote sprawling development patterns, they often fail to account for the long term costs to maintain exponentially growing infrastructure systems.[10]

Transportation & Commuting

In its previous research, The Institute's Planning, Land Use, Transportation, and Utilities Task Force has examined the transportation impacts of the growing logistics industry in Northeastern Pennsylvania. In a 2019 report on commuting patterns for major employment centers, The Institute's analysis found that census tracts containing major business parks were served by mass transit, but no more than 25 percent of employees in those tracts lived in census tracts served by the bus routes serving that tract, before accounting for those who may live near bus routes but who cannot commute by bus because their work hours do not align with transit schedules.[11] A follow up study in 2020 recommended planning new business parks to be synergistic with mass transit and residential areas, reversing past models of economic decentralization.[12]

Further industrial development at the edges of the urbanized portion of the region could reduce the already small portion of workers who can feasibly use public transit to get to work, reducing the available workforce in labor market conditions which are already tight.

Sustainability & Conservation

Land recycling is inherently sustainable, as it involves the reuse of existing resources rather than depletion of open space. By encouraging redevelopment rather than excessive consumption of greenfields, these land resources can be retained for the use of future generations and natural resources like forests and wetlands are conserved. According to the Center for Creative Land Recycling, every acre of redeveloped brownfield can result in the conservation of 4.5 acres of undeveloped land.

The utilization of existing public service infrastructure, described above, also has sustainability benefits. Building near the urban core of the region reduces vehicle miles traveled, thereby reducing greenhouse gas emissions, and mitigates the environmental and climate impacts of the construction of new infrastructure.

Livability & Social Benefits

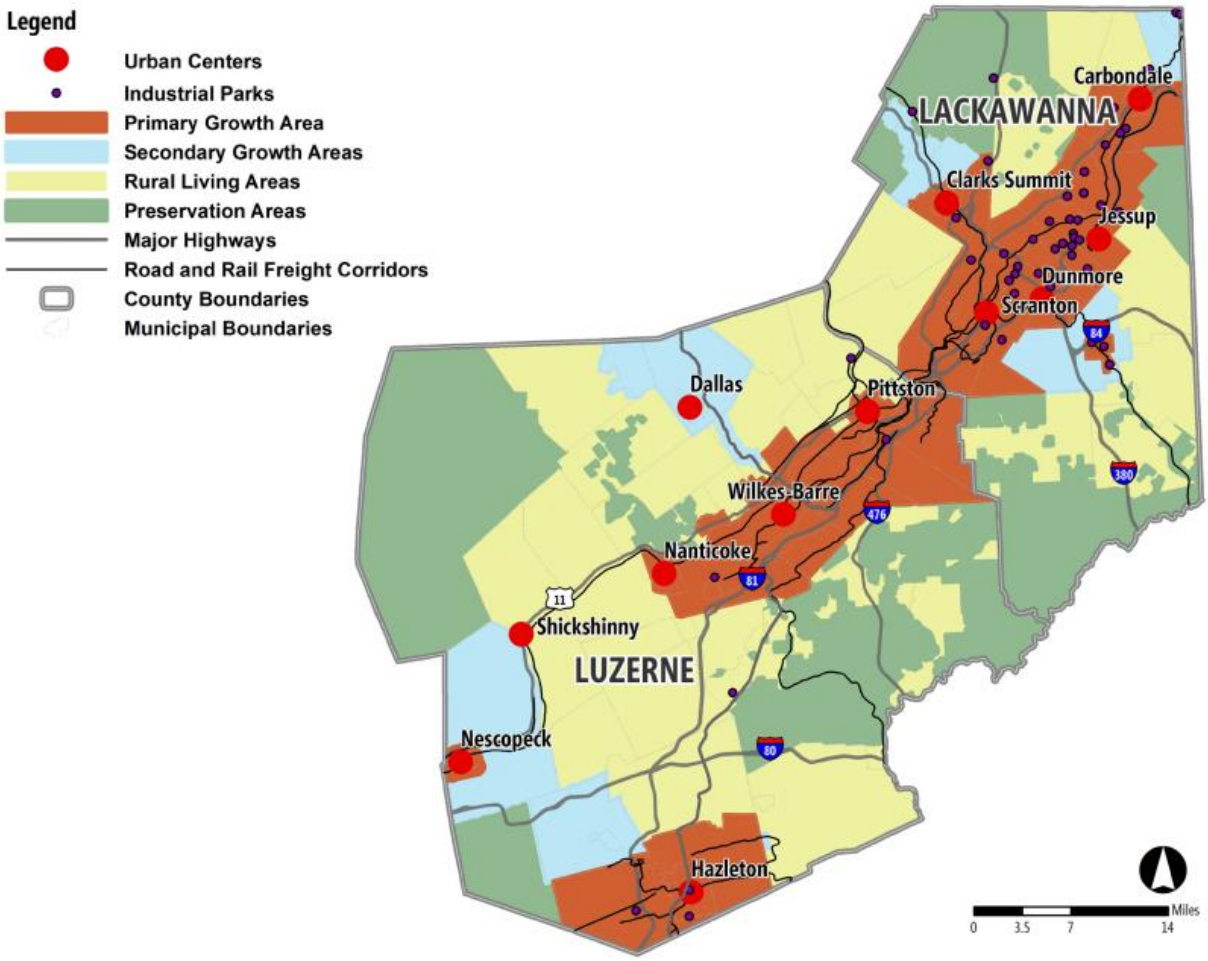
According to the Center for Creative Land Recycling, focusing new development in existing urbanized areas "positively increases population density, providing the critical mass to support local services from coffee shops to grocery stores, public transit to libraries and symphony halls." This can result in more vibrant neighborhoods, increased walkability, and improved quality of life.

