

Valuing Burke Lakefront Airport

Economic and Fiscal Impact Analysis

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Submitted to the City of Cleveland



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Executive Summary

Econsult Solutions, Inc. in collaboration with The Riddle Company and Robert P. Madison have completed an economic impact analysis of Burke Lakefront Airport (BKL) located adjacent to Lake Erie in Cleveland, Ohio. The primary goal of this study is to quantify the economic and fiscal impacts of BKL and compare them with the potential impacts of two development scenarios of the BKL site should the airport be closed and one scenario in which the airport remains open. This study does not recommend which scenario should be pursued.

Economic Impacts of BKL

The economic impact of airports extends far beyond their immediate operations. Currently, approximately \$76.6 million of direct economic activity takes place at BKL annually. This activity includes airport operations, private passenger service, medical transport, flight training, and non-aviation related activity that uses the BKL for office space.

The majority of this economic activity can transfer to other locations in the City of Cleveland or Cuyahoga County and would remain in the market if the airport were to close. We estimate that \$45.1 million of economic activity would remain in the City of Cleveland and \$67.0 million would remain in Cuyahoga County. Accordingly, \$31.5 million of economic activity would not remain in the City of Cleveland, and \$9.6 million would not remain in Cuyahoga County. These are *de minimis* amounts compared to the overall economy of the City of Cleveland.

The proximity of other airports to BKL and the high percentage of non-airport related businesses at BKL are why there is relatively low true loss of economic activity. Cleveland Hopkins International Airport (CLE) and Cuyahoga County Airport (CGF) could absorb most of BKL's airport-related activities, including private passenger service, medical transport, or flight training, which make up more than 50 percent of BKL's economic impact. Non-airport-related businesses make up slightly less than 40 percent of economic activity at BKL, and could relocate nearby, as they do not need to be at an airport.

Approximately one third of the true economic loss of closing BKL is due to the expected cessation of the Cleveland National Air Show, which cannot transfer to any airport in the County in its current form. The balance of the economic loss is the result of airport-related activities that may not transfer to other airports.

Figure ES.1: Estimated Annual Direct Economic Impacts to the City and the County by Activity Type

Type of Activity	Direct Impact – City of Cleveland (\$M)			Direct Full-Time-Equivalent Jobs in City of Cleveland		
	Existing	Retained	Loss	Existing	Retained	Loss
Airport Operations*	\$2.8	n/a	n/a	20	n/a	n/a
Airport Support Services	\$4.4	\$1.1	\$3.3	21	5	16
Airport Related- Not Transferable	\$3.7	\$0.3	\$3.4	31	8	23
Airport Related-Transferable	\$40.0	\$18.0	\$22.0	161	73	89
Non-airport Related	\$28.5	\$25.7	\$2.9	74	66	7
Total Direct Impact	\$76.6	\$45.1	\$31.5	287	152	135

Type of Activity	Direct Impact – Cuyahoga County (\$M)			Direct Full-Time-Equivalent Jobs in Cuyahoga County		
	Existing	Retained	Loss	Existing	Retained	Loss
Airport Operations*	\$2.8	n/a	n/a	20	n/a	n/a
Airport Support Services	\$4.4	\$2.2	\$2.2	21	10	11
Airport Related- Not Transferable	\$3.7	\$0.3	\$3.4	31	8	23
Airport Related-Transferable	\$40.0	\$36.0	\$4.0	161	146	15
Non-airport Related	\$28.5	\$28.5	\$0.0	74	74	0
Total Direct Impact	\$76.6	\$67.0	\$9.6	287	238	49

*Not included in total

Source: City of Cleveland, ESI, IMPLAN, 2023. Numbers may not sum due to rounding.

Development Scenarios

To understand the potential competitive position of the BKL site the project team evaluated three alternative scenarios for the BKL site: a minimal development scenario, which includes recreation facilities and open space, a maximum development scenario, which includes a mixed-used development with open space, and a hybrid development scenario in which the airport remains open, but a hotel is built on the south-west corner of the site. The project team engaged in extensive consultation with key stakeholders, including members of the City administration, airport leadership, representatives from local economic development organizations, developers, Metroparks, and the Cuyahoga Cleveland Port Authority to develop the scenarios. Each scenario incorporates economic development strategy, business development, and placemaking considerations.

Figure ES.2 shows the estimated direct economic impact for BKL and each of these scenarios, in addition to the retained economic impacts if BKL were closed.

Figure ES.2: Estimated Direct Annual Economic Impacts to the City of Cleveland by Development Scenarios

Scenario	Direct Impact (\$M)			Direct FTE Jobs		
	Base Impact	Retained Impact after BKL Closure	Base + Retained Impact	Base Impact	Retained Impact after BKL Closure	Base + Retained Impact
BKL Airport (Current)*	\$76.6	-	\$76.6	287	-	287
Minimal Development	\$3.0	\$45.1	\$48.1	39	152	191
Maximum Development	\$46.9	\$45.1	\$92.0	254	152	406
Hybrid Development**	\$83.1	-	\$83.1	333	-	333

* BKL Airport (Current) excludes economic impacts from airport operations.
** Hybrid development includes BKL Airport (Current) Impacts.

Source: City of Cleveland, ESI, IMPLAN, 2023.

The closure of BKL would permit investment that would ultimately have greater economic activity than currently occurring at the airport.

Fiscal Impacts

BKL generates approximately \$508,000 in revenue annually to the City of Cleveland’s General Fund through income and parking taxes. Approximately \$257,000 will be retained for the General Fund if BKL is closed. At the same time, upon closure, the Cleveland Airport System will save approximately \$1,200,000 million through not paying for operations at BKL.

Compared with the closure, all alternative scenarios evaluated in the report show positive fiscal impact to the City, with the maximum development scenario the most significant.

Figure ES.3: Estimated Annual Fiscal Impacts to the City of Cleveland by Development Scenarios

Scenario	General Fund			Enterprise Fund
	Base Revenue from BKL site	Retained Revenue after BKL Closure	Base + Retained Revenue	Airport Expenditure
BKL Airport (Current)	\$508,000	Remains open	\$508,000	(\$1,200,000)
Minimal Development	\$160,000	\$257,000	\$417,000	\$0
Maximum Development	\$3,321,000	\$257,000	\$3,578,000	\$0
Hybrid Development	\$700,000	Remains open	\$700,000	(\$1,200,000)

Notes:

Parking tax rate is 8 percent. All parking taxes are estimated based on existing parking usage and fee regulations. The per parking space cost per year is estimated to be \$831.70 for this analysis (as a spread to total parking space). These may vary with changes in regulations.

The income tax rate is 2.5 percent and applied to direct wages of individuals to estimate the income tax for each future development scenario.

Property tax rate for commercial properties is 3.49 percent based on 2023 rate.

Hotel tax rate is 3 percent.

Conclusion

Ultimately, the decision to retain or close BKL does not have major economic consequences for Cleveland, assuming nearby airports can be adapted to absorb current activity at BKL. The medium-term economic upside to closing BKL is modest and the development of the BKL site presents several challenges, including unique subsurface conditions and bureaucratic requirements, which are important, but not the subject of this report.

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1. Introduction

1.0. Assignment

Cleveland, like many postindustrial cities located on the water, is rethinking the role and use of its waterfront, including evaluating the short and long-term potential of sites located along the waterfront. Burke Lakefront Airport (BKL) encompasses approximately 245 acres on the Lake Erie waterfront. The proximity of its location to the Browns Stadium, the Rock & Roll Hall of Fame, the Great Lakes Science Center, and Downtown Cleveland, contributes to its value as an asset to Cleveland both in its current and potential use.

The City seeks to understand the economic value of the BKL site in its current configuration and how this property might benefit the City if developed differently.

This study—an analysis intended to quantify the current and potential economic impact of the airport and the BKL site—is a single, but critical, step in an ongoing visioning and planning process. The City has undertaken several other studies over the years including the Master Plan for Cleveland’s North Coast, which is almost complete.

This study examines and estimates:

- The current economic and fiscal impacts of BKL
- The economic and fiscal impacts that would be lost if BKL were closed
- The economic and fiscal impacts of three alternative development scenarios for the BKL site

The three alternative scenarios for the BKL site are:

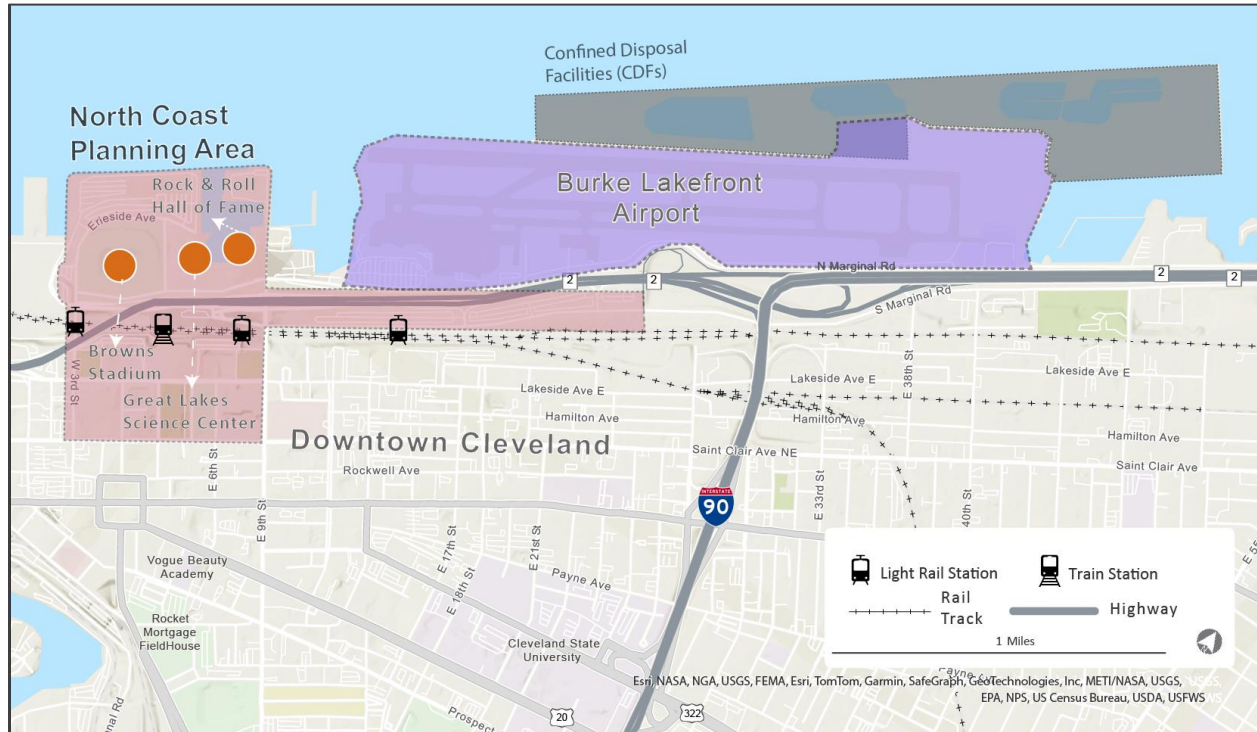
1. **Minimal Development:** The minimal development scenario includes a 170-acre green space, a mix of playing fields, tennis courts, and waterfront activities, as well as a 145,000-square-foot indoor athletic complex.
2. **Maximum Development:** The maximum development scenario includes 1,200 multifamily housing units, 100,000 square feet of retail space, and a 100-room boutique hotel. This combination of uses is intended to create a vibrant, mixed-use environment that aligns with market demand and urban planning objectives. This scenario also allows for the completion of the 170-acre green space included in the minimal development scenario.
3. **Hybrid Development:** This option assumes that operations at the airport will continue, but with the development of a 100-room hotel on the southwest corner of the site.

