

# Managing Economic Shocks to Value Capture-Funded Projects

## Implications and Tools for Managing

A Primer

March 2022



U.S. Department of Transportation  
**Federal Highway Administration**



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## TABLE OF ACRONYMS AND ABBREVIATIONS

ABI	Atlanta BeltLine, Inc.
APS	Atlanta Public Schools
B	billion
CDA	community development authority
COVID-19	coronavirus disease 2019
DOT	Department of Transportation
DSCR	debt service coverage ratio
DUSPA	Denver Union Station Project Authority
GFC	global financial crisis
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GDOT	Georgia Department of Transportation
K	thousand
KC	Kansas City
M	million
OS	official statement
P3	public-private-partnership
Paygo	pay-as-you-go
PILOT	payment in lieu of taxes
ROW	right-of-way
RRIF	Railroad Rehabilitation and Improvement Financing
SAD	special assessment district
SSD	special services district
TAD	tax allocation district
TDD	transportation development district
TIF	tax increment finance
TIFIA	Transportation Infrastructure Finance and Innovation Act
TRZ	transportation reinvestment zone
TUF	transportation utility fee

# EXECUTIVE SUMMARY

## Overview

This Primer examines how broad-based economic shocks affect value capture mechanisms and how those impacts can be mitigated. It relies on data and examples from the Global Financial Crisis (GFC) (from mid-2007 to 2009 and the coronavirus 2019 (COVID-19) pandemic (COVID-19 or the Pandemic), which began in 2020. While there is uncertainty on the full-extent of COVID-19’s impact on real estate and value capture, the experience in the last two years provides useful data in planning for similar shocks when utilizing value capture techniques.

## Review of Value Capture Techniques

The Primer begins with a review of the value capture techniques that are discussed. These techniques and how an economic shock can affect them are described in Table 1.

**Table 1. Overview of Value Capture Techniques**

Technique	Description	Economic Shock Potential Impacts
Special Assessment District	A funding technique under in a fee is charged on property within a designated district that are the primary beneficiaries of an infrastructure improvement.	Low appetite among property owners and/or public agencies for new fees during shock.
Tax Increment Financing	A geographic area in which incremental tax attributable to revenues generated by an infrastructure investment are captured to fund or finance the infrastructure investment.	Growth in property tax revenues lower than expected or delayed during economic shock. Lower tax receipts growth or delayed growth could also apply to other taxes used to fund infrastructure, such as sales, hospitality, and employment taxes.
Joint Development	Involves development of a transportation project and adjacent private real estate or infrastructure development where a private developer either implements the real estate or infrastructure improvement directly or helps to defray its cost.	With a decline and jobs, demand for private real estate development may decline thereby reducing demand for joint development projects.
Impact Fees	Charges imposed on developers by municipalities to help fund additional public services, infrastructure, or transportation facilities required due to the new development.	Low appetite among property developers for new fees during shock since they feel that impact fees reduce the competitiveness of affected properties compared to properties in jurisdictions without such fees. Also, decrease in development during shock means less fees collected.

Technique	Description	Economic Shock Potential Impacts
Transportation Utility Fees	Periodic municipal fees paid by a property owner or a building occupant based on transportation system use.	Potentially lower appetite to pay, though experience has shown that these are consistently paid, regardless of the state of the economy.
Naming Rights	An agency sells the right to name infrastructure to a company looking to increase its brand awareness.	Market for naming rights depends on how businesses are doing.

## Impacts of Economic Shocks on Value Capture-Funded Projects

### Impacts of Economic Shocks on Real Estate

Projects funded using value capture techniques are inherently subject to cycles and volatility of the real estate market. Many value capture techniques rely on growth in real estate values to fund infrastructure projects. When segments of the real estate market wax and wane, so too does the funding available through value capture techniques applied to that market segment. COVID-19 is one example of such economic shocks, affecting the private and public office market and, to a lesser extent, the housing market.

