Forecasting Benefits and Public Returns for Brownfield Redevelopment

Overview on Economic and Fiscal Impact Analysis for Brownfield Redevelopment

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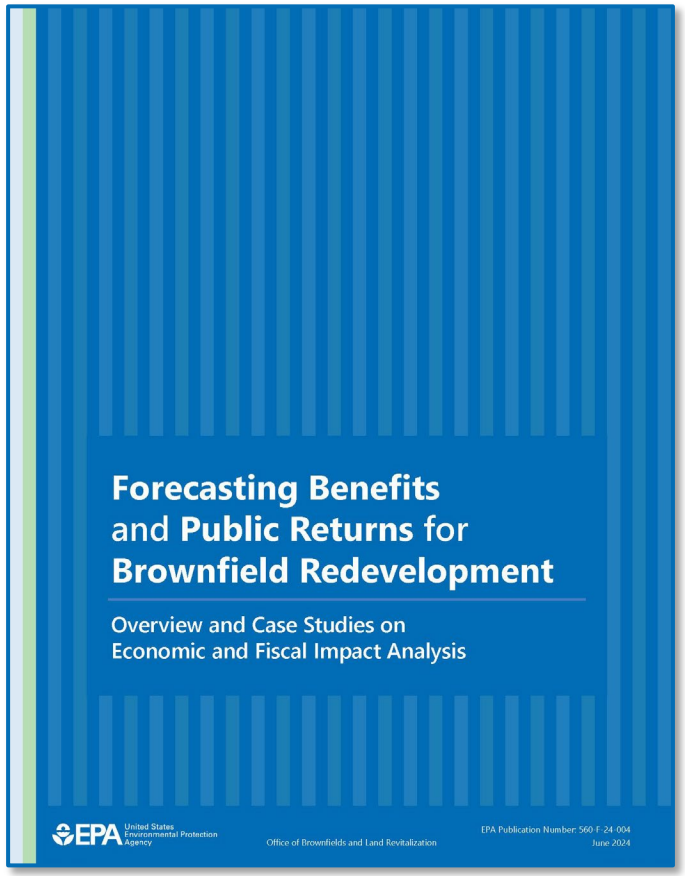
Introduction

- In June 2024, EPA published **Forecasting Benefits and Public Returns for Brownfield Redevelopment**

- An **overview** of what **economic and fiscal impact analyses** are and how it can help your projects



Have you ever wanted to **quantify** the **potential** or **observed** **impact** of a brownfields redevelopment project?

We often hear **questions** like…

- How will my project benefit the regional **economy**?
- How many **jobs** will be created by this project?
- What is the anticipated **return** on public investment?
- What is the appropriate **public investment** to encourage development?

Impact Analysis **Tools**:

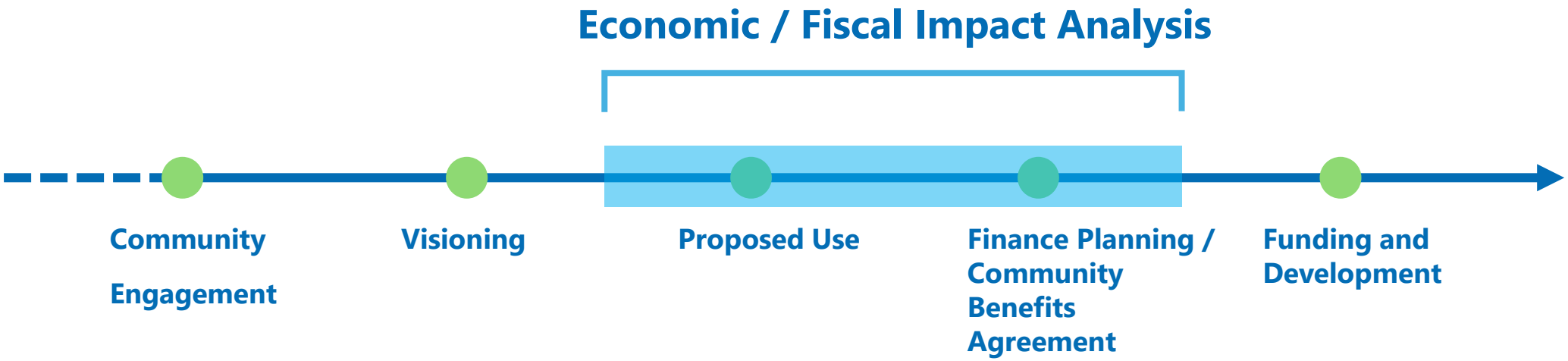
Economic Impact Analysis

- Insights on employment, wages, and industry activities.
- Direct impact from redevelopment activities, such as construction, operation, and maintenance.
- Economy-wide ripple effects, such as increased local spending in services, resulting from redevelopment activity.

Fiscal Impact Analysis

- Evaluate changes in public sector revenues, which include costs and taxes resulting from business-to-business purchases and household economic activities.
- Specific to a jurisdiction's taxation, revenue structure, and related administrative costs.

Project Timeline



Economic Impact Analysis

Economic Impact Analysis (**EIA**)

What is economic impact?

- Economic impact modeling is **conducted regionally** and is based on the idea that **industry sectors are interdependent**.
- A business purchases **labor, goods, and services** (inputs) from another and in turn sells their own (outputs).
- Regional economic impacts are generally reported as the **total change in economic indicators** across all economic sectors that result from the project.