This analysis does *not* incorporate the potential environmental remediation costs, regulatory requirements, or construction costs associated with closure and redevelopment of the BKL site.

1.1. Current Burke Lakefront Airport Status

Built on a landfill and opened in 1947, BKL occupies approximately 245 acres on Lake Erie.¹ Following the Submerged Land Act of 1953 and partnering with the Port Authority of Cleveland and the Department of Natural Resources, the City of Cleveland gained site control of BKL, among many other downtown lakefront properties from the State of Ohio. BKL serves Downtown Cleveland and other areas. In addition, the buildings at the airport provide office spaces for more than 20 businesses on-site.

Figure 1.1: Cleveland Lakefront Airport Location



Source: ESI and Mapbox API (for base map), 2023. North Coast Planning Area is sourced from North Coast Master Plan (2023).²

Air Traffic and Passengers at BKL

BKL is a 24-hour airport that provides support services to both planned and unplanned general aviation flights. Air traffic at BKL includes private jets, news crews, flight training, medical services, and tourism activities. Nearly a third of all non-training flights involve medical transportation, including patients and organ transplants for the Cleveland Clinic.

The type and volume of services offered at BKL can be best understood by comparing operations and enplanements. Operations are the number of takeoffs and landings at an airport and enplanements are

¹ This is estimated based on the Cuyahoga County property/parcel records. *Combined Parcels Cleveland Only*. (2023, September). Cuyahoga County Open Data. <https://data-cuyahoga.opendata.arcgis.com/datasets/cuyahoga::combined-parcels-cleveland-only/about>. This estimate does not include the adjacent confined disposal facilities (CDFs).

² Cleveland North Coast Master Plan Update: Community Conversation. (2023, July 27).

revenue passengers boarding aircraft, which include all fare-paying passengers who either originate or transfer at BKL.³ However, enplanements exclude crew members or passengers on “private aircraft,” which are aircraft that do not carry passengers and/or cargo for payment or other considerations.⁴

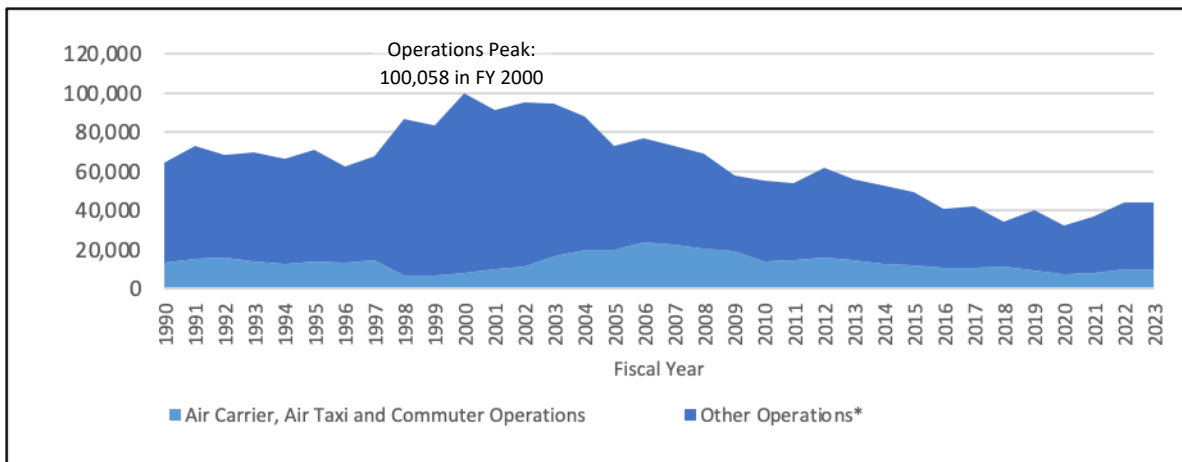
In 2022, the most recent year of data, there were more than 40,000 operations and approximately 2,500 enplanements at BKL, which is approximately 100 daily takeoffs or landings and an average of approximately seven revenue passengers per day. This low enplanements per operation rate reflects that BKL does not serve large commercial flights, and most flights at BKL are from private aircraft or for medical services, and do not carry revenue passengers.

BKL previously accommodated greater volumes of both flights and passengers than it does today. Flights at BKL peaked in the late 1990s and early 2000s, ranging from 80,000 to 100,000 operations annually, when the airport was used more for private aircraft.

Enplanements grew between 2014 and 2020, when a commercial service, Ultimate Air Shuttle, provided two flights daily between BKL and the Cincinnati Municipal Airport at Lunken Field (LUK). Although these flights were regular, they did not significantly impact the number of operations at BKL during these years. The service closed shortly after the COVID-19 pandemic compromised air travel.

The Federal Aviation Administration (FAA) forecast for 2050 suggests that enplanements will continue to decline at BKL, and operations will rise slightly.⁵

Figure 1.2: Annual Operations at BKL, FY 1990 - FY 2023



* Other operations include general aviation, military, and civil purposes.

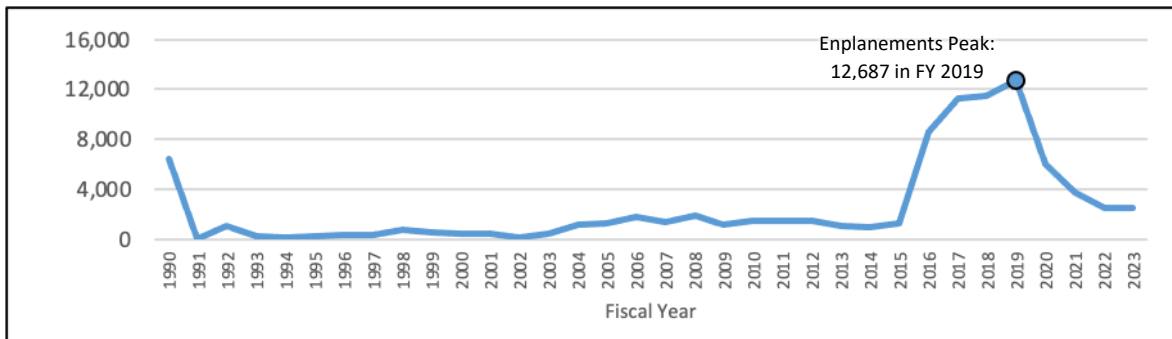
Source: Federal Aviation Administration (2022) Fiscal Year Data

³ Federal Aviation Administration (2021). Glossary for the 2021 Terminal Area Forecast (TAF).

⁴ U.S. Customs and Border Protection (n.d.). General Aviation Processing. www.cbp.gov/travel/international-visitors/general-aviation-processing

⁵ FAA Terminal Area Forecast (TAF) by FY 1990 to 2050. (n.d.). <https://taf.faa.gov/>

Figure 1.3: Annual Enplanements at BKL, FY 1990 - FY 2023



Source: Federal Aviation Administration (2022) Fiscal Year Data

As air traffic has declined, BKL has increasingly relied on revenues generated by rent-paying tenants engaged in non-airport-related activities. About two-thirds of operational revenue at BKL is generated from concession fees and office space rentals, whereas airport landing fees account for just 12 percent annually. Overall, BKL covers 61 percent of its expenditure through its operational revenue while the Cleveland Airport System, supported by one of the City's enterprise funds, fills in the gap. As the airport infrastructure ages, and maintenance costs rise, this gap will likely grow, and more funding may be required to operate at the current service level. See Section 2.1.1 for further details on BKL operations.

1.2. Economic Impact Measurement

This report examines how the activities at BKL Airport impact the economy in the City of Cleveland and Cuyahoga County. These impacts are measured as direct, indirect, and induced impacts in economic output and full-time equivalent (FTE) jobs.

- **Direct impacts:** These come from the money spent directly on airport operations, support services, businesses, and events at BKL, and the money spent by travelers to Cleveland who landed in BKL.
- **Indirect and Induced impacts:** These impacts happen because of the direct impacts. When the airport spends money on the goods and services it requires to operate, it leads to more business and jobs throughout the County. Indirect impacts come from increased business in the supply chain (the businesses that provide what the airport needs). Induced effects happen when people working at, or because of, the airport spend their earnings in the County.
- **Total impact:** This category is the combination of direct, indirect, and induced impacts, which comprise the overall effect of the airport's activities on the City's or the County's economy.⁶

⁶ Please refer to Appendix A for a more detailed explanation of economic impact modeling.

2. Economic Value and Fiscal Impacts from BKL

2.0. Introduction

This section evaluates the annual economic value and fiscal impacts of current activity at Burke Lakefront Airport (BKL). The analysis provides a snapshot of BKL's current value as well as a baseline against which to evaluate alternative uses. Some of the activity at the airport is inextricably tied to the airport itself, while other activity, though aviation related, could move to other airports in the region. Further, there is additional activity, not related to the airport, which could relocate elsewhere in the region. This section describes and evaluates each type of activity and estimates what activity would remain in the City of Cleveland and in Cuyahoga County. The impacts of alternative uses should the airport close are evaluated in later sections.

Categories of Economic Activity

This analysis divides economic activities at BKL into five categories based on their relevance to the airport and their transferability assumptions upon closure.

Airport operations. These activities include maintenance, crew and passenger amenities, administrative tasks, and other groundside support. These expenditures allow the airport to function and provide services to others and are not beneficial economic activity by themselves. These expenditures are supported by the Cleveland Airport System enterprise fund, which includes both Cleveland Hopkins International Airport (CLE) and BKL. If BKL is closed, the funds spent on these airport operations could be reallocated to other purposes, and therefore are not 'lost' if BKL is closed.

Airport support services. Airport support services are like airport operations, and include air traffic control, maintenance, and ground support. However, these activities are not paid for by the Cleveland Airport System. From a universal perspective, the funds used for these activities could be allocated to other productive purposes. However, unlike the airport operations activities, these support service activities are paid for by outside funding representing net new activity to Cleveland. Some of this activity will leave the region if BKL is closed.

Airport related – non-transferable. These are activities that use the airport and its support services that cannot be feasibly replicated in any other location within the region due to the unique characteristics and location of BKL. One example is the Cleveland National Air Show.

Airport related – transferable. These are activities that use the airport and its support services. This category includes uses of the airport that could be transferred to other airports in the region, such as CLE or Cuyahoga County Airport (CGF), if those airports provided the necessary support services to accommodate these activities currently at Burke.⁷ Examples of these kinds of activities include medical transport (including patient and organ transport), private flights, chartered flights, and flight training.