### Impacts to Value Capture Funding Sources

Economic shocks like COVID-19 and the GFC generally affect the broader economy and often specifically the real estate market. While economic shocks vary, they can lead to reduced value capture revenues, driven by several factors, such as:

- **Lower property value appreciation:** Economic downturns have been shown to slow or even reverse property value appreciation. Such lower appreciation can affect the revenues anticipated from TIF, joint development, and special assessments.
- **Lower assessments and/or difficulty levying new assessments:** Where special assessments are tied to a property's value, these fees collected may also decline during a shock. It may also be more difficult to levy new special assessments.
- **Less new development leading to lower impact fees:** Impact fees may decline, or even be discontinued during economic shocks. This is because the amount collected via impact fees is tied to new development. During an economic shock, new development can slow significantly.
- **Less commerce leading to lower sales tax district fees:** Correlated with retail sales, sales taxes often decline during an economic shock. The decline in sales taxes caused by an economic shock can negatively affect the revenues collected within a sales tax district that was created to help fund a transportation asset.
- **Changing naming rights demand:** This is because large firms and institutions are likely to cut back on branding and marketing budgets during a downturn.

How a value capture source will be affected by an economic shock will be determined by the nature of the economic shock. For example, during the GFC the residential real estate subsector was extraordinarily impacted declining by over 1.2 million housing starts during the recession to around 500,000 at its worst. Housing start production did not return to pre-GFC

levels until five years later. During the Pandemic, however, housing starts declined from 1.6 million to 1.0 million, recovering within a year.<sup>1</sup>

### Project Implications

The impact of economic shocks on value capture funding sources can lead to funding and financing implications for projects relying on value capture funding sources, including that the project may be unable to:

- Meet funding or debt service requirements, and/or
- Secure project financing.

Further, loss of value capture revenues can lead to the public agency changing its mind about pursuing a project and/or how it funds or finances a project. In the face of reduced value capture sources, a public agency may:

- Have less willingness to fund future projects, and/or
- Switch to a pay-as-you-go modality, developing a project over a longer period, and potentially jettisoning more complex, yet traditionally higher-yielding value capture funding and financing.

### Tools to Manage the Impacts of Economic Shocks

As shown in Table 2, agencies/sponsors can employ several tools to reduce the impact of economics shocks in value capture funded projects.

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<sup>1</sup> U.S. Census Bureau and U.S. Department of Housing and Urban Development, New Privately Owned Housing Units Started: Total Units, retrieved from Federal Reserve Economic Data database, Federal Reserve Bank of St. Louis, March 12, 2022, <https://fred.stlouisfed.org/series/HOUST>.

**Table 2. Summary of Tools to Mitigate Economic Shocks**

Symbol	Tool
	<b>Analyze downsides:</b> Conducting this analysis will help public agencies and project sponsors understand what funding mechanisms need to be in place to ensure the project has enough cash flow to survive periods of stress.
	<b>Over-collateralize:</b> Increasing the debt service coverage ratio and/or the value-to-bond ratio in comparison to the total assessed value of properties included in a SAD helps to reduce default risk.
	<b>Build in reserve funds:</b> Providing a buffer to address expected real estate-related volatility, these can consist of reserves that the agency/sponsor establishes using project revenues and other resources to which they are legally entitled.
	<b>Collect revenues before project start:</b> Agencies/sponsors can begin to collect revenues and/or tax increments before a project has started or before project financing, thereby creating a reserve and demonstrating to lenders the adequacy of pledged revenues.
	<b>Reduce Early Year Cash Flow Pressure:</b> Several financing techniques can reduce or delay debt service payments, including delaying repayment of principal, capitalizing interest, and matching debt service growth to expected property assessment growth.
	<b>Develop projects by phase:</b> Developing projects in phases allows the project to start and revenues to flow or debt capacity to become available to raise financing.
	<b>Backstop projects with creditworthy sources:</b> Consider creditworthy funding sources such as a secondary pledge or backstop, e.g., using special assessment funds as a complement to TIF funds.

# 1 INTRODUCTION

## 1.1 Purpose

**This Primer provides an overview on how economic shocks, such as those experienced during the GFC of 2007-2009 and those caused by the COVID-19 Pandemic of 2020-2021, can affect value capture funding sources for transportation and other infrastructure and how to mitigate those shocks.** Although no two economic shocks are the same, the Primer illustrates through real-world cases the various ways that economic shocks can affect value capture funding and be mitigated. The Primer also walks through various tools project planners can use to build more economic resilience into their value capture-funded projects. Its primary goal is to help sponsors of value-capture-funded projects to understand:

- What the presence of economic shocks could mean for their projects, and
- What tools they can use to mitigate these impacts.

Please note, at the time of writing, the Pandemic was ongoing and since then some of the observations related real estate market dynamics may have changed.

