



## Dunn Mine and Construction & Demolition Debris Facility Economic and Fiscal Benefits Analysis

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### INTRODUCTION

AKRF was retained to estimate the economic and fiscal benefits associated with the annual operations of the Dunn Mine and Construction & Demolition Debris Facility (Facility or Dunn Facility), an approximately 90-acre facility located in the City of Rensselaer and the Town of North Greenbush in Rensselaer County, New York. Construction and demolition debris (C&D) disposal operations began at the Facility in 2015, in part as a means to reclaim the sand and gravel mine that has been in operation since the 1800s on the same property.

The Dunn Facility's operations result in increased economic and fiscal activity in the County of Rensselaer, the Capital Region, and the broader New York State economy in the form of employment, labor income, economic output, and tax revenues. AKRF's estimates of these economic and fiscal benefits are based on the Dunn Facility's 2021 operational and capital expenditures, modeled using the IMPLAN (IMpact analysis for PLANning) input-output modeling system. The IMPLAN model supports estimates of the economic and fiscal benefits generated from direct (on-site) spending, indirect (supply-chain) expenditures, and induced expenditures from employee spending. AKRF's 2021 estimates likely understate the economic and fiscal benefits of the Dunn Facility's future operations given that there was less overall economic activity associated with the Facility's operations in 2021 relative to pre-pandemic years.

### PRINCIPAL FINDINGS

As summarized in **Table 1** and detailed further in this report, the Dunn Facility's annual operating activities generate the following economic and fiscal benefits within the local, regional, and New York State economies:

- Annual operations support 73 jobs within New York State, including 55 jobs within Rensselaer County and 66 jobs in the four-county Capital Region.
- The employment supported by the Dunn Facility's operations generates nearly \$4.9 million annually in labor income within New York State, including approximately \$3.6 million in Rensselaer County and \$4.4 million in the Capital Region.
- Total annual economic output generated by the Dunn Facility's operations is estimated to be nearly \$18.7 million within New York State, including \$13.8 million within Rensselaer County and \$17.3 million within the Capital Region.
- In addition to host fees, economic activities associated with the Dunn Facility's operations generate an estimated \$937,000 in tax revenues annually to jurisdictions within New York State. This includes approximately \$245,000 annually to local taxing jurisdictions (e.g., City of Rensselaer, Town of North Greenbush), \$242,000 in tax revenues to counties in New York State, and \$450,000 in New York State tax revenues.

**Table 1**  
**Annual Economic & Fiscal Benefits Summary**  
**Dunn Facility**

**Economic Benefits**

	Rensselaer County	Capital Region <sup>1</sup>	New York State
<b>Employment (Full- and Part-Time)</b>			
Direct	28	28	28
Indirect	20	23	26
Induced	7	15	19
<b>Total</b>	<b>55</b>	<b>67</b>	<b>73</b>
<b>Labor Income<sup>2</sup> (in 2022 dollars)</b>			
Direct	\$1,872,000	\$1,872,000	\$1,872,000
Indirect	\$1,395,000	\$1,647,000	\$1,899,000
Induced	\$337,000	\$869,000	\$1,111,000
<b>Total</b>	<b>\$3,604,000</b>	<b>\$4,387,000</b>	<b>\$4,882,000</b>
<b>Economic Output<sup>3</sup> (in 2022 dollars)</b>			
Direct	\$10,405,000	\$10,405,000	\$10,405,000
Indirect	\$2,389,000	\$4,348,000	\$5,042,000
Induced	\$1,053,000	\$2,584,000	\$3,214,000
<b>Total</b>	<b>\$13,847,000</b>	<b>\$17,336,000</b>	<b>\$18,661,000</b>

**Fiscal Benefits**

<b>Local Taxes</b>	<b>\$245,000</b>
<b>County Taxes</b>	<b>\$242,000</b>
<b>New York State</b>	<b>\$450,000</b>

**Notes:**

1. For purposes of this analysis, the Capital Region is defined as the counties of Albany, Rensselaer, Saratoga, and Schenectady.
2. Labor income is the sum of wages and salary, benefits, and proprietor income.
3. Economic output is the total value of industry production.