Non-airport related. These are activities that do not require the services of an airport and can be conducted from non-airport locations. Non-airport related activities at BKL include a museum, a media

⁷ This study does not assess the capacity or services of either Cleveland Hopkins International (CLE) or Cuyahoga County (CGF) airports. For information related to these questions, see the Burke Lakefront Airport Layout Plan Update, WP#4: Draft BKL Closure Alternative – Rev. 1, November 2022 produced by CHA Consulting.

and entertainment company, a law practice, a software company, and a cryptocurrency operation. These businesses may benefit from their location at BKL but could relocate elsewhere without a loss in economic activity. If BKL is closed, these activities will likely continue. Therefore, these activities should not be considered at risk.

Figure 2.1 shows each of the activities at the airport and estimates of what percentage of economic activity would transfer to other places in the County.

Figure 2.1: Retention of Economic Activities at BKL

Type of Activity	Business Entities/Activities	Retained Upon Closure	
		City of Cleveland	Cuyahoga County (including the City of Cleveland)
Airport Operations	City Central Services, Contractual Services, Material and Supplies, Employee Compensation	Savings on expenditures for the City of Cleveland	Savings on expenditures
Airport Support Services	CPD Aviation Unit, FAA Tech Operations, Midwest ATC, United States Department of Agriculture	25 percent	50 percent
Airport Related - non-transferable	Cleveland National Air Show	Local visitor spending retained	Local visitor spending retained
Airport Related - transferable	Aitheras Group, Hertz, Signature Aviation, Standard Parking, T&G Flying, Zone Aviation; Regional tourism through BKL	45 percent	90 percent
Non-airport Related	Mined Up, IWASM, Lean Dog Software, City Parking Meters, Big Play, Kurtz Bros, CHA Construction, Wargo Law	90 percent	100 percent

Note: For a complete list of activities and businesses at BKL, please see the Appendix.

Source: Divisions of Cleveland Hopkins International Airport (CLE) and Burke Lakefront Airport (BKL)

Estimating the Economic Impact of Closing BKL

Each sub-section of the Economic Value section below (Section 2.1) measures the five types of economic activity at BKL and the value of the activity that could relocate, both to other parts of the City of Cleveland and to Cuyahoga County outside Cleveland. For example, many of the current airport operations and airport-related activities (including the fix-based operator,⁸ charter flights, and those for medical transport) could be redirected to other airports nearby, such as Cleveland Hopkins International

⁸ A Fixed Base Operator (FBO) is a commercial entity authorized to offer various airport services, including fueling, parking, and maintenance, primarily to general aviation and private or corporate aircraft owners.

Airport (CLE) in Cleveland and Cuyahoga County Airport (CGF) in Cuyahoga County. The exact business tenants may or may not physically relocate to other airports, but many of the activities associated with those businesses will generate a similar level of economic impacts. Non-airport related business tenants at BKL do not rely on the airport, thus they could conduct business elsewhere, most of which can remain in Cleveland. Additionally, the government funding that supports airport operations and related support services can be allocated to other uses within the Cleveland Airport System or other uses within the County.

CHA Consulting Inc. completed a draft study evaluating the operational capacity of other airports in the region and the potential impacts of those airports due to the closure of BKL. In addition, Cuyahoga County has evaluated the capacity and potential for expansion of the CGF.

2.1. Economic Value

Summary

The direct economic impact of all activities at BKL is approximately \$76.6 million, supporting approximately 287 full-time-equivalent (FTE) jobs annually. Most of the economic benefit to the region would *not* be lost if the airport were to close, as much of the economic activity at BKL is likely transferable elsewhere within the City of Cleveland or Cuyahoga County. The loss to the City of Cleveland would be \$31.5 million direct economic activity and 135 FTE jobs. Since some of the loss from the City would be transferable to the County outside the City, the direct loss at the County level is \$9.6 million in economic activity and 49 total FTE jobs. The direct loss to the City and the County mostly comes from the discontinuation of Cleveland National Air Show and the reduction of airport support services and general aviation. Figure 2.2 summarizes the estimated direct economic impact by activity type.

Figure 2.2: Estimated Annual Direct Economic Impacts to the City and the County by Activity Type

Type of Activity	Direct Impact – City of Cleveland (\$M)			Direct Full-Time-Equivalent Jobs in Cleveland		
	Existing	Retained	Loss	Existing	Retained	Loss
Airport Operations*	\$2.8	n/a	n/a	20	n/a	n/a
Airport Support Services	\$4.4	\$1.1	\$3.3	21	5	16
Airport Related- Not Transferable	\$3.7	\$0.3	\$3.4	31	8	23
Airport Related-Transferable	\$40.0	\$18.0	\$22.0	161	73	89
Non-airport Related	\$28.5	\$25.7	\$2.9	74	66	7
Total Direct Impact	\$76.6	\$45.1	\$31.5	287	152	135

Type of Activity	Direct Impact – Cuyahoga County (\$M)			Direct Full-Time-Equivalent Jobs in Cuyahoga County		
	Existing	Retained	Loss	Existing	Retained	Loss
Airport Operations*	\$2.8	n/a	n/a	20	n/a	n/a
Airport Support Services	\$4.4	\$2.2	\$2.2	21	10	11
Airport Related- Not Transferable	\$3.7	\$0.3	\$3.4	31	8	23
Airport Related-Transferable	\$40.0	\$36.0	\$4.0	161	146	15
Non-airport Related	\$28.5	\$28.5	\$0.0	74	74	0
Total Direct Impact	\$76.6	\$67.0	\$9.6	287	238	49

*Not included in total

Source: City of Cleveland, ESI, IMPLAN, 2023. Numbers may not sum due to rounding.

Figure 2.3 shows the total annual economic impacts in the City and the County generated from the direct economic activities in BKL, which includes those direct impacts plus induced and indirect activities, such as business-to-business purchase in the supply chain (indirect) and wage spending by workers for household expenditures (induced).

Figure 2.3: Estimated Annual Total Economic Impacts to the City and the County by Activity Type

Type of Activity	Total Impact – City of Cleveland (\$M)			Total Full-Time-Equivalent Jobs in Cleveland		
	Existing	Retained	Loss	Existing	Retained	Loss
Airport Operations*	\$5.4	n/a	n/a	31	n/a	n/a
Airport Support Services	\$6.2	\$2.0	\$4.2	30	10	20
Airport Related- Not Transferable	\$5.1	\$0.6	\$4.5	38	9	28
Airport Related-Transferable	\$54.0	\$30.6	\$23.4	235	139	96
Non-airport Related	\$43.3	\$40.5	\$2.9	145	138	7
Total Impact	\$108.6	\$73.7	\$34.9	448	296	152

Type of Activity	Total Impact – Cuyahoga County (\$M)			Total Full-Time-Equivalent Jobs in Cuyahoga County		
	Existing	Retained	Loss	Existing	Retained	Loss
Airport Operations*	\$5.4	n/a	n/a	31	n/a	n/a
Airport Support Services	\$8.0	\$4.0	\$4.0	38	19	19
Airport Related- Not Transferable	\$6.5	\$0.6	\$5.9	44	9	35
Airport Related-Transferable	\$68.0	\$61.2	\$6.8	309	279	31
Non-airport Related	\$44.9	\$44.9	\$0.0	153	153	0
Total Impact	\$127.5	\$110.8	\$16.7	545	460	85

*Not included in total

Source: City of Cleveland, ESI, IMPLAN, 2023. Numbers may not sum due to rounding.

2.1.1. Airport Operations

Airport operations include activities supported by BKL. The airport generates revenue from individuals and private entities from landing fees, concession fees, office space rental, parking, and other sources. The airport operating entity’s expenses include employee compensation and maintenance costs. Employee compensation includes salaries and wages plus employee benefits. Maintenance costs, on the other hand, cover City central services, materials and supplies, and contractual services.⁹ The expenses represent direct economic activities from airport operations that happen at BKL, which contribute to direct, indirect, and induced economic impact in the county. The Cleveland Airport System covers any shortfall.

BKL historically has operated at a loss and continues to do so. Since 2015, annual expenditures have exceeded revenues by between \$0.5 and \$1.2 million. In 2023, the estimated annual expenditure is \$2.8 million while revenue is \$1.6 million, for a loss of \$1.2 million (see Figure 2.4).

Figure 2.4: Revenues and Expenditures of BKL, 2015 through 2023 (\$M)

	2015	2016	2017	2018	2019	2020	2021	2022	2023
Revenues									
Concessions	\$0.8	\$0.8	\$0.6	\$0.9	\$0.7	\$0.2	\$0.6	\$0.2	\$0.2
Rentals	\$0.4	\$0.4	\$0.5	\$0.3	\$0.4	\$0.4	\$0.5	\$0.5	\$0.8
Landing Fees	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.1	\$0.2	\$0.2	\$0.1
Others*	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.6	\$0.5
Total Revenue	\$1.4	\$1.6	\$1.5	\$1.7	\$1.5	\$0.9	\$1.5	\$1.5	\$1.6
Expenses									
Total Employee Compensations	\$1.3	\$1.3	\$1.1	\$1.2	\$1.2	\$1.2	\$1.4	\$1.4	\$1.5
Total Maintenance Costs	\$1.3	\$1.4	\$0.9	\$1.0	\$1.0	\$1.3	\$1.0	\$1.4	\$1.3
Total Expenditure	\$2.6	\$2.7	\$2.0	\$2.1	\$2.2	\$2.4	\$2.4	\$2.7	\$2.8
Net Gain / Loss Before Subsidy	-\$1.2	-\$1.1	-\$0.5	-\$0.5	-\$0.7	-\$1.5	-\$0.9	-\$1.1	-\$1.2

Note: 2023 is estimated based on partial year data from January through August.

* Others may include parking/ground transportation, utility reimbursements.

Total numbers may not sum up due to rounding.

Source: CHA Consulting, 2022. City of Cleveland and ESI, 2023.

Airport operations generate approximately \$2.8 million in expenditure and support 20 FTE jobs in the City annually. The total economic impact in the City, including those from indirect and induced activities, is approximately \$5.4 million, supporting 31 FTE jobs. These impacts do not include third-party services that provide ground support for aviation use.

⁹ The three categories of maintenance costs were adopted from the CHA Consulting study in 2022 to estimate the maintenance cost for 2022 and 2023. Based on an expense item inventory for BKL, this analysis considers the following: 1) City central services include fees like internal services, utilities, and parking tax; 2) Contractual services include fees like parking (management), pest control, and other professional services provided by contractors; 3) Materials and supplies include infrastructure, supplies, tools, and costs in maintenance. Two caveats are that 1) these estimates do not include certain resources that are shared with CLE; 2) the fees considered in each of the three categories do not necessarily match completely with those in the CHA’s study.

Closure Impacts on Economy and Airport Funds

These expenditures allow the airport to operate. If the airport were to close, these expenditures would not be necessary and thus are not a loss of economic activity in the larger sense.

In addition, the closure of BKL would likely mean that resources from the Cleveland Airport System currently allocated to BKL could be redirected to more productive uses at CLE.¹⁰ Additionally, a significant portion of air traffic, including both tourism and business-related flights, is likely to shift to the other airports within the county, allowing Cuyahoga County to retain most landing fees and other revenues that are currently generated at BKL. The overall loss to economic impact from airport operations would be minimal as long as resources used to operate BKL are effectively reallocated and the other airports in the County adjust to accommodate the existing traffic at BKL.