## 1.2 Structure of Primer

**The Primer covers value capture techniques, examples of real estate impacts, and mitigation tools.** The Primer begins with a review of value capture techniques in Section 3, discusses the impacts and implications of economic shocks on projects in Section 4, and finishes in Section 5 with a review of project tools to help mitigate and manage the impacts of economic shocks on value capture-funded projects.

**In Appendix 1, the Primer provides details on two value capture cases that have experienced economic shocks, the Atlanta BeltLine and the Mosaic District.** The Atlanta BeltLine is a walking, biking, and planned transit corridor within former railway right-of-way (ROW). The project is partly funded through tax increments and special assessments. The GFC significantly affected its development. The Mosaic District is a mixed-use development served by roads and highways with and some transit connections. Its infrastructure was funded with tax increment revenues and a special assessments backstop. The Primer also provides brief summaries of other relevant cases.

**In Appendix 2, the Primer** explores COVID-19's impacts in greater detail especially on the office market, including how different categories of employees will be affected and residential location patterns.

**See Appendix 2 for a list of commonly used abbreviations.**

## 2 REVIEW OF VALUE CAPTURE TECHNIQUES<sup>2</sup>

Value capture is a set of techniques that take advantage of increased property values related to enhanced transportation-related opportunities and benefits created by the new or improved infrastructure. Property values can change because of one or more of the following:

- Demographics, including population growth or changes in living or mobility patterns;
- Regulations, including changes in zoning laws; and
- Infrastructure investments, such as in roads, water systems, or electric utilities by public agencies, private developers, or through public-private partnerships (P3).

Infrastructure investments increase the attractiveness of certain areas, raising demand and property values. Many value capture techniques seek to capture some of these property value increases.

This section provides a high-level overview of the various value capture techniques discussed in this Primer. For more detailed information and the underlying motivations State and local governments for using these, readers are encouraged to refer to *Value Capture: Capitalizing on the Value Created by Transportation Implementation Manual* (FHWA 2019).

### 2.1 Special Assessment Districts

Special Assessment Districts (SADs) are a funding technique under which a fee is charged to property owners within a designated district whose properties are the primary beneficiaries of an infrastructure improvement. Other names for this value capture technique include benefit assessment districts (California), local improvement districts (Washington), community improvement districts (Missouri), downtown improvement districts, transportation improvement districts (Virginia, Ohio), special service areas (Illinois), and special services districts (Atlanta).

### 2.2 Tax Increment Finance

A tax increment finance (TIF) district is a geographic area administered by a special authority in which incremental property tax value increases from an infrastructure investment are captured to fund or finance the infrastructure investment. Other names for TIF districts include transportation reinvestment zones

#### **Possible impacts of economic shocks on special assessment districts:**

Low appetite among property owners and/or public agencies for new fees during shock (see 3.2.2); and

Where fees are based on appraised value of property, lower appraisal values caused by economic downturn can lead to lower fees collected (see 3.2.1)

#### **Possible impacts of economic shocks on tax increment financing:**

Growth in property values lower than expected or delayed, leading to lower than anticipated TIFs (see 3.2.1, Appendix 1 Case Studies, Atlanta BeltLine); and

Could also apply to other taxes used to fund infrastructure, such as sales, hospitality, and employment taxes.

<sup>2</sup> This section draws from *Value Capture: Capitalizing on the Value Created by Transportation Implementation Manual* (FHWA 2019), [https://www.fhwa.dot.gov/ipd/value\\_capture/resources/value\\_capture\\_resources/value\\_capture\\_implementation\\_manual/](https://www.fhwa.dot.gov/ipd/value_capture/resources/value_capture_resources/value_capture_implementation_manual/).

(TRZs), specifically for Texas highways, metropolitan districts in Colorado, and tax allocation districts (TADs) in Georgia.<sup>3</sup>

## 2.3 Joint Development<sup>4</sup>

Joint development involves the creation of commercial property adjacent to a transportation project, such as a rail station or an interchange, often with the benefit of defraying the cost of that project. There are generally two forms of joint development:

- **Revenue-sharing arrangements:** the public sector infrastructure provider receives a share of the revenue from complementary real estate development; or
- **Cost-sharing arrangements:** the private sector contributes directly to the provision or maintenance of the transportation infrastructure.

### Possible impacts of economic shocks joint development:

Growth in property values lower than expected, leading to lower than anticipated real estate revenues (see 3.2.1).