Jobs estimates are rounded to the nearest job and dollar values are rounded to the nearest thousand. Totals may not sum due to rounding.

Sources: 2020 IMPLAN model; AKRF, Inc.; operating and capital expenditures provided to AKRF by S.A. Dunn & Company, LLC.

**METHODOLOGY**

AKRF used the IMPLAN (IMPact analysis for PLANning) input-output modeling system to estimate the economic and fiscal benefits of annual operations. IMPLAN was developed by the U.S. government and subsequently privatized by professors at the University of Minnesota. IMPLAN uses the most recent economic data from sources such as the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor Statistics, and the U.S. Census Bureau to predict effects on the local economy from changes in direct non-payroll expenditures and employment (e.g., during annual operation).

The IMPLAN model contains data on 546 economic sectors, showing how each sector affects every other sector as a result of a change in the quantity of its product or service. This indirect economic activity that is generated through direct investment is often referred to as the “ripple,” or multiplier effect.

Using IMPLAN terminology, this reporting breaks out economic impacts into three components:

1. **Direct effects** represent the initial benefits to the economy of a specific new investment (e.g., this would include on-site employment and associated labor income).
2. **Indirect effects** represent the benefits generated by industries purchasing from other industries as a result of a direct investment. For example, indirect employment resulting from the Dunn Facility's operational expenditures would include jobs in industries that provide goods and services to support the Dunn Facility. A direct investment triggers changes in other industries as businesses alter their production to meet the needs of the industry in which the direct impact has occurred. These businesses in turn purchase goods and services from other businesses, causing a ripple effect through the economy. The ripple effect continues until leakages from the region (caused, for example, by imported goods) stop the cycle. The sum of these iterative inter-industry purchases is called the indirect effect.
3. **Induced effects** represent the impacts caused by increased household income in a region. Direct and indirect effects generate more worker income by increasing employment and/or salaries in certain industries. Households spend some of this additional income on local goods and services, such as food and drink, recreation, and medical services.

The inputs used for modeling economic and fiscal benefits are based on 2021 operational and capital expenditures data provided to AKRF by S.A. Dunn & Company, LLC. As explained above, AKRF's 2021 estimates likely understate the economic and fiscal benefits of the Dunn Facility's future operations given that there was less overall economic activity associated with the Facility's operations in 2021 relative to pre-pandemic years.

All dollar amounts included in this report are constant 2022 dollars. In future years, the actual dollar amounts are expected to increase with inflation.

## ECONOMIC BENEFITS GENERATED BY OPERATIONAL EXPENDITURES

**Table 2** summarizes the estimated employment, labor income, and total economic output generated by the Dunn Facility's 2021 operating expenditures, including host fees paid to the City of Rensselaer and North Greenbush.<sup>1</sup>

### ***Employment***

The Dunn Facility's 2021 operating expenditures supported an estimated 32 full- and part-time jobs in Rensselaer County. This includes 15 direct jobs—9 full-time on-site staff and 6 staff who allocate a portion of their time to managing site operations—as well as 12 indirect jobs at area businesses supporting site operations, and 5 induced jobs supported by direct and indirect workers' household (consumer) spending. Operational expenditures support an additional indirect and induced 9 jobs outside of Rensselaer County within the Capital Region, for a total of 41 jobs supported in the Capital Region. In total, operational expenditures support an estimated 45 full- and part-time jobs in New York State.

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<sup>1</sup> Host fees are determined based on the tonnage of waste accepted by the Dunn Facility. In 2021, the Dunn Facility paid approximately \$483,000 in host fees to the City of Rensselaer and \$82,000 in host fees to the Town of North Greenbush. Due to operational fluctuations, host fees in 2021 were below the average host fees paid since 2015 (\$782,143 to the City of Rensselaer and \$140,000 to the Town of North Greenbush).