Impact **Types**

Direct Impact

Direct spending into specific industries, usually related to project implementation.

- Site Preparation and Construction
- Equipment and Employment
- Operations and Maintenance

Indirect Impact

Spending by directly impacted sectors on supporting sectors within the supply chain.

- Material Sales
- Service Sales

Induced Impact

Spending resulting from overall increased household labor income.

- Household Spending
- Food, Healthcare, Housing etc.

A construction company is hired for the project…

The construction company purchases processed lumber that is delivered to the site…

The truck driver, lumber manufacturer, and construction worker grab lunch together…

Overview

- Combines **inputs from the community** with **publicly available data** or **proprietary data**, as needed.
- While generally considered a robust and accepted analysis, many ready-to-use economic models on the market are proprietary and use **complex methodologies**.
- Incorrect inputs and improper calibration can lead to inflated or incorrect results.
- Models are best run and interpreted by experienced professionals who can identify potential problematic inputs and outputs.

A few examples of proprietary Economic Impact Models

IMPLAN

Lightcast

REMI

Examples only; EPA does not endorse the use of these or other models

Who cares about economic impact?

- **Municipal Leaders and Staff:** Better understand whether project impact aligns with economic development goals and what type of impact is expected.

- **Community Groups:** Better understand whether benefits are localized or externalized and how impacts are felt locally in the community.

- **Private Interests:** Better support and illustrate potential project impacts to garner support for redevelopment.

Economic Impact Analysis

Case Study

Project Statistics:

Location: Small City in Pennsylvania, EPA Region 3

Conducted on behalf of: Municipal Government

Population: 6,000

Project Overview

Background:

- Small city in Pennsylvania looking to expand its biotech industry activity and workforce.
- Alignment with regional industry space-needs and training programs to plan for appropriate use of redeveloped brownfield site.
- Brownfield sites are not shovel ready and require investment to address environmental pollution, demolish buildings, and upgrade utilities, among other challenges.

Key Considerations

Private Developer/Regional Industry

- Manufacturing facility for a product utilizing screen printing and bio-material.
- Approached the City proposing partnership.
- Needed to demonstrate benefits of the project and alignment with local and regional economic development and workforce goals.

City

- Wants to attract regional industry activity and strengthen local supply-chain.
- Wants to provide new employment opportunities to current workforce.
- **Uncertain of the jobs and industry revenues that could be felt locally.**

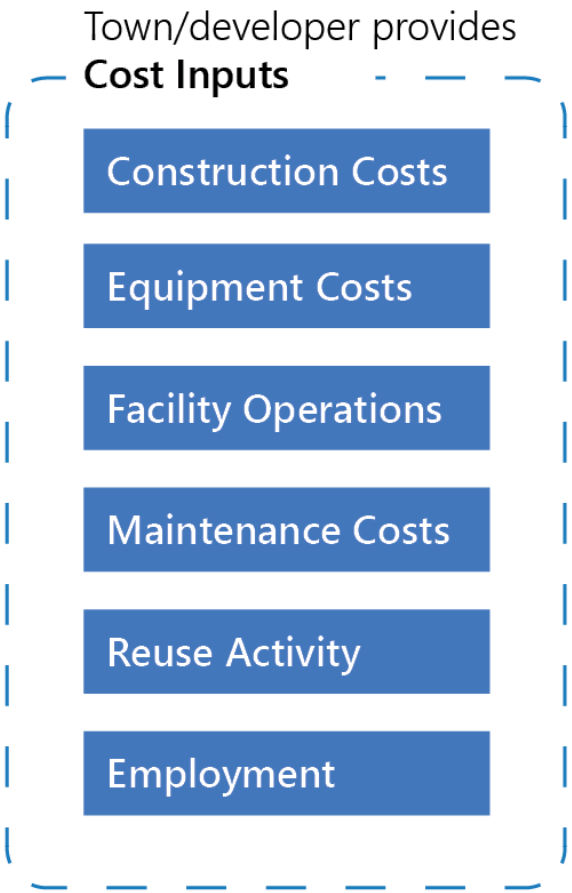
Based on the **amount of regional activity** that the project will stimulate, what **partnerships** can be created in which sectors/job categories and what **benefits** will be felt in the community?

Collecting **Inputs**

We needed to **understand**…

- **Short-term Construction Project Costs:**
  - Construction Costs
  - Land Acquisition
  - Equipment Costs
  - Professional Services

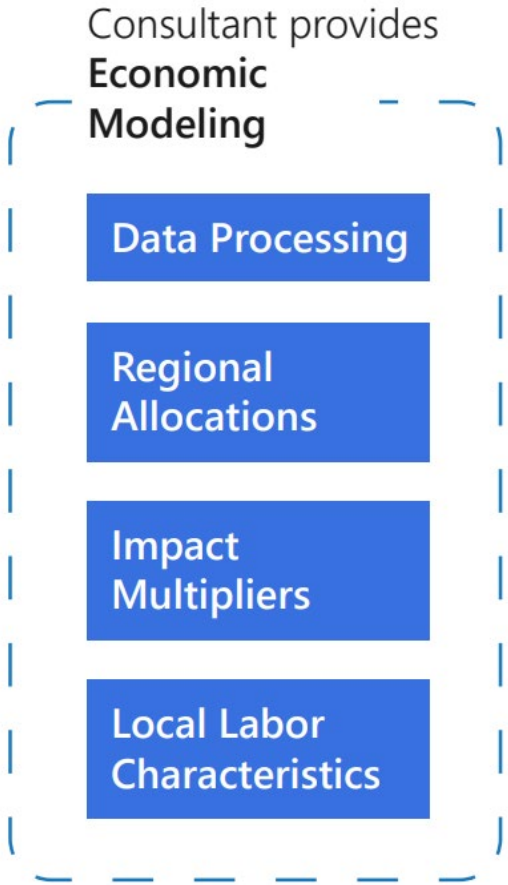
- **Long-Term Operational Costs:**
  - Reuse activity employment
  - Facility maintenance Costs



We **supplemented** with…

- **Spending Assumptions:**
  - Which industries does different spending correspond to?
  - Are project costs spent on local industries or existing businesses?