2.1.2. Airport Support Services

Third parties, such as airport support services, offer ground support and other types of services that are not paid for by BKL, including crew amenities, traffic control, runway maintenance, security, and waterfowl control research. These activities account for \$4.4 million in direct economic impact and support 21 FTE jobs in the City annually.

BKL receives grants from the Federal Aviation Authority (FAA) and Ohio Department of Transportation (ODOT). Since 2010, BKL has received a total of \$19.6 million, through 15 grants to fund studies and improvement programs. On average, BKL benefits from around \$1.2 million federal and state funding annually, where \$0.9 million from FAA and \$0.3 million from ODOT. Figure 2.5 summarizes grant issuance and usage from 2010 to 2023.

Figure 2.5: Grants Issuance and Usage at Burke Lakefront Airport (BKL), 2010 to 2023

Agency	Grant Spending	Amount Amortized	Amount Unamortized
FAA	\$18,163,605	\$8,158,222	\$10,005,383
ODOT	\$1,468,091	\$1,468,091	\$0
Total	\$19,631,696	\$9,626,313	\$10,005,383

Note: For a more detailed breakdown of grants see Appendix B.

Source: Divisions of Cleveland Hopkins International Airport (CLE) and Burke Lakefront Airport (BKL)

Closure Impacts on the Economy and Airport Funds

Transferring third-party services from BKL to other airports within the County poses some challenges. The feasibility of retaining this economic activity depends on the needs and interests of other airports, including their capacity to absorb various BKL ground support services. Additionally, BKL participates in USDA research on aviation and waterfowl interaction, which may be difficult to relocate. For airport support services, this analysis estimates that 50 percent of these activities relocate outside the county, and 50 percent remains. Of the 50 percent that remains in the county, 25 percent remains in the City of

¹⁰ The specifics of redeployment in practical terms require further studies on the airport industry in Cleveland and Cuyahoga County.

Cleveland (half of the 50 percent) and 25 percent remains in Cuyahoga County, but outside of the City of Cleveland.

If BKL were to close, the airport sponsor (the City of Cleveland) would be required to pay back the unamortized obligations of the grants received from the FAA and ODOT. FAA funding allocated to BKL is not guaranteed to be reallocated to other Cleveland area airports and may be distributed elsewhere, including out of state. ODOT funding would remain in Ohio and probably the Cleveland area. For more discussion of grant obligations and a full table of all grants received and spent by BKL, see the Appendix.

2.1.3. Airport Related – Non-transferable

Airport-related non-transferable activities are activities that use the airport and its support services and cannot be feasibly replicated in any other location within the region due to the unique characteristics and location of BKL. The only activity in this category is the Cleveland National Air Show.

Cleveland National Air Show

The Cleveland National Air Show (CNAS) is one of the oldest air shows hosted annually in the United States. Beginning as part of the 1929 National Air Races, this event now attracts 60,000 to 100,000 people to BKL over Labor Day weekend.¹¹ The Cleveland National Air Show, Inc., a financially independent 501(c)(4) non-profit, is responsible for funding, organizing, staffing, and staging the event. This organization engages around 1,100 volunteer staff every year in managing and operating tasks during the event weekend.

Based on its FY 2021 tax profile, CNAS generates \$2.1 million in revenue, primarily from event services, such as ticket sales, concessions, merchandise, sponsorship, and parking, and expenses of \$1.7 million, including labor cost, flight crew accommodation, insurance, and facility costs, for a surplus of approximately \$0.4 million. (See Appendix A for the revenue and expense breakdown for FY 2021).

Together, the CNAS operations and visitor spending generate \$3.7 million in economic activities and supports 31 FTE jobs in the City annually. Total economic output of the air show is \$6.5 million whereas the total employment supported is 44 FTE jobs in the county.¹²

CNAS's success and heritage depends on BKL's operation and facilities. The event cannot operate out of CLE or CGF in the same manner due to aviation safety requirements and space limitations.¹³ As a result, this analysis assumes that, in the event that BKL is closed, the air show will no longer exist in the region and all economic activity related to the expenditures on the airshow itself as well as non-local visitor spending that occurs during the air show weekend will be lost economic activity. However, this analysis also assumes that all local visitor spending that occurs during the air show will remain in Cleveland.

¹¹ About the Cleveland National Air Show. (n.d.). Cleveland National Air Show. Retrieved January 2, 2024, from <https://www.clevelandairshow.com/about-us>

¹² In addition to the economic impacts, CNAS is heavily involved in funding community economic development and participating charitable activities. An estimated \$50,000 to \$70,000 of revenue generated from the air show supports several community and non-profits from the Girl Scout Troops to high school sports teams. Since 2000, the Cleveland National Air Show Charitable Foundation, Inc. (a 501(c)(3) non-profit subsidiary of the Cleveland National Air Show, Inc.) has awarded \$120,500 in scholarships to Northeast Ohio students studying aeronautics. The Air Show also offers 2-3 paid college internships annually.

¹³ The Cleveland National Air Show uses BKL because of its accessible and uncongested tarmac that allows visitors to approach the aircraft as well as its lakefront location, which provides the necessary aerobatic box to ensure safety of people and assets nearby.

While locals will not spend their money on the air show, they are likely to spend it on other local entertainment options.

2.1.4. Airport Related – Transferable

Airport related, transferable activities are flight-based activities, including flight operators of private aircraft, flight schools, parking, and ground transportation that services BKL, as well as the regional tourism these activities bring to Cleveland.

General Aviation, Flight Schools, Parking and Ground Transportation

Signature Aviation and Aitheras Aviation Group are the two main general aviation operators at BKL. Signature Aviation is the airport's fixed-base operator (FBO) that offers business and private aviation services, including ground handling and cargo management. Aitheras Aviation Group is a charter flight operator that provides medical transport, air ambulances, executive charter, and aircraft management. Zone Aviation and T and G Flying are flight schools that offer pilot training and aircraft management education. Standard Parking and Hertz provide parking and ground transportation services.

The direct economic impact of these airport-related transferable activities is \$36.8 million per year, supporting 107 FTE jobs in the City.

Upon closure of BKL, most of the demand for these airport-related activities would likely shift to other airports in the county. This analysis assumes that 10 percent of the economic impact of airport-related activities will be lost if BKL is closed. The remaining 90 percent will be split between CLE and CGF, or 45 percent each, through the relocation of existing businesses or the absorption of activities by other businesses. Based on these assumptions, closure results in a loss of \$22.0 million direct economic activity and 89 FTE jobs in the City. In the County it results in a total loss of \$23.4 million and 96 FTE jobs.

Regional Tourism

Air transport contributes to the regional economy by supporting tourism. In 2023, Burke received approximately 17,000 visitors to Cleveland, who spent on average \$218 (in 2023 dollars) per person for their visit, leading to \$3.8 million in direct spending on accommodation, ground transportation, retail, and food/beverage.¹⁴ This activity leads to \$3.2 million direct economic impact per year, supporting 54 FTE jobs in the City.

Visitors who fly into BKL would likely land in another airport in the region if BKL were to close. However, some visitors who fly to Cleveland may not necessarily use an airport in the County or might not make the flight at all. As a result, this analysis assumes that 10 percent of total travel demand currently going through BKL will be lost in the event of closure, leading to a direct loss of \$0.3 million and 5 FTE jobs in the City. For the county, closure results in a total loss of \$0.6 million and 7 FTE jobs annually.

¹⁴ Visitor number is an estimated number based on total general aviation itinerant operations in FY 2022, true transient arrival percentage, and number of visitors in each true transient arrival assumption (refer to the Ohio Airports Economic Impact Study 2014). The spending estimate per visitor is based on \$115 spending assumption (refer to the Ohio Airports Economic Impact Study 2014) and an adjustment based on visitor spending annualized growth between 2014 and 2022 in Ohio (multiple sources) and inflation rate from 2022 to 2023 dollars. See Ohio Airports Economic Impact Study 2014. (2014). CDM Smith, RS&H, Engage Public Affairs and CAD Concepts, Inc.

Summary

All airport-related transferable activities at BKL create \$40.0 million in direct economic impact and support 161 direct FTE jobs in the City. Upon closure, the total estimated loss is \$22 million and 89 FTE jobs in the City annually. Overall, the airport-related transferable activities are the largest contributor of economic impact by BKL to the City. These impacts are nearly four times airport operations, airport support services, and airport-related non-transferable activities combined.

2.1.5. Non-airport Related Activities

Non-airport related activities do not rely on the aviation infrastructure and services at BKL. These activities include the International Women in Space Museum, a media and entertainment company, a law practice, a software company, a consulting firm, a material recycling operation, and a crypto currency business. While these businesses may benefit from some of the visitor traffic to BKL they could locate elsewhere in the County while maintaining their operations.

The direct economic impact of non-airport related activities is \$28.5 million, supporting 74 FTE jobs in the City annually.

Non-airport activities comprise the second largest economic activity type at BKL, making up 37 percent of the airport's direct impact to the City and 26 percent of the airport's direct FTEs in the City annually. This economic impact is almost three times as large as the airport operations, airport support services, and airport-related non-transferable activities combined.

2.2. Fiscal Impacts

Fiscal Impacts to the City of Cleveland

The economic activity attributed to BKL generates tax revenue for Ohio and Cleveland. Although the government-sponsored activities at BKL are tax exempt, private sector activities at BKL are taxable. In addition, these private sector activities generate spill-over effects, which also contribute to local and state tax revenues. This fiscal impact analysis uses the same assumptions as the economic output and employment analyses—that 25 percent of airport support services, 45 percent of transferable activities related to airport, and 90 percent of transferable activities not related to airport remain within the City upon the closure of BKL. In addition, all jobs generated in the existing airport operations could be transferred within the Cleveland Airport System or elsewhere in Cleveland. Other transferable activities may relocate elsewhere within Cuyahoga County but outside of Cleveland.

BKL generates approximately \$508,000 in revenue annually to the City of Cleveland's General Fund through income and parking taxes. Approximately \$257,000 will be retained for the General Fund if BKL is closed. At the same time, the Cleveland Airport System, which operates from one of the City's enterprise funds, would avoid approximately \$1.2 million in BKL annual operational costs by closing the airport.

- Income tax is modeled based on total estimated employee wages involved in all economic activities attributable to BKL. These total wages are \$18.5 million, and the current income tax rate is 2.5 percent. If BKL were to close, some of the jobs would relocate elsewhere in the City of Cleveland, while others would relocate outside the City or simply disappear. The jobs relocated

in the City will continue to generate approximately \$257,000 in incomes taxes, and the loss to the City will be approximately \$207,000.