### Labor Income

Direct labor income from the annual operational expenditures is estimated at \$977,000 (see **Table 2**). Total direct, indirect, and induced labor income resulting in Rensselaer County is estimated to be nearly \$2.2 million. In the broader Capital Region economy, including Rensselaer County, the total direct, indirect, and induced labor income from operational expenditures is estimated to be approximately \$2.7 million. Labor income generated by the Dunn Facility's operational expenditures totaled over \$3.0 million within New York State.

### Total Effect on the Economy

The direct effect on the local economy from operating expenditures, measured as economic output or demand, is estimated to be nearly \$7.3 million. Based on the IMPLAN models for the Capital Region and New York State, the total economic activity resulting from operational expenditures is estimated to be approximately \$13.0 million in New York State; of that amount, \$12.0 million occurred in the Capital Region (see **Table 2**).

**Table 2**  
**Economic Benefits of Annual Operating Expenditures**  
**Dunn Facility**

	Rensselaer County	Capital Region <sup>1</sup>	New York State
<b>Employment (Full- and Part-Time)</b>			
Direct	15	15	15
Indirect	12	14	16
Induced	5	11	14
<b>Total</b>	<b>32</b>	<b>41</b>	<b>45</b>
<b>Labor Income<sup>2</sup> (in 2022 dollars)</b>			
Direct	\$977,000	\$977,000	\$977,000
Indirect	\$926,000	\$1,077,000	\$1,243,000
Induced	\$252,000	\$645,000	\$821,000
<b>Total</b>	<b>\$2,155,000</b>	<b>\$2,699,000</b>	<b>\$3,041,000</b>
<b>Economic Output<sup>3</sup> (in 2022 dollars)</b>			
Direct	\$7,250,000	\$7,250,000	\$7,250,000
Indirect	\$1,691,000	\$2,902,000	\$3,342,000
Induced	\$786,000	\$1,918,000	\$2,377,000
<b>Total</b>	<b>\$9,727,000</b>	<b>\$12,070,000</b>	<b>\$12,969,000</b>

**Notes:**

- For purposes of this analysis the Capital Region is defined as the counties of Albany, Rensselaer, Saratoga, and Schenectady.
- Labor income is the sum of wages and salary, benefits, and proprietor income.
- Economic output is the total value of industry production.

Jobs estimates are rounded to the nearest job and dollar values are rounded to the nearest thousand. Totals may not sum due to rounding.

**Sources:** 2020 IMPLAN model; AKRF, Inc.; 2021 operating and capital expenditures provided to AKRF by S.A. Dunn & Company, LLC.

## ECONOMIC BENEFITS GENERATED BY SITE IMPROVEMENTS

Each year the Dunn Facility invests in site improvements, utilizing a number of vendors from the Capital Region, including Rensselaer County. **Table 3** summarizes the estimated employment, labor income, and total economic output generated by these investments in 2021.

## Employment

The Dunn Facility’s investments in site improvements supported 19 full- and part-time jobs within Rensselaer County. This included 13 direct (on-site) jobs, 5 indirect jobs at county businesses providing goods and services that supported on-site improvements, and 1 job supported by direct and indirect workers’ consumer spending. Additional indirect and induced jobs were realized within the Capital Region and New York State, for a total of 24 New York State jobs supported by site investments.

**Table 3**  
**Economic Benefits of Site Improvements**  
**Dunn Facility**

	Rensselaer County	Capital Region <sup>1</sup>	New York State
<b>Employment (Full- and Part-Time)</b>			
Direct	13	13	13
Indirect	5	6	7
Induced	1	3	4
<b>Total</b>	<b>19</b>	<b>22</b>	<b>24</b>
<b>Labor Income<sup>2</sup> (in 2022 dollars)</b>			
Direct	\$895,000	\$895,000	\$895,000
Indirect	\$279,000	\$377,000	\$459,000
Induced	\$72,000	\$191,000	\$251,000
<b>Total</b>	<b>\$1,246,000</b>	<b>\$1,463,000</b>	<b>\$1,605,000</b>
<b>Economic Output<sup>3</sup> (in 2022 dollars)</b>			
Direct	\$3,155,000	\$3,155,000	\$3,155,000
Indirect	\$437,000	\$1,166,000	\$1,410,000
Induced	\$227,000	\$569,000	\$724,000
<b>Total</b>	<b>\$3,819,000</b>	<b>\$4,890,000</b>	<b>\$5,288,000</b>

**Notes:**

1. For purposes of this analysis the Capital Region is defined as the counties of Albany, Rensselaer, Saratoga, and Schenectady.
2. Labor income is the sum of wages and salary, benefits, and proprietor income.
3. Economic output is the total value of industry production.