- **Multiplier Adjustments:**
  - Multipliers represent the relationship in increased local industry activities resulting from the initial spending and are different for each industry.
  - Do regional multipliers make sense for this reuse?
  - Reuses may introduce new industry to the region that have no existing multipliers and will require looking at similar industries to model.



Creating a **Model**

Categorizing spending: Construction

Cost Items for Construction Period:

1. **Site Preparation**
2. **Construction**
3. **Equipment**
    1. Assembly
    2. Printing
    3. Lamination
    4. Design and Setup

Our questions:

1. **What kind of construction?** Shell warehouse / offices / distribution area / insulated etc.?
2. **What kind of equipment and can it be sourced locally?** How much of this cost is going into suppliers within the region and how much will be imported?

Categorizing spending: Operation

Cost Items for Operation:

1. **Facility O&M**
    1. Facility Maintenance
2. **Operation**
    1. Employment
    2. Supplier Costs

Our questions:

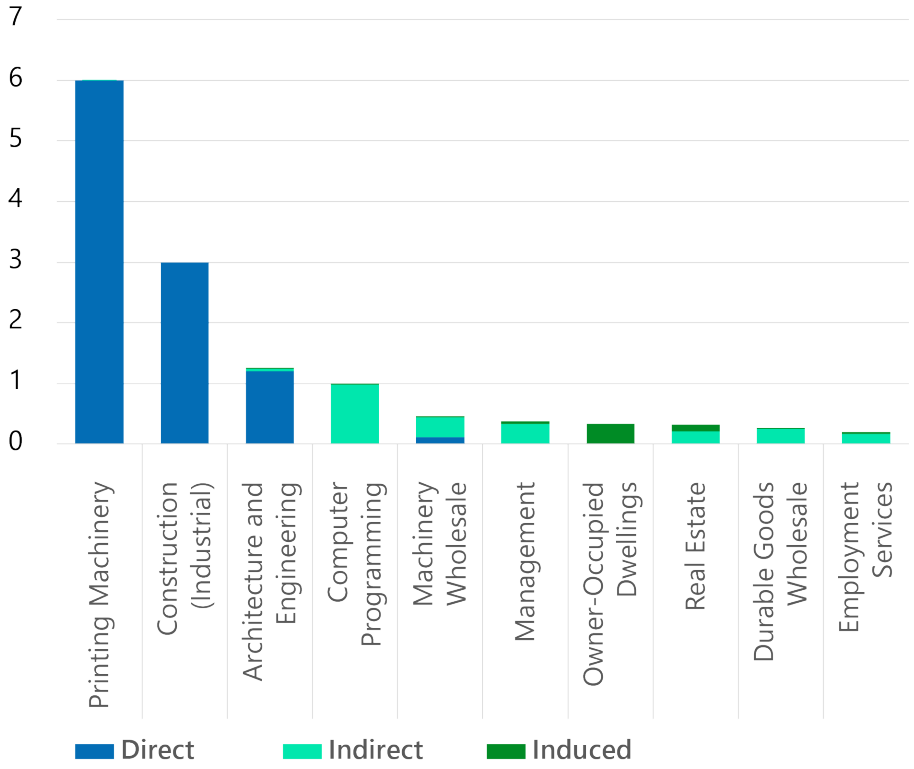
1. **Does maintenance require special knowledge?** Outside of typical building maintenance like HVAC, are there any specialized spaces like cold storage?
2. **Can employment be supported by local workforce?** Which jobs, such as an mRNA researcher, will likely be out-of-region hires?