Furthermore, brownfield sites can be seen as eyesores or as a sign of blight. Renewing these sites, especially those in historically underinvested areas, can stimulate new investment, positively change perceptions of an area, and serve as a symbol for regional revitalization.

Consistency with Bi-County Comprehensive Plan

Land recycling for industrial development is consistent with the Lackawanna and Luzerne County Comprehensive Plan adopted by both counties in 2021. The plan states that future growth and development should be prioritized in primary growth areas due to their existing infrastructure and ability to accommodate new development.

Future Land Use – 2021 Bi-County Comprehensive Plan



Graphic Source: 2021 Lackawanna-Luzerne County Joint Comprehensive Plan

A strategy to manage growth identified in the plan is centering new development around existing infrastructure, including:[13]

- Capitalize on the region's core infrastructure and service areas by creating development incentives
- Establish revitalization efforts that focus on property rehabilitation, infill development, and conversion of existing spaces to new uses
- Concentrate revitalization efforts near or on transportation corridors with existing or planned transit options

The principles of land recycling are consistent with several other policies, goals, and strategies in the comprehensive plan, including retaining the region's natural areas and limited future encroachments by development.

Barriers to Redevelopment

While there are advantages in encouraging industrial redevelopment of brownfields, there are also likely to be challenges not present in greenfield development. In some cases, acquisition of properties may be complicated when there are liens on a property, if the property owner cannot be found, or if ownership of the site is unclear. Property tax liabilities may also be a factor for abandoned properties.

While site work is part of any industrial development, even straightforward redevelopments may include demolition of existing structures on the property or removal of debris. More extensive remediation may also be required as soil and groundwater contamination are common on abandoned industrial properties.

Several designations exist for sites in need of environmental cleanup to be returned to productive use. Six Lackawanna County sites were listed in Pennsylvania DEP's Hazardous Sites Cleanup Act (HSCA). Five additional Lackawanna County sites are listed under the federal CERCLA program – the Comprehensive Environmental Response, Compensation, and Liability Act (commonly known as Superfund). Luzerne County had 16 HSCA sites and six federal Superfund sites as of early 2021.

Environmental Cleanup Sites by Program				
	Lackawanna		Luzerne	
	HSCA	Superfund	HSCA	Superfund
2018	6	5	15	6
2019	6	5	15	4
2020	6	5	16	6
2021	6	5	16	6
Source: PA Department of Environmental Protection				

Abandoned mine lands (AMLs) are a particular type of brownfield that pose special challenges. There are AMLs in 43 of the Commonwealth's 67 counties, but Luzerne and Lackawanna Counties together are home to seven percent of the state's 5,617 abandoned mine lands, with a total of 412 between the two counties. As of the most recent report in 2013, there were 165 sites in Lackawanna County and 247 in Luzerne County. Work has been underway on reclaiming these sites in locations such as Hanover Township, Luzerne County.

The Abandoned Mine Land Reclamation Economic Revitalization (AMLER) Program provides funds to each of the three Appalachian state AML programs, including Pennsylvania. The funds are used for the reclamation of AML in conjunction with economic and community development and reuse goals. The sites could be former mines, coal refuse areas, areas with acid mine drainage, and more. Since 2016, Lackawanna County has had four projects funded through the program and Luzerne County has had eight.

AML Revitalization (AMLER) Project Locations					
	2016	2017	2018	2019	2020
Lackawanna	1	2	1	0	0
Luzerne	1	4	1	0	2
Pennsylvania	14	13	15	11	13

Source: OSMRE and PA Department of Environmental Protection

While there are numerous former industrial and mining sites in Northeastern Pennsylvania, each has its own mitigation needs. Specific barriers and costs will vary greatly, so individual projects need a customized feasibility analysis to determine if it is an appropriate candidate for redevelopment for industrial uses.