Jobs estimates are rounded to the nearest job and dollar values are rounded to the nearest thousand. Totals may not sum due to rounding.

Sources: 2020 IMPLAN model; AKRF, Inc.; 2021 capital expenditures provided to AKRF by S.A. Dunn & Company, LLC.

## Labor Income

Direct labor income generated by site investments is estimated at \$895,000 (see **Table 3**). Total direct, indirect, and induced labor income resulting in Rensselaer County is estimated to be over \$1.2 million. In the broader Capital Region economy, including Rensselaer County, the total direct, indirect, and induced labor income from site investments is estimated to be nearly \$1.5 million. Labor income generated by the Dunn Facility’s site investments totaled over \$1.6 million within New York State as a whole.

## Total Effect on the Economy

The direct effect on the local economy from site investments, measured as economic output or demand, is estimated to be nearly \$3.2 million. Based on the IMPLAN models for the Capital Region and the State, the total economic activity resulting from site investments in 2021 is

estimated to be approximately \$5.3 million in New York State; of that amount, \$4.9 million occurred in the Capital Region (see **Table 3**).

## ECONOMIC BENEFITS GENERATED BY LOCAL CONTRIBUTIONS

Each year the Dunn Facility makes non-tax contributions to local institutions and charitable organizations. While these donations do not generate new direct jobs, the purchases made with these monies support jobs and generate economic activity within the local, regional, and state economies. **Table 4** summarizes the economic benefits of the Dunn Facility's 2021 contributions, which included: \$125,000 to the Rensselaer City School District; \$30,000 to the Rensselaer Fire Department; \$11,500 to Circles of Mercy (a social services organization in Rensselaer); and \$44,000 to the Rensselaer City School District's Athletics Program.

**Table 4**  
**Economic Benefits of Local Contributions**  
**Dunn Facility**

	Rensselaer County	Capital Region <sup>1</sup>	New York State
<b>Employment (Full- and Part-Time)</b>			
Indirect	3	3	3
Induced	0	1	1
<b>Total</b>	<b>3</b>	<b>4</b>	<b>4</b>
<b>Labor Income<sup>2</sup> (in 2022 dollars)</b>			
Indirect	\$190,000	\$193,000	\$197,000
Induced	\$13,000	\$32,000	\$39,000
<b>Total</b>	<b>\$203,000</b>	<b>\$225,000</b>	<b>\$235,000</b>
<b>Economic Output<sup>3</sup> (in 2022 dollars)</b>			
Indirect	\$260,000	\$279,000	\$290,000
Induced	\$40,000	\$97,000	\$113,000
<b>Total</b>	<b>\$301,000</b>	<b>\$376,000</b>	<b>\$404,000</b>

**Notes:**

1. For purposes of this analysis the Capital Region is defined as the counties of Albany, Rensselaer, Saratoga, and Schenectady.
2. Labor income is the sum of wages and salary, benefits, and proprietor income.
3. Economic output is the total value of industry production.

Jobs estimates are rounded to the nearest job and dollar values are rounded to the nearest thousand. Totals may not sum due to rounding.

**Sources:** 2020 IMPLAN model; AKRF, Inc.; local contribution amounts provided to AKRF by S.A. Dunn & Company, LLC.

### **Employment**

The Dunn Facility's 2021 contributions supported an estimated 3 full- and part-time jobs in Rensselaer County at businesses from which donation monies are utilized (e.g., suppliers of food for needy families, suppliers of sports equipment). One additional job within the Capital Region was supported by these indirect workers' consumer expenditures. In total, the donations supported 4 full- and part-time jobs in New York State, all within the Capital Region.