Outcomes

Impact Outcomes: **Construction**

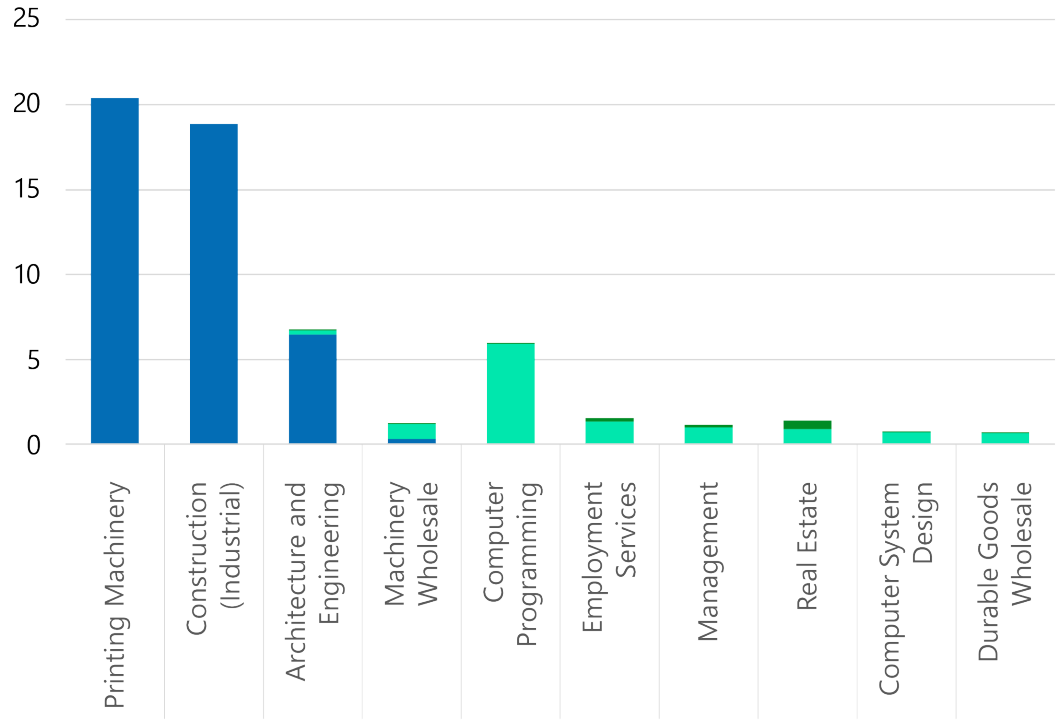
$17 Million Total Industry Impact

Construction Period **Industry Impact** (in $ Millions)



80 Total Jobs Created

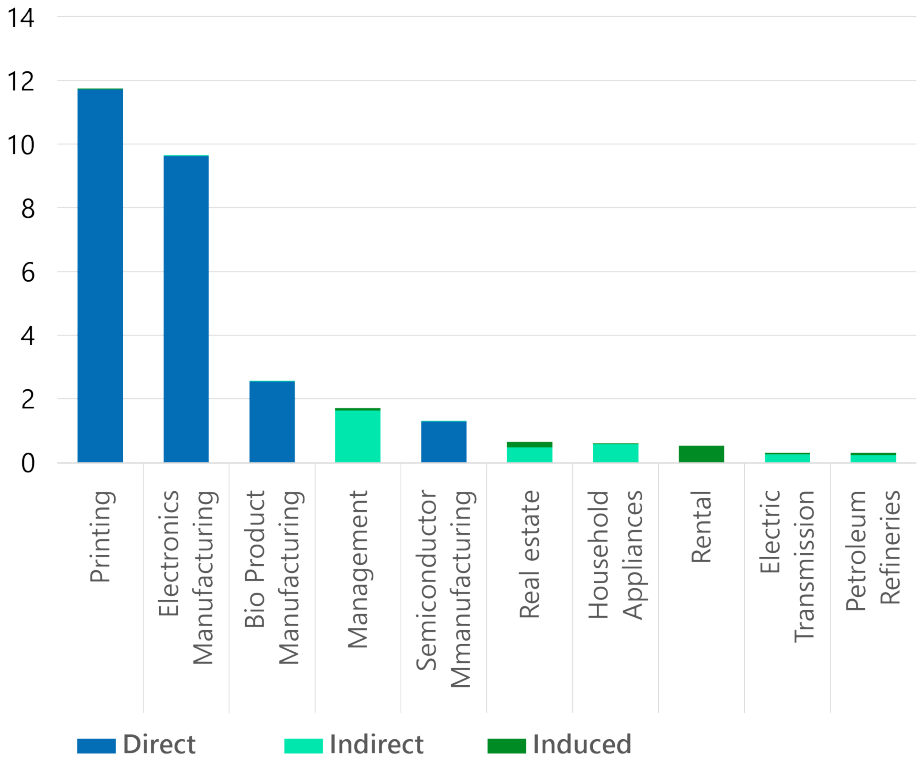
Construction Period **Job Creation** (# of Jobs)