Examples & Best Practices

There are several examples of successful or ongoing land recycling efforts in and around Northeastern Pennsylvania. One such example is the former Poseidon Pools manufacturing site, located in the Crestwood Industrial Park in Mountain Top. The Greater Wilkes-Barre Industrial Fund owned the property since the company went bankrupt and cleared the site in 2010. In early 2022, the property was transferred to a private developer who plans to construct two industrial buildings on the site, returning a former manufacturing facility in an existing business park to productive use.[14]

The former site of Bethlehem Steel, a sprawling site that was once the United States' largest privately owned brownfield site, has also been redeveloped to new industrial and logistics uses. Site challenges included buried building foundations, abandoned infrastructure, and contaminated soil and groundwater. Large portions of the 1,000 acre site were redeveloped as Lehigh Valley Industrial Park VII. As of 2018, there were 24 tenants in the industrial park, including US Cold Storage, DHL, QVC, Lowes, and Wal-Mart and new infrastructure was being built on the site to open additional space for future development. The revitalization of the former steel site, including the preservation of certain buildings and structures, also serves as a point of education and interpretation of industrial heritage and a symbol of the revitalization of a formerly dilapidated area.[15]

The former New Jersey Zinc Company's west site in Palmerton, Pennsylvania, is another example of a brownfield undergoing redevelopment. The 140 acre brownfield served by water, sewer, and natural gas services as well as freight rail, had been disused since 1989 and was part of the federal Superfund program. The site was purchased by a private development company who has performed remediation on the site in preparation for the development of four warehouse buildings totaling over 2 million square feet. When the development company took ownership of the property, local taxing bodies forgave back taxes on the property.[16] [17]

Another future area for redevelopment opportunities may lie in "greyfields." These types of properties differ from brownfields in that they need less extensive remediation. Rather than former industrial or mining lands, greyfields have often had commercial uses. Particularly notable are aging suburban office buildings that have been outclassed by newer developments or underperforming malls, shopping

centers, or big box stores affected negatively by market changes. In some cases, rezoning may be required in order to pursue redevelopment for light industrial or logistics uses. One example of a greyfield redevelopment is the former Schuylkill Mall site in Frackville, Schuylkill County. A developer purchased an underperforming indoor shopping mall in bankruptcy and reused the site for several warehouses. The site's location with easy access to Interstate 81 was likely a factor in this redevelopment.

Conclusions & Recommendations

The region is continuing to experience rapid industrial development, especially due to the growth of logistics and distribution along Interstate corridors. As existing and already planned business parks become fully built out, planners and economic development officials should work to guide development towards redevelopment opportunities rather than open space greenfield development. These practices have economic, social, and environmental benefits and are consistent with the Lackawanna & Luzerne County Joint Comprehensive Plan.

Local opportunities will likely include sites in several broad categories:

Vacant industrial sites in existing industrial parks, such as the Poseidon Pools case citied above. Established industrial parks may occasionally have obsolete or abandoned facilities when former industrial tenants cease operations. Some degree of site work will likely be necessary, but in many cases these projects can be the most approachable opportunities for redevelopment since the surrounding area is still supporting industrial uses.

Abandoned mine lands, including former mines, coal processing facilities, or coal refuse disposal sites. Suitability for industrial redevelopment varies, as different degrees of site work will be needed depending on the nature of the mining activity on the site and the location. Abandoned mine lands in Northeastern Pennsylvania may not always be in locations near highway infrastructure. Special sources of funds for mine land reclamation may be available to projects that qualify.

Greyfield properties, including abandoned, underutilized, or obsolete shopping centers or office complexes. Sizes of greyfield sites vary and some may not accommodate the largest warehouses. The best opportunities are likely to be sites with the best highway access rather than those served only by urban streets or arterial roads that do not have the capacity for the truck traffic generated by industrial uses. Rezoning may be required in some cases.

Vacant industrial buildings near urban centers. These types of sites include an older class of vacant industrial buildings, such as factories, mills, warehouses, and multistory buildings. Industries that matured before World War 2 were typically sited much closer to the region's urban core, in or near cities or established towns. These sites may also have cultural/heritage value. Industrial reuse, especially for logistics, may be difficult as these sites may be inconsistent with modern land uses in their neighborhoods, too small for modern distribution centers, or lack highway access. In most cases, non-

industrial uses may be more appropriate when considering redevelopment, though exceptions may exist.