**Joint development is most common at transit stations.** The public agency that either owns an asset or is undertaking an improvement may solicit the private partner involvement. Alternatively, a private enterprise that owns land or a building may seek to partner with a public agency to develop transportation enhancements that will benefit their property as well as the traveling public. Joint development can also involve the development of communications and data transmission installations or power generation assets within publicly owned rights-of-way.

**Joint development projects are generally beneficial to both parties and may lead to increased revenue for the public agency owning the property, decreased costs for operating or constructing public transportation systems, and location benefits to the real estate developer.** It also may result in complementary infrastructure, increased transit ridership, or enhanced amenities for transit riders or motorists. Common joint development arrangements range from air-rights development to ground leases (also known as right-of-way use agreements), station interface, or connection improvements, cost-sharing arrangements, and incentive agreements. In addition to transit, joint development agreements have also been used to implement highway improvements and parking projects.

**Joint development may also involve public sector land banking to prepare for transportation infrastructure construction or a public entity's sale of development or property rights in exchange for cash.**

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<sup>3</sup> Vadali, Sharada, *Using the Economic Value Created by Transportation to Fund Transportation*, National Cooperative Highway Research Program Synthesis 459, 2014, <https://nap.nationalacademies.org/catalog/22382/using-the-economic-value-created-by-transportation-to-fund-transportation>.

<sup>4</sup> FHWA, "Joint Development," [https://www.fhwa.dot.gov/ipd/value\\_capture/defined/joint\\_development.aspx](https://www.fhwa.dot.gov/ipd/value_capture/defined/joint_development.aspx).

## 2.4 Impact Fees

Impact fees are charges imposed on developers by municipalities to help fund additional public services, infrastructure, or transportation facilities required due to the new development. In California<sup>5</sup> and Washington, impact fees are often known as mitigation fees; in Florida, as mobility fees; in Oregon, as system development charges; in Minnesota, as service availability charges; and in North Carolina, as facility fees. In States such as Kansas, Colorado, and Tennessee, impact fees are referred to as adequate facility taxes or excise taxes.<sup>6</sup> Developer contributions are also sometimes known as fair-share fees.

### Possible impacts of economic shocks on impact fees:

Low appetite among property developers for new fees during shock since they feel that impact fees reduce the competitiveness of affected properties compared to properties in jurisdictions without such fees; and/or

Decrease in development during shock means less fees collected.

## 2.5 Transportation Utility Fees

Transportation utility fees (TUFs) are periodic fees paid by a property owner or a renter/leasee to a municipality based on transportation system use. TUFs treat the transportation system like a utility, charging property owners or occupants for their share of transportation costs based on system use. "Use" is defined as the generation of trips, generally as estimated by the Institute of Transportation Engineers,<sup>7</sup> and fees are based on an estimated number of trips generated by each land use.<sup>8</sup> TUFs are also referred to as transportation maintenance fees, street maintenance fees, road use fees, pavement maintenance utility fees, or street utility fees.<sup>9</sup>

### Possible impacts of economic shocks on transportation utility fees:

Potentially lower appetite to pay, though experience has shown that these are consistently paid, regardless of the state of the economy.

## 2.6 Naming Rights

In a naming rights transaction, an agency sells the rights to name infrastructure to a private company or non-profit institution. This is similar to the sports facilities naming rights deals, which has recently boomed with over \$1 billion in naming-rights revenue

### Possible impacts of economic shocks on naming rights:

Market for naming rights depends on business climate (see 3.2.5).

<sup>5</sup> "Mitigation Fees for New Development," Marina, CA, Municipal Code, <https://www.codepublishing.com/CA/Marina/html/Marina03/Marina0326.html>.

<sup>6</sup> Mathur, Shishir, and Adam Smith, "Transit Impact Fee: Enabling Statutes and Equity Concerns," *Transportation Research Record: Journal of the Transportation Research Board*, vol. 2346, issue 1, 2013, pp. 13–22, <https://doi.org/10.3141/2346-02>.

<sup>7</sup> FHWA, "Transportation Utility Fees," [https://www.fhwa.dot.gov/ipd/value\\_capture/defined/transportation\\_utility\\_fees.aspx](https://www.fhwa.dot.gov/ipd/value_capture/defined/transportation_utility_fees.aspx).