- Parking tax at BKL is approximately \$44,000 per year and expected to remain at this level even if the airport closes. Much of the parking at the BKL site is for non-airport users, so this revenue stream is expected to continue. Furthermore, some of the vehicles that currently park at BKL for airport use will likely park at other airports, including CLE which charges two to five times as much for parking as BKL. Even if parking demand at NKL drops by half, with half of these vehicles (25 percent of existing demand) parking at CLE instead, the total collected parking tax will remain the same.¹⁵

Figure 2.6: Estimated Annual Fiscal Impacts to the City of Cleveland’s General Fund

Tax Revenue Category	Estimated 2023 Revenue	Projected Annual Revenues upon Closure of BKL	Estimated Annual Revenue Loss upon Closure
Income Tax	\$464,000	\$257,000	\$207,000
Parking Tax	\$44,000	\$44,000	\$0
Total in General Fund	\$508,000	\$301,000	\$207,000

Notes:

The income tax rate is 2.5 percent and applied to direct wages of individuals to estimate the income tax for the existing scenario. This estimate also assumes that all airport operation related employment can be relocated within the City with comparable annual wages.

The parking tax rate is 8 percent. All parking taxes are estimated based on the existing average consumer cost per parking space and the flat tax rate. The average consumer cost per parking space per year is estimated to be \$832.

Source: ESI, 2023; City of Cleveland, 2023. Numbers may not sum due to rounding.

In addition to impacts on Cleveland’s General Fund, BKL operated at a loss of approximately \$1.2 million in 2023 (see Figure 2.4), which is covered by funding from the Cleveland Airport System. If BKL were to close, this loss would no longer occur, saving the Cleveland Airport System dollars. The fiscal impact of closing BKL could be favorable because some of BKL’s revenues, such as landing fees, could transfer to nearby airports upon their absorption of BKL airport activities, whereas many of the costs would not.

¹⁵ The daily parking at CLE is \$16-35 per vehicle, while that at BKL is \$7 per vehicle. If assuming this represents the general scale of parking cost at CLE compared to that at BKL, CLE parking cost per vehicle could be 2-5 times more expensive than BKL parking cost per vehicle. CLE parking info (<https://www.clevelandairport.com/parking-transportation/parking>) and BKL parking info (<https://www.burkeairport.com/parking-transportation/airport-parking>).

3. Future Development Scenarios

3.0. Introduction

The project team engaged in extensive consultation with key stakeholders, including members of the City administration, airport leadership, representatives from local economic development organizations, developers, Metroparks, and the Cuyahoga Cleveland Port Authority to develop the scenarios. Each scenario incorporates economic development strategy, business development, and placemaking considerations.

Scenarios

Minimal Development - This scenario serves as the baseline low-intensity development potential that could occur on the BKL site in the event of closure, focusing on recreational and green spaces. It envisions the creation of a 170-acre urban park, supplemented by 30 additional acres of outdoor sports fields and courts and a 145,000-square-foot indoor sports complex.

Maximum Development - This scenario outlines a more intensive utilization of the BKL site. It is not a full build-out of the entire 245-acre site but rather the most extensive development feasible under existing market dynamics. This scenario includes a 170-acre park, 30 acres of playing fields, 1,200 residential units, 100,000 square feet of retail and a 100-room boutique hotel.

Hybrid Development - This scenario considers development that may be possible while BKL continues to operate. The scenario includes the construction of a 100-room boutique hotel, catering to airport users and visitors.

Figure 3.1: Evaluated Elements of Future Development Scenarios

Component	Minimal	Maximum	Hybrid
Burke Lakefront Airport	Closed	Closed	Remains Open
Park	170 acres	170 acres	-
Playing Fields	30 acres	30 acres	-
Development	145,000 SF indoor sports facility	100-room hotel 1,200 residential units 100,000 SF of retail	100-room hotel

Assumptions and Considerations for Economic Impacts of Scenarios

There are several assumptions and considerations relevant to the economic and fiscal impacts.

- The closure and development of the BKL site presents several practical challenges, which include:
 - Navigating the closure process of the Federal Aviation Administration (FAA),
 - Studying and mitigating the subsurface condition of the site,

- Aligning the closure of the airport with the exhaustion of the confined disposal facilities (CDFs) adjacent to the airport
- Navigating the submerged land leases with the State of Ohio.

This analysis assumes that these challenges will be addressed and does not consider the costs of addressing these issues. For more details, see Appendix A.

- These scenarios exclude the acreage of the CDFs as they are not part of the BKL site. However, the CDFs are potentially ideal sites for additional greenspace.¹⁶
- The near-term market potential at BKL is limited. While a significant amount of new residential and commercial development is underway in the Downtown and Ohio City neighborhoods, demand is expected to remain insufficient to permit full development of the BKL site in the near future.
- These scenarios are deliberately conservative to provide decision makers with a *feasible* future against which the value of BKL can be weighed. The future real estate market *may* support more intense development than what is included in these scenarios. Any additional development that *may* occur *that does not displace development elsewhere in the City* will result in greater economic and fiscal impacts than what is outlined below.

3.1. Minimal Development Scenario

Two recurring themes emerged throughout our conversations with stakeholders with regards to the minimal development of the BKL site: the strong desire from both the community and the City administration for increased public access to the Erie lakefront and a desire for sports-related amenities within Cleveland City limits.¹⁷

Social and Fiscal Impacts of a Large Park

The large park would include a passive urban park that provides walking trails, waterfront access, picnic areas, recreational rental, as well as an indoor youth complex to residents and visitors. This park will have social impacts on residents, workers and visitors, direct economic impact related to recreation-related vendors and sports complex at the park, fiscal impacts related to property value premiums associated with the park as well as tax revenues from vendor activity.

Social Impacts – Passive Urban Park

A 200-acre park on the BKL site would be among the largest urban parks in Cleveland, and given its waterfront access and proximity to downtown, is likely to attract many users from the surrounding area. This analysis estimates that residents, workers, and tourists will visit the BKL urban park between

¹⁶ The Cleveland Nature Preserve is an example of a CDF site that has been converted to an urban park.

¹⁷ Cleveland lacks such facilities within its city limits, forcing Cleveland residents to travel to suburbs. The proposed indoor sports complex, modeled on the Cedar Point Sports Center, spanning 145,000 square feet, addresses this gap.

190,000 and 210,000 times annually. A safe, accessible, pedestrian friendly recreational area offers significant social benefits to these visitors, which are quantified here in dollar terms.¹⁸

- Recreation benefits: People value living close to opportunities for exercise and recreation.
- Health benefits: People using the park will benefit from improved health, reduced medical costs, and savings from avoided loss in employee productivity.
- Environmental benefits: Increased tree canopy coverage and natural water drainage systems are expected to improve air quality (reduced air pollution) and support existing water treatment infrastructure.

Figure 3.2: Estimated Annual Social and Environmental Benefits of Urban Park at BKL

Benefit Category	Annual Benefits (\$M)
Recreation	\$1.6
Health	\$2.6
Water Drainage Systems	\$0.3
Air Quality	\$0.1
Total	\$4.5

Source: ESI, 2023

Economic Impacts – Vendor in the Passive Urban Park

Vendors providing sports and recreational equipment for watersports or land-based activities will generate additional economic value of approximately \$1.1 million annually.

Fiscal Impacts – Property Value Increases

Large passive urban parks increase the value of nearby commercial and residential property.¹⁹ The impact to property value shrinks as distance from the park increases. However, the impact of the proposed park on nearby property values is limited given the relative remoteness of most of the BKL site from existing residential and commercial properties. The property value impact could be significant on potential future residential or commercial development at nearby sites, such as the municipal lots or the North Coast mixed-use development.

Economic and Fiscal Impacts – Youth Sports Center

The youth sports complex, included in the 200-acre park, provides playing fields, administrative offices, concessions, and other shops related to youth sports. This complex is expected to generate economic impacts through expenditures at the facility, as well as tax revenue from parking.

¹⁸ This analysis uses a benefit-cost analysis framework to monetize these social impacts. For a description of these methods see Appendix Z.

¹⁹ Crompton, J. L. (2001). The Impact of Parks on Property Values: A Review of the Empirical Evidence. *Journal of Leisure Research*, 33(1), 1–31. <https://doi.org/10.1080/00222216.2001.11949928>

Expenditure at the indoor sports facility can range between \$1 to \$5 million annually. Based on the location and the income level of the City, the analysis assumes expenditures at the midpoint, or \$3 million. Additionally, it is expected to support 39 FTE jobs.

Figure 3.3: Estimated Annual Direct Economic Impact and FTE Jobs to the City of Cleveland in the Minimal Development Scenario

	Direct Impact (\$M)	Direct FTEs
Minimal Development	\$3.0	39

Source: ESI and IMPLAN, 2023

In addition, the minimal development scenario will generate approximately \$100,000 in tax revenue to the City of Cleveland from income tax, parking tax, and property tax.

Figure 3.4: Estimated Annual Fiscal Impacts to the City of Cleveland in the Minimal Development Scenario (Indoor Sports Complex \$3 million annual revenue)

	Income Tax (Individuals)	Parking Tax	Property Tax (commercial)	Total
Minimal Development	\$29,000	\$44,000	\$87,000	\$160,000

Source: ESI and IMPLAN, 2023

3.2. Maximum Development Scenario

Conversations with stakeholders about a potential maximum development scenario revealed a strong preference for high amenity, waterfront oriented, mixed-use development. Current population trends and market conditions will not support a full build-out of a new, mixed-use neighborhood on the entire site. A more limited, but still significant, building program could be feasible, as shown in Figure 3.5. Sporting facilities could also be incorporated on the site but are not considered in this analysis.

Figure 3.5: Description of Maximum Development Scenario

Component	Size	Elements	Impacts Estimated
Passive Urban Park and Playing Field	200 acres	Open space, walking trails, waterfront access, picnic areas, playground	Social impacts
Residential	1,200 units	5-7 story buildings with ground floor retail	Economic impacts
Retail	100,000 square feet	Grocer (~45,000 SF), 5-6 restaurants (~30,000 SF), general retail (20,000 SF)	Economic impacts
Hotel	100 rooms	Boutique, waterfront-oriented hotel with ground floor restaurant	Economic impacts

The following analysis considers current market conditions and impacts of the maximum development scenario. It is broken into three sections: 1) an analysis of the current market conditions in Greater Downtown, 2) a detailed description of the maximum development scenario, and 3) an analysis of the economic and fiscal impacts of the scenario.

Downtown Housing Market

Cleveland has witnessed a significant increase in downtown housing demand over the past two decades, with Greater Downtown²⁰ now housing 37,000 residents, accounting for 10 percent of the City's population. This trend is underscored by a 21.8 percent growth in occupied housing units since 2010.

The Downtown Core is popular for apartments and condominiums, while Ohio City attracts a mix of rental units, condominiums, and one-, two-, and three-family homes. Homeownership rates are 6 percent in the Downtown core, and 21 percent in Greater Downtown, which are lower than the City average of 42 percent.²¹

The rental market in the Downtown Core is expected to remain steady. The Downtown Housing Market Study, developed by HR&A, projects an annual housing demand of 445 to 668 units, influenced by employment growth.²² Development projects currently underway will be complete by the time the BKL site, if the airport is closed, is ready for construction.

Maximum Development Scenario Detail

Residential

Current and expected market conditions indicate that residential development should offer higher-end rental units with a mix of midrise buildings with ground floor retail. The market supports primarily one- and two-bedroom units that appeal to young professionals and individuals temporarily living in the area for work or school. Studio apartments are not competitive in Cleveland. Buildings would include amenities such as a gym, exercise rooms, game/party rooms, coworking space, EV charging stations, outdoor spaces, and similar features.²³ Expected rents would be \$2.65 per square foot per month based on existing units in the area. The premium for waterfront properties close to downtown is unknown.²⁴ This analysis assumes that the BKL site could support approximately 1,200 units with an average size of 1,000 square feet.