Impact Outcomes: **Operation**

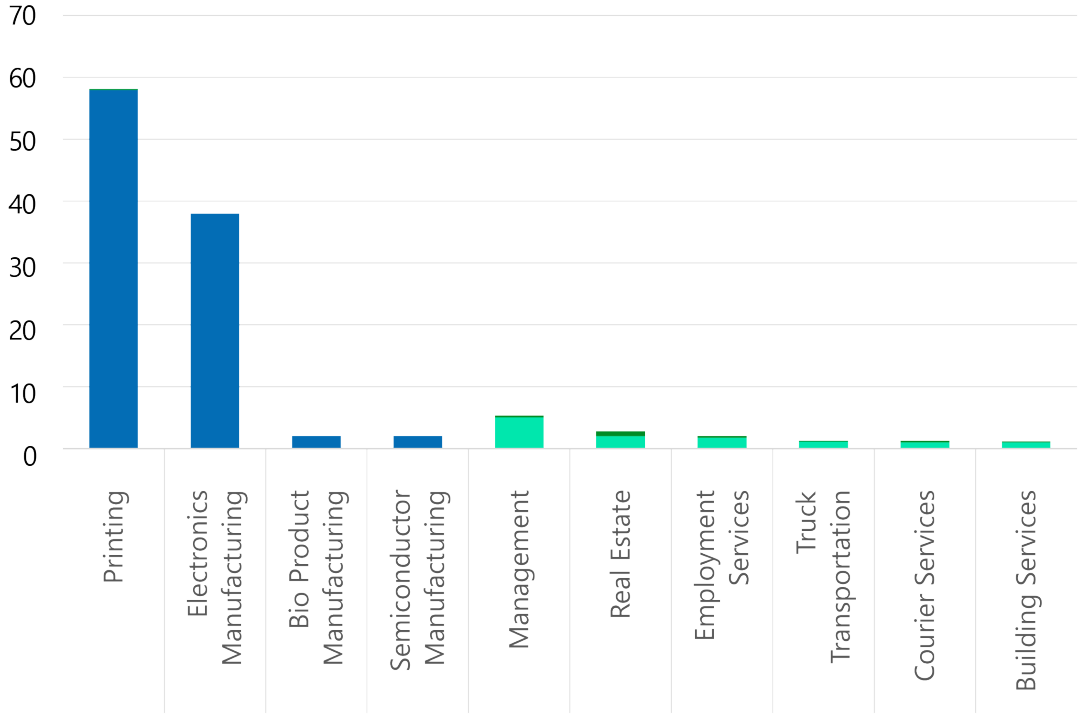
$38 Million Total Industry Impact

Operations Period **Industry Impact** (in $ Millions)



158 Total Jobs Created

Operations Period **Job Creation** (# of Jobs)



Economic Impact Study **Benefits**

The Why:

- A tool for understanding the **jobs and supply chain activity created**.
- Engagement with local leaders to **understand economic development goals and targets**.
- Provides a **basis for understanding benefits**, and whether a certain type of reuse is right for long-term goals.

The Finding:

- The project will create **80 short term jobs** and **158 long term jobs**, injecting over **$50 million** dollars over the project lifecycle.
- Some specialized labor and equipment is not available in the region and would have leaked to other regions.
- A workforce development partnership could bolster local skills so City could capture more economic activity in the long run.

The City is working with the developer to include **a workforce development strategy** in a **Community Benefits Agreement** before providing incentives and investments.

Questions

Fiscal Impact Analysis

Fiscal Impact Analysis (**FIA**)

What is fiscal impact?

- Fiscal impact measures the **affect on the budget on local government** (counties, municipalities, and other special purpose districts) resulting from redevelopment activities.

- Can be used to enable decision makers to **maximize public rates of social and financial returns**.

- Requires on-the-ground research into **local tax policy, real estate markets**, and **business sectors** and **relationships**.

Overview

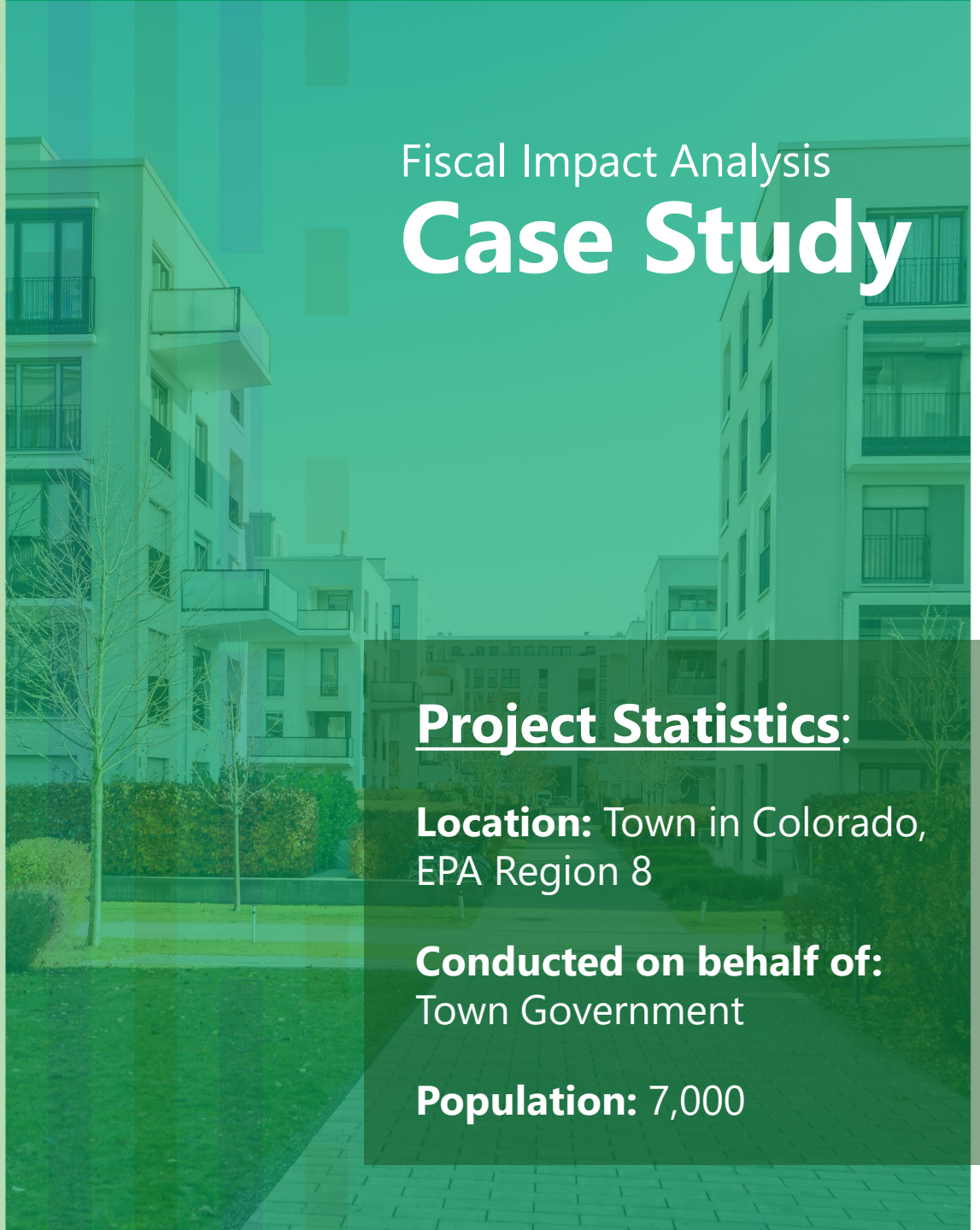
- Combines **inputs from the client or developer** with **publicly available data** or **proprietary data**, as needed.
- Conducted on an **annual, multi-year basis** over the project lifetime and uses financial modeling (instead of econometric statistical modeling).
- **Transparent** process with clear assumptions, calculations, and findings.
- Typically conducted by a professional economics consultant, municipal budget office, or economic development office.