<sup>8</sup> Turkley, Carole, "Promises and Pitfalls of Transportation Utility Fees," *Presentation to the TRB 5<sup>th</sup> International Conference on Surface Transportation Financing*, July 11, 2014, <http://onlinepubs.trb.org/onlinepubs/conferences/2014/Finance/30.Turley,Carole.pdf>.

<sup>9</sup> Turkley, "Promises and Pitfalls of Transportation Utility Fees."

pledged from 2020 to mid-2021.<sup>10</sup> This type of value capture does not have to involve a traditional real estate developer; it can involve any private company that is looking to advertise or enhance its brand.

### 3 IMPACTS TO VALUE CAPTURE FUNDING SOURCES

In the short term, economic shocks like the GFC that began in 2008 and COVID-19 which began in 2020, can lead to disruptions to economies at the local, State, and national levels. These disruptions can affect the revenue collected through funding techniques based on value capture. However, the change in revenue collected depends on the nature of the shock and its interplay with the key revenue drivers of the value capture technique. For example, during the Pandemic, while some aspects of the economy saw significant drops, other aspects like online retail, home improvement, and the residential housing market could have been classified as “booming.” Furthermore, the impact of these shocks may be influenced by the types of national and State monetary and fiscal stimulus measures that policymakers undertake, because such measures can benefit some real estate sectors more than others. For instance, low interest rates have been one factor why the residential housing market has benefitted during the Pandemic. The following section discusses possible impacts to be expected during an economic shock that are relevant for value capture techniques.

#### 3.1 COVID-19 Impacts on Value Capture

**Projects funded using value capture techniques are inherently subject to cycles and volatility of the real estate market.** Many value capture techniques rely on growth in real estate values to fund infrastructure projects. When segments of the real estate market wax and wane, so too does the funding available through value capture techniques applied to that market segment. COVID-19 is one example of such economic shocks, affecting the private and public office market and, to a lesser extent, the housing market. While at writing COVID-19 continues to be a major public health issue, it has already had an enormous impact on in the way people use office spaces and may affect the demand for such spaces in the future, with work from becoming a norm for certain types of employees and a “hybrid” work week an expected outcome of COVID-19, at least in the short-term. Appendix 2 explores COVID-19’s impacts in greater detail especially on the office market, including how different categories of employees will be affected and residential location patterns.

#### 3.2 Impacts to Value Capture Funding Sources

Economic shocks like COVID-19 and the GFC generally affect the broader economy and often specifically the real estate market. While economic shocks vary, they can lead to reduced value capture revenues, driven by several factors, such as:

- **Lower property value appreciation:** Economic downturns have been shown to slow or even reverse property value appreciation. Such lower appreciation can affect the revenues anticipated from TIF, joint development, and special assessments.

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<sup>10</sup> Broughton, David, “Naming-rights Deals Thrive: Despite the Pandemic, New Partnerships Struck, with Emerging Categories Leading the Way,” *Sports Business Journal*, August 2, 2021, <https://www.sportsbusinessjournal.com/Journal/Issues/2021/08/02/Portfolio/Sports-marketing.aspx>.

- **Lower assessments and/or difficulty levying new assessments:** Where special assessments are tied to a property's value, these fees collected may also decline during a shock. It may also be more difficult to levy new special assessments.
- **Less new development leading to lower impact fees:** Impact fees may decline, or even be discontinued during economic shocks. This is because the amount collected via impact fees is tied to new development. During an economic shock, new development can slow significantly.
- **Less commerce leading to lower sales tax district fees:** Correlated with retail sales, sales taxes often decline during an economic shock. The decline in sales taxes caused by an economic shock can negatively affect the revenues collected within a sales tax district that was created to help fund a transportation asset.
- **Changing naming rights demand:** This is because large firms and institutions are likely to cut back on branding and marketing budgets during a downturn.

How a value capture source will be affected by an economic shock will be determined by the nature of the economic shock. For example, during the GFC the residential real estate subsector was extraordinarily impacted declining by over 1,200,000 housing starts during the recession to around 500,000 at its worst. Housing start production did not return to pre-GFC levels until five years later. During the Pandemic, however, housing starts declined from 1,600,000 to 1,000,000, recovering within a year.<sup>11</sup>