Retail

This scenario assumes a maximum of 100,000 square feet of retail uses that would be phased in as both the BKL site and the North Coast sites are built. The primary focus would be food-related and entertainment uses. A grocer with a strong takeout and prepared food component, such as Heinen's,

²⁰ The Greater Downtown includes Downtown Core, Tremont, Ohio City, Detroit Shoreway

²¹ Downtown Cleveland Market Study Report. (2023). Urban Partners.

²² HR&A. (2023, June). *Preliminary Approach to Development Scenarios: 6.22 Client Call*.

²³ Few residential properties have pools onsite.

²⁴ Very few units command more than \$3.00/SF/Month. Units at that level at the time of this study include one unit at the Lumen in Playhouse Square and some units at The Intro (\$3.45/SF/Month) at 25th Street and Lorain Avenue in Ohio City.

could be possible and require about 26,000 square feet.²⁵ Additional uses include a mix of restaurants at various price points, those that appeal to families as well as smaller even more boutique dining (high-end or ethnic and specialty restaurants at 3,000 to 6,000 square feet).²⁶ Paramount for restaurants along the lakefront are outdoor dining facilities, especially in the spring and summer months. These restaurants may be able to provide winter outdoor dining on a limited basis using heat lamps and fire pits. The greatest challenge for any retail business at the BKL site will be the lack of consistent foot traffic.

Hotel

If the market allows, a small hotel oriented to the water (water views, boat slips) would be a complementary use for the site and support the development of the lakefront as a destination. Any hotel will need to be a higher-end brand oriented to tourists, business clientele, and visitors rather than families. Suitably designed and located, it might also house a high-end restaurant destination.

Passive Urban Park and Outdoor Playing Fields

The maximum development scenario may also allow the creation of a park or outdoor sports fields similar to the minimal development scenario.

Maximum Scenario Economic and Fiscal Impacts

The impacts for the urban park and the outdoor playing fields are approximately the same in this scenario as in the minimal development scenario. The maximum development scenario is estimated to produce about \$46.9 million in direct economic impact to Cleveland’s regional economy supporting about 254 FTE jobs annually.

Figure 3.6: Estimated Annual Direct Economic Impact and FTE Jobs to the City of Cleveland in the Maximum Development Scenario

	Direct Impact (\$M)	Direct FTEs
Maximum Development	\$46.9	254

Source: ESI and IMPLAN, 2023

In addition, the maximum development scenario will generate approximately \$3.3 million in tax revenue to the City of Cleveland. The main tax revenue generator is income tax, which comes from workers and residents on site.

²⁵ Note a grocer will require three things: high ceilings, loading and ventilation.

²⁶ Square footage guidelines: Fine dining: 18 to 20 SF/customer; Full-service: 12 to 15 SF/customer; Fast food dining: 11 to 14 SF/person.

Figure 3.7: Estimated Annual Fiscal Impacts to the City of Cleveland in the Maximum Development Scenario

	Income Tax*	Parking Tax	Property Tax (commercial)	Hotel Tax	Total
Maximum Development	\$2,389,000	\$123,000	\$708,000	\$104,000	\$3,321,000

Note: Income tax includes \$188,000 estimated based on workers employed on site, and the estimated total wages of residents in the apartment. The mixed-use apartment is considered a net-new investment in the luxury multifamily market, and estimates are based on comparable units build since 2015. For these units, the occupancy rate is 87.9 percent, and the average monthly rent is \$1,945 per unit.

Source: ESI, 2023

3.3. Hybrid Future Development Scenario

This section of the report presents the economic and fiscal impacts of maintaining the airport's current operations while introducing a hotel in the southwest corner of the BKL site. Examining this hybrid scenario serves two purposes. First, it considers the economic impact of a short-term development on the BKL site that could be implemented, assuming market conditions support it, without closing the airport. This scenario also gives the City administration more time to evaluate how to improve the utility of BKL. Second, this hybrid development could be the first step in phasing the redevelopment of BKL under the maximum development scenario while the City is going through the process to formally close BKL.

Summary Impacts

Hotel Development

The hotel is estimated to have an annual expenditure of \$6.5 million, generating an estimated total impact of \$10.5 million. The hotel is estimated to support 46 FTE jobs directly and a total of 66 FTE jobs including indirect and induced impacts.

Existing Airport Operations

As detailed in Chapter 2 of this report, BKL generates an estimated \$76.6 million direct economic impact in the City annually. In addition, the existing operations support 287 direct FTE jobs.

Combined Impact

The combined hybrid development, including the hotel and BKL, is expected to result in an annual direct output of \$83.1 million, and 333 direct FTE jobs in the City annually.

Figure 3.8: Estimated Annual Direct Economic Impact and FTE Jobs to the City of Cleveland in the Hybrid Development Scenario

	Direct Impact (\$M)	Direct FTE Jobs
Hotel	\$6.5	46
BKL Airport (Current)	\$76.6	287
Total	\$83.1	333

Source: ESI, IMPLAN (2023)

The hybrid development scenario is expected to generate an additional \$192,000 in tax revenues to the City of Cleveland above the \$508,000 generated by BKL annually.

Figure 3.9: Estimated Annual Fiscal Impacts to the City of Cleveland in the Hybrid Development Scenario

	Income Tax	Parking Tax*	Property Tax (commercial)	Hotel Tax	Total
Hotel	\$46,000	\$0	\$42,000	\$104,000	\$192,000
BKL Airport (Current)	\$464,000	\$44,000	-	-	\$508,000
Total	\$510,000	\$44,000	\$42,000	\$104,000	\$700,000

Source: ESI (2023)

4. Comparing Impacts of Development Scenarios

Each of the future development scenarios analyzed in this report has distinct economic implications for Cleveland. An appropriate comparison requires including the impacts of the scenario activities on the BKL site, combined with the estimated economic impacts retained if BKL were closed.

The comparison of direct economic impacts and FTE job impacts are summarized in Figure 4.1 below. A comparison of tax revenues generated to the City of Cleveland in each scenario is presented in Figure 4.2.

4.0. Economic Impacts Comparison

The maximum development scenario generates the largest amount of economic activity for Cleveland, significantly larger than the continued operation of the airport or any other scenario. The hybrid scenario generates more activity than the current operation.

The direct economic and FTE jobs activity of the minimal development scenario are approximately 63 percent and 67 percent of the direct activity and FTE jobs of BKL existing operations, respectively. The minimal development scenario generates an estimated direct annual activity of \$48.1 million (\$3.0 million from the development and \$45.1 million retained) supporting an estimated 191 FTE jobs (39 from the development and 152 retained).

The estimated direct economic and FTE job activity of the maximum development scenario are 50 percent greater than the direct economic and FTE job activity of BKL. The maximum development scenario generates an estimated direct annual economic impact of \$92.0 million (\$46.9 million from the development and \$45.1 million retained), supporting an estimated 406 FTE jobs (254 from the development, and 152 retained).

Finally, the hybrid development scenario generates estimated direct annual activity of \$83.1 million, supporting an estimated 333 FTE jobs. This activity is approximately \$6.5 million greater than the baseline supports 46 additional FTE jobs.

Figure 4.1: Estimated Annual Direct Economic Impacts to the City of Cleveland

Scenario	Direct Impact (\$M)			Direct FTE Jobs		
	Base Impact	Retained Impact after BKL Closure	Base + Retained Impact	Base Impact	Retained Impact after BKL Closure	Base + Retained Impact
BKL Airport (Current)*	\$76.6	-	\$76.6	287	-	287
Minimal Development	\$3.0	\$45.1	\$48.1	39	152	191
Maximum Development	\$46.9	\$45.1	\$92.0	254	152	406
Hybrid Development**	\$83.1	-	\$83.1	333	-	333

* BKL Airport (Current) excludes economic impacts from airport operations.

** Hybrid development includes BKL Airport (Current) Impacts.

Source: City of Cleveland, ESI, IMPLAN, 2023.

4.1. BKL Fiscal Impacts to the City of Cleveland

BKL generates approximately \$508,000 in revenue annually to the City of Cleveland’s General Fund through income and parking taxes. Approximately \$257,000 will be retained for the General Fund if BKL is closed. At the same time, upon closure, the Cleveland Airport System will save approximately \$1.2 million through not paying for operations at BKL.

Compared with the closure, all alternative scenarios evaluated in the report show positive fiscal impact to the City, with the maximum development scenario the most significant.

The minimal development scenario, including revenues retained if BKL is closed, generates approximately \$417,000 through income, parking, and property taxes. In addition, the City avoids approximately \$1.2 million in expenditure at the airport that it no longer would have to make were the airport to close.

The maximum development scenario, including revenues retained if BKL is closed, generates approximately \$3.6 million through income, parking, and property taxes. In addition, the City avoids approximately \$1.2 million in expenditure at the airport that it no longer would have to make were the airport to close.

The hybrid development scenario generates about \$192,000 revenue annually to the City of Cleveland in addition to the \$508,000 in revenue from BKL, for a total of \$700,000 through income, hotel, and parking taxes.

For more detail on the breakdown of tax types for each scenario, see Chapter 3.

Figure 4.2: Estimated Annual Fiscal Impacts to the City of Cleveland.

Scenario	General Fund			Enterprise Fund
	Base Revenue from BKL site	Retained Revenue after BKL Closure	Base + Retained Revenue	Airport Expenditure
BKL Airport (Current)	\$508,000	remains open	\$508,000	(\$1,200,000)
Minimal Development	\$160,000	\$257,000	\$417,000	\$0
Maximum Development	\$3,321,000	\$257,000	\$3,578,000	\$0
Hybrid Development	\$700,000	remains open	\$700,000	(\$1,200,000)

Notes:

Parking tax rate is 8 percent. All parking taxes are estimated based on existing parking usage and fee regulations. The per parking space cost per year is estimated to be \$831.7 for this analysis (as a spread to total parking space). These may vary with changes in regulations.

The income tax rate is 2.5 percent and applied to direct wages of individuals to estimate the income tax for each future development scenario.

Property tax rate for commercial properties is 3.49 percent based on 2023 rate.

Hotel tax rate is 3 percent.

5. Conclusion

Key Findings

This analysis provides insights into the existing economic and fiscal impacts of Burke Lakefront Airport as well as the potential economic and fiscal impacts associated with three different potential development scenarios of the BKL site. The key findings are as follows:

- City Economic Activity - Approximately \$76.6 million of direct economic activity currently takes place at BKL annually. If BKL were to close, the annual direct economic impact for the City of Cleveland would be approximately \$31.5 million and 135 FTE jobs in the absence of any redevelopment. These are *de minimis* amounts compared to the overall economy of the City of Cleveland. Redevelopment scenarios show significant economic activity provided to the City, with the maximum development scenario offering the most significant impact over existing conditions.
- City Fiscal Activity - BKL generates approximately \$508,000 in revenue annually to the City of Cleveland's General Fund through income and parking taxes. Approximately \$257,000 will be retained for the General Fund if BKL is closed. At the same time, upon closure, the Cleveland Airport System will save approximately \$1,200,000 through not paying for operations at BKL. Alternative scenarios all exhibit positive fiscal impact for the City, with the maximum development scenario significantly greater than the existing conditions.
- County Economic Activity - Most of the loss from the City upon closure would remain in the county. From the county's perspective, the true economic impact of closing BKL is approximately \$9.6 million and 49 FTE jobs per year.
- The maximum development scenario, combined with the impacts retained after airport closure, would generate \$92 million in direct economic activity, which is 20 percent greater than existing conditions.