Who cares about fiscal impact?

- **Municipal Leaders and Staff:** Better understand how tax revenue from redevelopment project aligns with public investments and incentive options.

- **Community Groups:** Better understand how taxes are spent, reason for tax changes, and how redevelopment project benefits future community investments.

- **Private Interests:** Illustrate potential project impacts with quantifiable data to secure support, incentives, and public-private partnerships for redevelopment.



Fiscal Impact Analysis

Case Study

Project Statistics:

Location: Town in Colorado, EPA Region 8

Conducted on behalf of: Town Government

Population: 7,000

Project Overview

Background:

- Small town in Colorado looking to revitalize its core district.
- Comprehensive plan and visioning advocate redevelopment of brownfield sites in downtown.
- Brownfield sites are not shovel ready and require investment to address environmental pollution, demolish buildings, and upgrade utilities, among other challenges.

Key Considerations

Private Developer

- Approached the Town proposing redevelopment.
- Due to high costs to remediate and prepare the site for redevelopment, proposed the Town partner and provide incentives.
- **Without the Towns support, project would be cost-prohibitive.**

Town

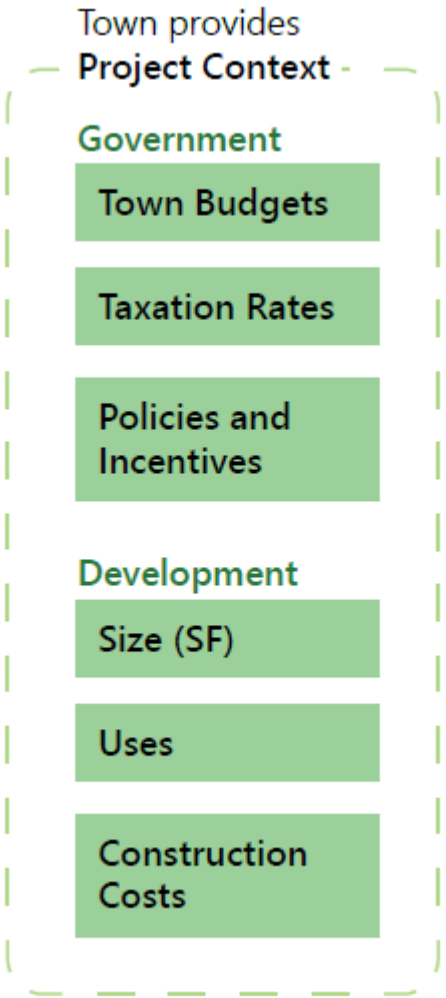
- Wants to maximize public benefits.
- Does not want to provide disproportionate windfall profits for the developer.
- **Uncertain what the magnitude, type, and structure of public financial investments are appropriate.**

What is the **amount of public investment** needed to **enable development** without exceeding a **market-typical profit rate** for the developer?

Collecting **Inputs**

We needed to **understand**…

- **Local Tax Policy:**
  - Local Tax Rate
  - Alternative Taxation Mechanisms
  - Sales Taxes
  - Other Sources of Revenue
- **Development Specs:**
  - Size
  - All Uses (Commercial, Residential, etc.)
  - Construction Costs



We **supplemented** with…

- **Operation Assumptions:**
  - Operational cost changes
  - Sales estimates based on local and regional economic conditions
- **Market Assumptions:**
  - Real estate market conditions
  - Vacancy estimates
  - Changes in revenue and costs
- **Demographic Assumptions:**
  - Job creation
  - Household changes
  - Spending changes