Multi-Stakeholder Recommendations

Economic development officials, Chambers of Commerce, planners, and private developers should work together whenever possible to identify sites for redevelopment and match them with outside funding for remediation where possible. In many cases, this local economic development ecosystem is already involved in identifying and preparing sites for redevelopment. Creating a region-wide database of redevelopment locations could help to bridge gaps between economic development entities and developers.

Creation of a multi-stakeholder initiative could help to streamline these efforts. The Lehigh Valley Land Recycling Initiative is a regional model in Lehigh and Northampton Counties that brings stakeholders together on an advisory committee. Members include local government representatives, redevelopment experts, regulatory agencies, developers, and engineers. This initiative is housed within Lehigh Valley Economic Development Corporation, a regional economic development organization.[18]

Replication of such an initiative in Northeastern Pennsylvania could include the Chambers of Commerce in each urban area, regional players such as NEPA Alliance and Penn's Northeast, local representatives from DEP and PENNDOT, key developers and property owners, and county or municipal planners. The planning phase of such a replication should also include formulation of a clear mission and identification of appropriate measures of success.

Potential funding sources include:

- The Pennsylvania Department of Environmental Protection (DEP) administers a statewide Land Recycling Program (Act 2). This program encourages voluntary cleanup of contaminated sites through uniformity standards for cleanup, liability relief for property owners, standardized reviews and time limits, and financial assistance through grants and low interest loans. Financial assistance can cover both
- The state/federal partnership Superfund program, in conjunction with DEP's Hazardous Sites Cleanup Program, provides funding for cleanup of listed sites where hazardous substances have been released. According to DEP, most of these sites involve facilities with bankrupt owners, abandoned facilities, and facilities where hazardous materials have been improperly disposed.
- Abandoned Mine Land Economic Revitalization (AMLER) Program, formerly the AML Pilot Program, a federally funded program administered by DEP and Federal Office of Surface Mine Reclamation and Enforcement (OSMRE). For each year funds have been available, projects throughout Pennsylvania have been funded for activities like stream restoration, surface mine reclamation, and coal refuse pile reclamation to make abandoned mine lands suitable for new development.
- Sources of infrastructure funding made available through the Bipartisan Infrastructure Law passed in 2021

Given the potential that redevelopment will play a growing role in regions like Northeastern Pennsylvania as the supply of vacant greenfields suitable for industrial development is gradually reduced, state and federal lawmakers should ensure that programs like these received continued funding. This is necessary to ensure that suitable development opportunities exist for Northeastern Pennsylvania to remain economically competitive.

Local Government Recommendations

Local governing bodies should also be involved in the identification of sites suitable for redevelopment. Municipalities can further incentivize development on those targeted sites. Both the identification of redevelopment sites and principles to guide redevelopment at these sites should also be included in the municipal comprehensive planning process.

Local government can also support with financing tools such as LERTA (Local Economic Revitalization Tax Assistance, a tax abatement program) and attempt to reach mutually beneficial agreements with developers on issues such as back taxes and any new infrastructure that may be required to redevelop the site.

Endnotes

[1] Shamika N. Sirimanne, *COVID-19 an e-commerce: a global review* (United Nations Conference on Trade and Development, 2021)
[2] *Impact of COVID Pandemic on eCommerce* (International Trade Administration, 2021)
[3] Bill Mongelluzzo, *Record US warehousing demand to continue through 2021* (Journal of Commerce, 2021)
[4] *U.S. Industrial MarketFlash: Rising Transportation Costs Help Fuel Record Warehouse Leasing Pace* (CBRE, 2021)
[5] Bill Mongelluzzo, *Record US warehousing demand to continue through 2021* (Journal of Commerce, 2021)
[6] (Penn's Northeast Property Search, 2022)
[7] *Land Recyling 101* (Center for Creative Land Recycling, 2021)
[8] Ibid.
[9] Ibid.
[10] *Strong Towns 101* (Strong Towns Academy, 2022)
[11] *Getting to Work in NEPA: An Analysis of Transit Access to Selected Employment Centers* (The Institute, 2019)
[12] *The Impact of Transportation in the Logistics Industry* (The Institute, 2020)
[13] (Lackawanna-Luzerne Counties Joint Comprehensive Plan & Long Range Transportation Plan, 2021)
[14] Denise Allabaugh, *Mericle to construct two buildings in Crestwood Industrial Park* (Standard Speaker, 2022)
[15] *Fact Sheet: Bethlehem Steel/Lehigh Valley Industrial Park* (PA DEP, 2018)
[16] Jennifer Troxell Woodward, *Business park sought in Palmerton* (Lehigh Valley Business, 2014)
[17] Jarrad Hedes, *Northface wants to build warehouses* (Times News, 2021)
[18] *Redevelopment of Brownfields* (Lehigh Valley Economic Development)

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