To summarize, closing BKL does not present a significant risk to Cleveland's economy or fiscal standing. However, the medium-term economic upside to closing BKL is modest, and the challenges of developing structures presents significant risks that must be mitigated due to the subsurface conditions of the site (see Appendix).

Appendix

Interview Participants and Airport Tenants

Figure A.1: A list of interviewees for the report

Participant	Type
Army Corps of Engineers	Government
Metroparks	Government
Bryant Francis, Director of Port Control	Government
Dennis Kramer, Chief of Airport Development	Government
Khalid Bahhur, Commissioner of Airport	Government
Justin Bibb, Mayor, City of Cleveland	Government
Jeffrey Epstein, Chief Integrated Development Office, City of Cleveland	Government
Debbie Berry, Deputy Chief of Integrated Development	Government
Michael Dever, Director, Cuyahoga County Department of Public Works	Government
Tom McNair, Economic Development Director, City of Cleveland	Government
William Friedman, Director of Cleveland-Cuyahoga County Port Authority	Government
Linda Sternheimer, Director of Urban Planning and Development, Cleveland-Cuyahoga County Port Authority	Government
Cleveland Clinic	Non-Profit
Cleveland National Air Show	Non-Profit
Downtown Cleveland	Non-Profit
Greater Cleveland Partnership	Non-profit
Aitherus Group	Private
Big Play	Private
Bedrock	Private
Rock Entertainment Group	Private

Figure A.2: A list of tenants at Burke Lakefront Airport

Tenant	Type of Activity	FTE Jobs	Description	Key Customers
Cleveland Police Department Dept. Aviation Unit	Airport support services	5	Provides traffic control, ground support and search and rescue services.	Public service
Midwest Air Traffic Control	Airport support services	11	Provides a full range of air traffic control, ground handling, aircraft maintenance, airfield management and training services.	Burke Lakefront Airport
United States Dept. Department of Agriculture	Airport support services	4	The Cleveland Airport System contracts the United States Department of Agriculture to control wildlife in the area.	Cleveland Airport System
Cleveland National Air Show	Airport-related – non-transferable	6	Financially independent non-profit organization responsible for producing the Cleveland National Air Show.	Tourists
Aitheras Aviation	Airport-related – transferable	30	Offers a fleet of aircraft and aircraft management services, coupled with highly skilled personnel to medical and charter clients.	Medical facilities, critically ill patients, business charter clients
Signature Aviation	Airport-related – transferable	53	Fixed base operator providing essential support services for business and private aviation, including refueling, hangarage, maintenance, repair, and overhaul.	Private clients
T and G Flying	Airport-related – transferable	4	Provides aircraft rental and flight training services	Private clients
Zone Aviation	Airport-related – transferable	9	Zone Aviation provides aircraft management, aircraft rental, aircraft purchase and flight training services.	Private clients
Paratus Air (FTEs included in Signature Flights count)	Airport-related – transferable	-	Provides helicopter tours and charters out of Burke Lakefront Airport.	Private clients
Mined Up	Non-airport related	5	Cryptocurrency mining business	Cryptocurrency markets
International Women’s Air and Space Museum & Education Center	Non-airport related	4	Collects, preserves, and exhibits women’s contributions and culture in all areas of aviation and aerospace.	Museum patrons/ general public
Lean Dog Software	Non-airport related	4	Specializes in Agile Transformation and custom software application development.	Fortune 100 companies, start-ups, and small businesses
City Parking	Non-airport related	5	City Parking provides standard parking services in a 660-space vehicle lot.	BKL employees and visitors
Big Play	Non-airport related	25	Live sports network, specializing in production, media, merchandising, advertising, E-Commerce, and sports betting.	Private clients
CHA Construction	Non-airport related	11	Provides clients with a combination of engineering, technology, architecture, design, and management expertise.	Public and private clients
Wargo Law	Non-airport related	1	Provides legal services related to personal injury, product liability, construction, insurance, and residential disputes.	Public and private clients
Kurtz Bros	Non-airport related	18	Landscaping, with specialization in water management, and production of topsoil, compost, and mulch. Owns contract for processing and sale of materials from CDF 9 and 12.	Landowners and landscapers
Cleveland Fire Department Employee Assistance Unit	Non-airport related (not modeled)	3	Manages interdepartmental matters and HR issues.	Cleveland firefighters
Cleveland Police Dept. Department Employee Assistance Unit	Non-airport related (not modeled)	12	The CPD E.A.U. supports Cleveland Police by supervising interdepartmental matters and HR issues.	Cleveland police

Methods

Economic Impact Modeling

This analysis uses IMPLAN, an input output modeling software, to estimate the economic impacts from ongoing operations of each of the scenarios. IMPLAN is an industry-standard software used to assess the economic and job creation impacts of economic development projects. IMPLAN translates an initial amount of direct economic activity into the total amount of economic activity that it supports, which includes multiple waves of spillover impacts generated by spending on goods and services and by spending of labor income by employees. Direct economic activity generated by the ongoing operations of BKL translates into additional economic activity:

First, some portion of the direct expenditures goes to the purchase of goods and services which get circulated back into an economy when those goods and services are purchased from local vendors. This is the **indirect effect** and reflects the fact that local purchases of goods and services support local vendors, which in turn require additional purchasing with their own set of vendors.

Second, annual salaries are paid to the construction employees and later, the employees on the proposed Project. That labor income gets circulated back into an economy when those employees spend some of their earnings on various goods and services. This is the **induced effect** and reflects the fact that some of those goods and services will be purchased from local vendors, further stimulating the local economy.

Throughout this report, total economic impact is the sum of direct economic footprint and the indirect and induced effects generated by that direct footprint. Total economic impact for the City is derived from total economic impact for the county, which is the economic region chosen as the geography for IMPLAN modeling.

Jobs are reported as full-time employment equivalents (FTEs). IMPLAN generates job estimates based on the term “job-years,” or how many jobs will be supported each year. These can be a mix of full- and part-time employment. Consequently, job creation could feature more part-time jobs than full-time jobs. To account for this, IMPLAN has a multiplier to convert annual jobs to full-time equivalent jobs.

Fiscal impact analysis approach

Fiscal impact analysis evaluates the contribution of airport activities to the tax revenue of the City of Cleveland. Since BKL is run by the City of Cleveland and other government agencies, some aspects of the operation are tax-exempt. However, the activities generated through the private sectors are largely tax-generating. Therefore, this analysis looks at the following types of tax generated from taxable activities in the existing condition, the closure scenario, the maximum, minimal, and hybrid alternative scenarios.

Figure A.3: City Government Funding and Tax sources Evaluated for the Fiscal Impact Analysis

Fund	Tax Source	Tax Rate	Notes
General Fund	Income Tax	2.5%	For individuals and business profits generated within the City. Total wage is used as an approximate base for calculation.
General Fund	Parking Tax	8%	For all parking within the City.
General Fund	Hotel Tax	3%	An excise tax for hotel reservations.
General Fund	Commercial Property Tax	3.49%	2023 rate for the City. Some properties are tax exempt and eligible for subsidies or tax reduction. Future rates subject to change and decision is made at the state level through voter millage and total property values
Cleveland Airport System		-	The Cleveland Airport System enterprise fund, a financially independent is used to operate BKL and CLE

Note: There is no sales or business tax at the city level, however, activities that produce sales or business tax contribute to higher level of governments. The State Local Government Fund is such a fund that would be affected by those activities. 1.66 percent of the state General Revenue Fund goes into State local government funds, then this is redistributed to counties, municipalities, and townships. This is not included in the analysis the marginal size of the revenue to Cleveland and the uncertainty of how the fund is distributed.

Source: 2023 Budget Book, City of Cleveland, Ohio. (n.d.). <https://www.clevelandohio.gov/sites/clevelandohio/files/finance-docs/2023BudgetBook.pdf>

The fiscal impact is calculated using the above tax rates and their respective tax revenue base. For income tax, the approximate base is total wages estimated from all activities, assuming all happening within the City. The income comes from wages for people working in the airport operations, general aviation, all business tenants onsite, air show, and regional tourism (considering all happening in the City). For parking tax, the tax revenue base is total parking cost paid by consumers in the 660-space parking lot. However, since the City provided parking tax as an expenditure item, the total parking tax is directly extracted from that record. Meanwhile, using the total parking tax, the parking tax rate, and the 660 space, the analysis estimates an average annual parking cost generated per space at \$832. For hotel tax, the tax revenue base is total loading fee assumed through sales of room services. For commercial property tax, the tax revenue base is the total market values of residential, retail, and hotel properties appraised by the income they generate.

Valuation of Open Space Approach

The approach taken to valuing a recreational park at the Burke Lakefront Airport (BKL) site in future development scenarios follows the general principles of the United States Department of Transportation’s (USDOT) Benefit-Cost Analysis (BCA) guidelines. In the analysis the value of the land reuse scenario is a measure of the social benefits that can be considered as the value ascribed to the park by users that is beyond what they would be willing to pay for the amenity. Social benefits are commonly grouped into several categories and quantified in monetary terms. The categories of benefits included in this analysis are quality of life and environmental sustainability benefits.

Quality of life benefits include recreation benefits and health benefits to new users. These measures are estimated for various demographic and user groups from the participation survey included in the most recent Statewide Comprehensive Outdoor Recreation Plan (SCORP) for Ohio along with the 5-Year American Community Survey (ACS) published in 2021. These assumptions informed the volume of

participation for calculating the social benefits that can be expected to result from recreational sport activity. Recreation benefits were estimated using multipliers for physical activity benefits and metabolic equivalency measures (MET) from the Compendium of Physical Activities, last updated in 2000, along with a collection of peer-review medical studies on the positive impacts of recreational activity. To project cost savings and the value of an improved quality of life, these data were used in conjunction with research on the costs of worker’s compensation, and physically unavailable workers to project the cost savings benefits that would result from improved community health outcome in the impact population.

Environmental sustainability benefits include air quality improvements and water drainage benefits. For air quality improvements, the USDOT BCA guidance is used to quantify the value of reduced emissions on a per dollar basis. For water drainage benefits, the cost savings from avoided water treatment costs due to reductions in stormwater runoff was used to represent the benefits of improving the permeability of the surface through various measures, such as improved tree coverage, green and grey infrastructure design, etc.