Creating a **Model**

Initial evaluation

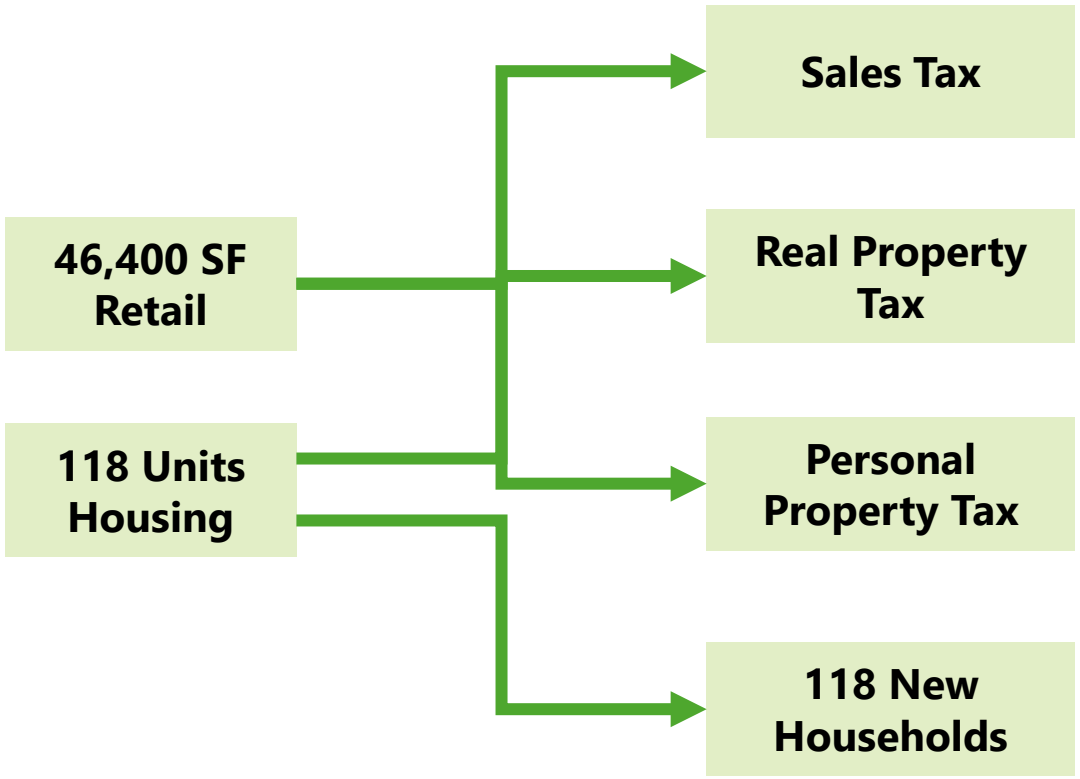
The community provided:

46,400 SF Retail

118 Units Housing

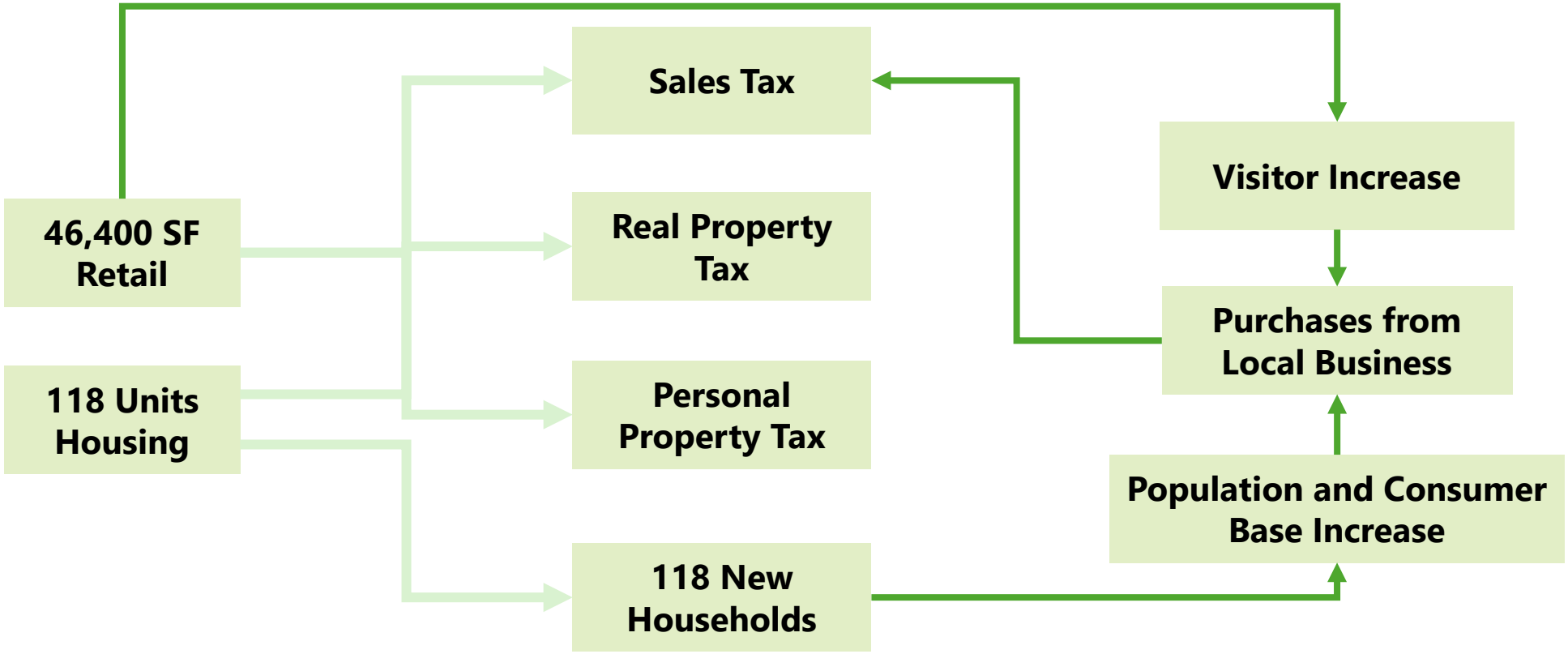
Initial evaluation

We apply tax rates to generate direct changes in revenue:



Cascading Effects

We make further adjustments and calibrated the model based on certain purchasing assumptions:



Outcomes

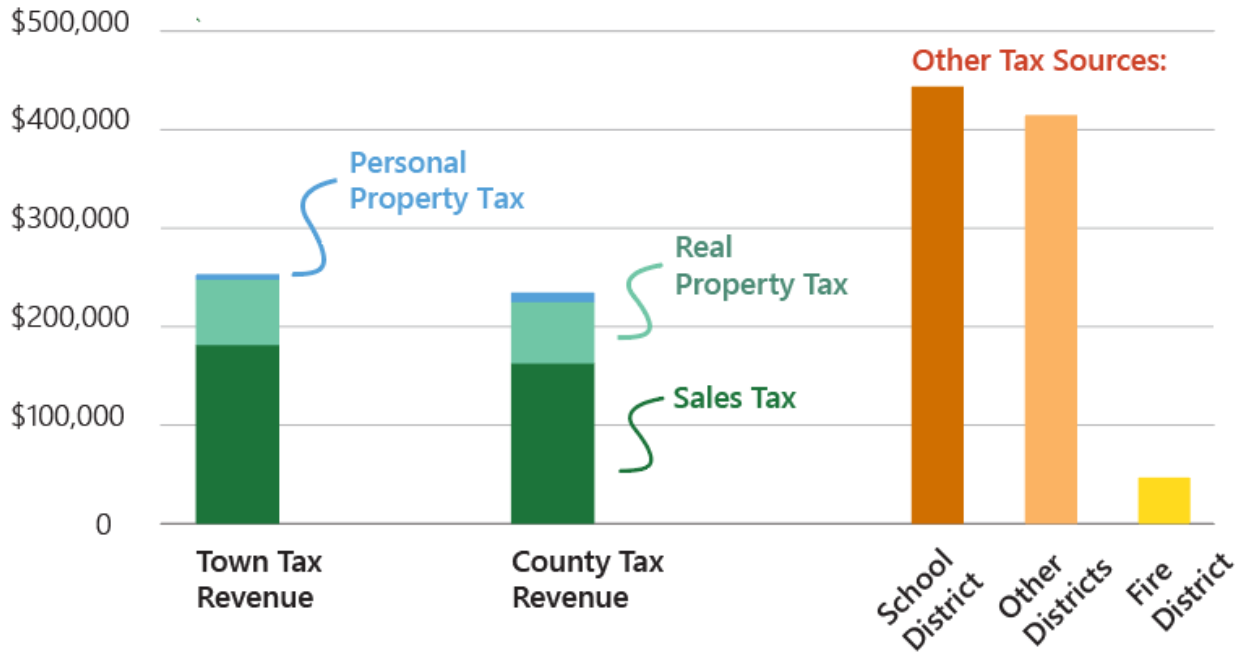
Outputs from the **analysis**

- **Demographics and spending impacts** resulting from changes in jobs, households, and wages.
- **Project costs, feasibility gaps**, and comparison against **town budget**.
- **Annual tax revenues** and **one-time impacts**.

Total Fiscal Impacts

One-Time Impacts	
Town General Fund Tax Revenue	$257,000
County General Fund Tax Revenue	$230,000
School District Tax Revenue	$445,000
Other District Tax Revenues	$58,000
Fire District Revenue	$407,000

Expected Annual Tax Revenues by Source:
Total expected annual tax revenues from project operations will inform the upper limit of public investments.



Population and Spending Impacts

Demographic Impacts		Considerations
Households	118	Increased need for government services
Avg Wages	$46,000	How does this compare to local wages
Household Income	$11,200,000	
Household Retail Purchases (Total)	$8,600,000	There is a 61% retail leakage
Household Retail Purchases (Local)	$3,400,000	New money in local economy
Household Sales Taxes	$101,000	Additional indirect tax revenue
Jobs Created	40	

Project Costs

Financial Capacity		Considerations
Total Development Cost	$6,800,000	Provided by developer
Feasibility Gap	$4,800,000	($190,000 per year in present value)
Municipal Budget	$20,000,000	Gap is 25% of Municipal Budget – is this a reasonable spending? What are ways to fund this gap?

One-Time Fiscal Impacts		Considerations
Development / Utilities / Infrastructure Fees	$3,400,000	Fee waivers, construction cost offsets, direct investments

Impact Study **Benefits**

The Why:

- A tool for understanding the **local impact through municipal revenues and costs**.
- Project-based **evaluation of size, scale, and capacity to provide public investment.**
- Highlights **revenue sources** of potential public investment funds generated by the project, the investment structure, and **Return on public Investment by the local municipality**.

The Finding:

- Town Council framed an internal discussion regarding **a desirable rate of return on public investment based on an understanding of their own capacity**.
- Enabled **cost-benefit evaluation** for funding options including **tax increment financing, direct investment, renewal districts, etc..**
- Town Council and staff **negotiated the project scale and funding limitations with the developer**.

The Town made negotiated a **smaller scale pilot project** with a relatively **simple and affordable public investment** component.

Questions

Implementing Impact Analysis

- **Economic Impact Analysis** and **Fiscal Impact Analysis** are both **Eligible Planning Activities** under EPA Brownfield Assessment or Multipurpose Grants.

- Join next week's webinar (**8/28 @ 2pm ET**) to learn about how planning activities can help your brownfields project!

Questions?