### **Labor Income**

Total labor income generated by local contribution was estimated at \$235,000 in New York State (see **Table 4**). A vast majority of this amount (\$225,000) was realized within Rensselaer County.

### **Total Effect on the Economy**

The total effect on the local economy from year 2021 contributions, measured as economic output or demand, is estimated to be approximately \$301,000 in Rensselaer County, \$376,000 in the Capital Region (inclusive of Rensselaer County), and \$404,000 in New York State as a whole (see **Table 4**).

### **FISCAL BENEFITS OF ANNUAL OPERATIONS**

Many of the above-described economic activities generate tax revenues for local taxing jurisdictions, Rensselaer County, other counties within and outside the Capital Region, and for the State of New York. **Table 5** summarizes the estimated tax revenues generated by the Dunn Facility’s 2021 operations. These amounts do not include host fees to the City of Rensselaer and Town of North Greenbush.

**Table 5**  
**Fiscal Benefits of 2021 Operations**  
**Dunn Facility**

	Generated within Rensselaer County	Generated within Capital Region <sup>1</sup>	Generated within New York State
<b>Tax Revenues (in 2022 dollars)</b>			
Local Taxing Jurisdictions	\$163,000	\$212,000	\$245,000
Counties	\$206,000	\$236,000	\$242,000
New York State	\$360,000	\$422,000	\$450,000
<b>Total</b>	<b>\$729,000</b>	<b>\$870,000</b>	<b>\$937,000</b>

**Notes:**

1. For purposes of this analysis the Capital Region is defined as the counties of Albany, Rensselaer, Saratoga, and Schenectady. Dollar values are rounded to the nearest thousand. Totals may not sum due to rounding.

Sources: 2020 IMPLAN model; AKRF, Inc.; Operating, capital expenditures, and tax bills provided to AKRF by S.A. Dunn & Company, LLC.

### **Local Taxing Jurisdictions**

Local taxing jurisdictions include municipalities (e.g., City of Rensselaer, Town of North Greenbush) as well as local service providers (e.g., Rensselaer City School District, East Greenbush Central School District). In 2021, the Dunn Facility’s operations generated \$245,000 in tax revenues for local taxing jurisdictions in New York State. A majority of this amount (\$163,000) was accrued by local taxing jurisdictions within Rensselaer County, most notably from property taxes generated directly and indirectly by the Facility’s operations. In 2021, the Dunn Facility’s property taxes to local taxing jurisdictions included approximately: \$31,428 for the City of Rensselaer; \$38,285 for the Rensselaer City School District; \$3,728 for the Town of North Greenbush; \$5,155 for the Town of East Greenbush; and \$15,137 for the East Greenbush Central School District. Again, these property taxes are in addition to host fees paid. Other sources of local tax revenue attributed to the Dunn Facility’s operations include local allocation of state and county sales tax revenues, and indirect taxes and other fees paid by the Facility’s local vendors.

### **County Tax Revenues**

Direct, indirect, and induced activities associated with the Dunn Facility’s operations generated an estimated \$206,000 in tax revenues for Rensselaer County in 2021 (see **Table 5**). Sources of tax revenue for Rensselaer County include most notably property taxes and the county portion of sales taxes (4 percent in Rensselaer County). An additional approximately \$30,000 was

accrued by other counties within the Capital Region (i.e., Albany, Saratoga, and Schenectady) primarily from sales tax revenues paid by the Facility's vendors. Other counties within New York State also received tax revenues as a result of the Dunn Facility's operations, estimated to be approximately \$6,000 in total.

Overall, counties in New York State received an estimated \$242,000 in tax revenues as a result of the Dunn Facility's operations.

***New York State Tax Revenues***

Direct, indirect, and induced activities associated with the Dunn Facility's operations generated an estimated \$450,000 in tax revenues for the State of New York in 2021. Sources of New York State tax revenues include payroll taxes, sales taxes, motor vehicle licensing taxes, and personal income taxes. Approximately 80 percent of New York State tax revenues (\$360,000) were generated by activities occurring on- and off-site within Rensselaer County.

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