Figure A.4: Cleveland National Air Show Revenue and Expenses, FY 2021

Category	Amount
Revenues	
Contributions and Grants	\$0
Program Service Revenue	\$2,102,605
Investment Income	\$348
Total Revenue	\$2,102,953
Expenses	
Grants And Similar Amounts Paid	\$0
Employee Compensation	\$454,421
Professional Fundraising Fees	\$0
Total Fundraising Expenses	\$0
Other Miscellaneous Expenses	\$1,208,696
Total Expenses	\$1,663,117
Net	\$439,836

Source: City of Cleveland and ESI, 2023

Challenges to Closure and Development of Burke Airport

Federal Aviation Administration Requirements

The closure of BKL would require close coordination with and, in most cases, approval from the Federal Aviation Administration.²⁷ The FAA's regulations and processes are designed to ensure that the closure of any airport, including BKL, benefits civil aviation. In addition, any closure will be evaluated for its Impact to the National Airspace System (NAS). BKL is a reliever airport for CLE, and holds a Part 139 Certificate from the FAA, which means that the airport can support commercial air carrier operations safely.²⁸

Airport closures are, as a rule, relatively rare, and the steps to airport closure typically take between 3 and 5 years, sometimes longer. Closure proceedings will require close coordination with the Airport District Office (ADO), which is involved with the day-to-day operations of BKL as well as grant applications, and the Office of Airport Compliance, which oversees the FAA's policy of airport closure. The closure process involves assessing the viability of the airport and, ultimately, producing a business case for closing the airport. The ADO and OAC will rely heavily on the feasibility element with the local master plan for BKL to assess the merits of closure and will consider the role of BKL within both Ohio's State System Plan and the National Plan of Integrated Airport System.

Closures typically require that a site for an alternative airport is already identified or that land currently occupied by an airport be sold to generate revenue to support the construction of a new airport in a more advantageous location.

Grant Obligations

Between 2010 and 2023, BKL received approximately \$18.1 million in grant funding from the FAA and an additional \$1.5 million from the Ohio Department of Transportation (ODOT). If BKL is closed, the City would be required to repay the unamortized portion of these grants, which amounts to \$10 million.

In addition to the obligation to repay these grants, the sponsorship of BKL is intricately linked with Cleveland Hopkins International Airport (CLE). Both airports, having received federal dollars, are bound by grant assurances that mandate their continuous operation. Consequently, the cessation of operations at BKL would not only breach these assurances but also potentially jeopardize the federal funding for CLE, unless BKL were closed in a way that met the requirements of the FAA.

²⁷ The administration could bypass FAA requirements to close BKL through a legislative closure through an act of Congress.

²⁸ A Part 139 certificate refers to an airport operating certificate issued by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations Part 139 (14 CFR Part 139). This certification is required for airports in the United States that serve scheduled and unscheduled air carrier aircraft with more than 30 seats, as well as airports that serve scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats. The Part 139 certification process establishes standards for the operation and management of commercial service airports. These standards are designed to ensure safety in air transportation.

Figure A.5. Government Funds Spending Condition by Burke Lakefront Airport (BKL) from 2010 to 2023

Grant Name	Total Amount	Amount Spent	Unamortized Obligation	Year of Expiration	Year of Issuance
FAA Grants					
Update Airport Master Plan Study [Phase 1]	\$146,249	\$87,749	\$58,500	2030	2010
Improve Runway Safety Area [Environmental/Design (#16-19, 21-22)] - 06l/24r	\$1,021,152	\$510,576	\$510,576	2032	2012
Improve Runway Safety Area [Design (#16-19, 21-22)] - 06l/24r	\$734,420	\$367,210	\$367,210	2032	2012
Improve Runway Safety Area [Construction (#16-19, 21-22)] - 06l/24r	\$4,779,888	\$2,389,944	\$2,389,944	2032	2012
Improve Runway Safety Area - 06l/24r	\$9,775,388	\$4,398,925	\$5,376,463	2033	2013
Update Airport Master Plan Study	\$224,068	\$89,627	\$134,441	2034	2014
Rehabilitate Taxiway	\$263,756	\$105,502	\$158,254	2028	2018
Cares	\$157,000	\$78,500	\$78,500	2024	2020
Rehabilitate Taxiway	\$116,735	\$23,347	\$93,388	2030	2020
Acquire Aircraft Fire Fighting Vehicle	\$705,787	\$47,052	\$658,735	2036	2021
Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA) Contract Tower	\$34,162	\$8,540	\$25,622	2025	2021
Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA) Funds	\$57,000	\$14,250	\$42,750	2025	2021
General Arp	\$148,000	\$37,000	\$111,000	2025	2021
FAA Total	\$18,163,605	\$8,158,222	\$10,005,383		
ODOT Grants					
Pavement: Rehab Runway 6r-24l, Phase I	\$601,296	\$601,296	\$0	2038	2018
Rehabilitate Taxiway	\$15,992	\$15,992	\$0	2039	2019
Pavement: Rehabilitation Of Runway 6r/24l, Phase II	\$850,803	\$850,803	\$0	2039	2019
ODOT Total	\$1,468,091	\$1,468,091	\$0		
Grand Total	\$19,631,696	\$9,626,31	\$10,005,383		

Source: CHA Consulting, 2022; City of Cleveland and ESI, 2023

Subsurface Conditions

The Burke Lakefront Airport site has a complex history of land use and waste disposal which presents unique challenges for any future development. In the early 1900s, the infield land of the shoreline, which includes part of the airport, was the site of the Cleveland Municipal Dump, and was used for the disposal of unregulated industrial and household waste. There are no historical records of what material was dumped on the site, but sampling of various points across the site has demonstrated the type and depth of fill material varies significantly.

A Nike Missile site, which was part of the Cold War homeland defense infrastructure, occupied the northern portion of the airport site in the 1950s. Given its military nature there is little information about how the site was used.

Beyond waste dumping, much of the airport's acreage was formed by the construction of contained dike facilities for lake and river dredging, as well as the deposition of clean fill and construction and demolition debris (a practice continued today at the Confined Disposal Facilities discussed below). However, given the historical pollution of the Cuyahoga River and Lake Erie's nearshore areas, these materials may also be potentially hazardous.

Several studies conducted over decades have revealed a diverse mix of materials in the soil, including clay, silt, gravel, sand, rock fragments, slag, organic matter, brick, concrete, asphalt, glass, plastic, wooden pieces, and metal shavings. Notably, a 1992 report by BKL Phase I ESA and R&R International indicated that fill materials could be as deep as thirty feet in some areas. The subsurface investigations also found evidence of methane gas and petroleum.

Any construction on the airport site must comply with Ohio EPA Rule 3745-27, which regulates the handling, treatment, and disposal of solid waste and construction debris. This includes obtaining a Rule 3745-27-13 authorization request before any drilling or construction excavation. Additionally, the constructed buildings may require explosive gas monitoring or mitigation measures due to the detected methane gas and petroleum odor.

Given the site's varied and potentially hazardous subsurface conditions, engineering and architectural designs will need to incorporate specific controls to address these challenges. This includes considerations for the extreme variations in subsurface materials, which can occur even within short distances.

In short, the complex and varied history of the airport site, characterized by its use as a landfill, military facility, and dredging area, has resulted in a challenging environment for construction. The presence of a wide range of materials, some potentially hazardous, necessitates thorough site investigation and careful planning. Compliance with Ohio EPA regulations is mandatory, and engineering solutions must be tailored to address the unique conditions of the site. While this study does not delve into the cost implications of these challenges, it underscores the need for further detailed study and careful consideration of the site's conditions before any construction project is undertaken.²⁹

²⁹ Material about the subsurface conditions at BKL were summarized by Kimberley McGreal, DPC Environmental Services Manager Cleveland Hopkins International Airport (CLE).

Confined Disposal Facilities

There are three active Confined Disposal Facilities (CDFs) adjacent to the north and northeastern edge of BKL. These CDFs are designated areas engineered to allow for the safe disposal of dredged materials from the Cuyahoga River that are removed to maintain it as a navigable waterway. Both the Army Corps of Engineers and the Cuyahoga-Cleveland County Port Authority manage the CDFs.

Understanding the life cycle of the CDFs is important for the context of evaluating the economic impacts of potentially closing BKL. Even if BKL were to close, the CDFs would still need to operate, and closing the CDFs would require a parallel planning process to closing BKL, requiring the involvement of the Army Corps of Engineers. However, maximizing the potential of the BKL site requires considering the development of the CDFs.

Today, between 225,000 to 250,000 cubic yards of dredged material from the Cuyahoga River goes into the three CDFs north of BKL: CDFs 9, 12 and 10b. CDFs 9 and 12 are managed by the Port Authority, while 10b is operated by the Army Corps of Engineers. CDF 10b receives about 50,000-60,000 cubic yards of material from the last mile of the Cuyahoga River, which is the most toxic dredge material. CDFs 9 and 12 receive the balance of the dredge material, which is processed and harvested for reuse as fill throughout the Cleveland area.

According to the Army Corps of Engineers, the operational lifecycle for these CDFs is estimated to extend into the late 2020s and early 2030s, with about 7-9 years remaining until they are exhausted under current operating conditions. However, there are currently no immediate alternative locations for the placement of the dredge material. The Cleveland-Cuyahoga County Port Authority estimates that the CDFs will have to remain active for another 15 years. Following their closure, the conversion of these sites into other forms of land use, such as open spaces, is expected to take an additional 2-3 years.

To address the long-term need for dredge material, the Cleveland Harbor Eastern Embayment Resilience Strategy (CHEERS) project is being planned. CHEERS is a new CDF east of the airport, doubling as a resiliency project. It is expected to take 20 years to fully develop, with features like a cove filled to a depth of 10 feet for paddling activities. Construction is planned to start in about 5 years, although there are still obstacles to moving the project forward.

If the CDFs were successfully closed, the sites would require an additional 2-3 years to convert them to a new use. The most likely use for the closed CDF sites is as urban park, as was done at the Lakefront Nature Preserve.³⁰

³⁰ Material for this section was obtained through interviews with the Army Corps of Engineers and the Cleveland-Cuyahoga County Port Authority.

Project Team

This report was produced by Econsult Solutions, Inc. (“ESI”) in collaboration with The Riddle Company and Robert P. Madison, International.

About Econsult Solutions, Inc.

ESI is a Philadelphia-based economic consulting firm that provides businesses and public policy makers with economic consulting services in urban economics, real estate economics, transportation, public infrastructure, development, public policy and finance, community and neighborhood development, planning, as well as expert witness services for litigation support. Its principals are nationally recognized experts in urban development, real estate, government and public policy, planning, transportation, non-profit management, business strategy and administration, as well as litigation and commercial damages. Staff members have outstanding professional and academic credentials, including active positions at the university level, wide experience at the highest levels of the public policy process and extensive consulting experience.

About The Riddle Company

The Riddle Company (TRC) is DC-based, woman-owned real estate and economic development marketing consulting practice. TRC provides an array of services to support business attraction and economic investment including strategic marketing and planning, market and client research, business attraction strategies, and media and public relations.

Since inception in 1991, The Riddle Company has established a diverse portfolio of private and public clients which includes real estate development companies, brokers and investors, economic development organizations, and downtown development organizations.

About Robert P. Madison, International

Robert P. Madison International, Inc. (RPMI) is a woman, minority-owned full service architectural firm that has been in business for 67 years. It is a second-generation firm located in Cleveland, Ohio. They design all types of structures including but not limited to k-12 Schools, Office Buildings, Medical Offices and have collaborated on several building types such as museums, hotels, theatres, science centers, churches, and hospitals.

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