#### Lower Property Value Appreciation

**During an economic shock, property values may not appreciate as quickly and, in some instances, may lose value.** The slower rate of appreciation or even depreciation will vary by type of shock, as well as property type. For example, the 2008 GFC led to a downturn across real estate asset classes—office, retail, industrial, multifamily, and residential.<sup>12</sup> In contrast, COVID-19 has led to an appreciation in some segments of the residential market and a depreciation in other segments of the commercial market. During the first year of the Pandemic, the office space segment experienced a downturn as more white-collar employees opted to work from home, while the industrial segment, which includes warehouses, saw an increase due to increased demand for such spaces to accommodate the rise of e-commerce.<sup>13</sup>

**The value capture techniques of tax increment financing (TIF), special assessments, and joint development would likely be most impacted by swings in property value appreciation.** TIF rests on the concept that improved infrastructure assets in a district will lead to higher property values—appreciation—in that district, an assumption is supported by research demonstrating that this is usually the case, but not always immediately. However, even the best-laid analyses cannot predict every shock. During the GFC, properties within the Atlanta BeltLine's TIF (tax allocation district) did not appreciate as much or as quickly as forecast. As a result, the project saw a significant funding gap, as discussed in Appendix 1. Figure 1 shows how an economic shock negatively affects growth in appraised value. Similarly, special

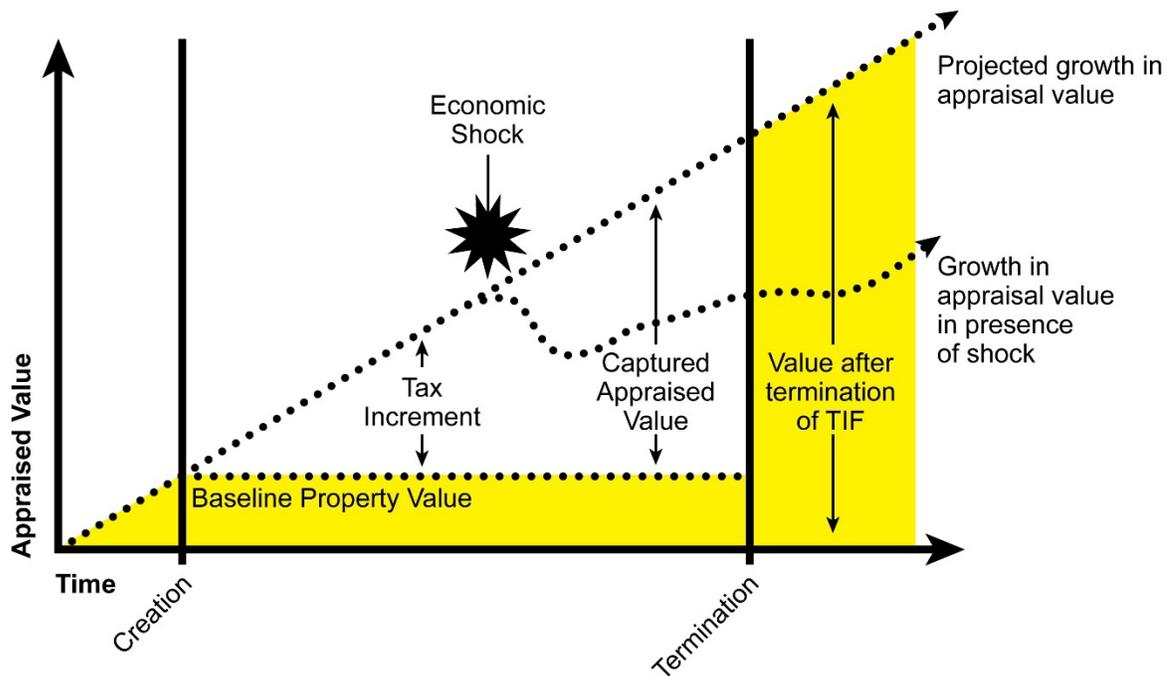
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<sup>11</sup> U.S. Census Bureau and U.S. Department of Housing and Urban Development, *New Privately Owned Housing Units Started: Total Units*.

<sup>12</sup> "Comparing this Commercial Real Estate Recovery to the Great Recession," *The Private Bank*, March 2021, <https://www.wellsfargo.com/the-private-bank/insights/ream-cre-recovery/>.

<sup>13</sup> *Ibid.*

assessments on property values could decrease an economic shock. Finally, joint development projects funded with real estate revenues could also see decreased revenues or be delayed.



**Figure 1. Economic Shock Impacts on Tax Increment Financing**

#### Lower Assessments and Difficulty Levying New Assessments

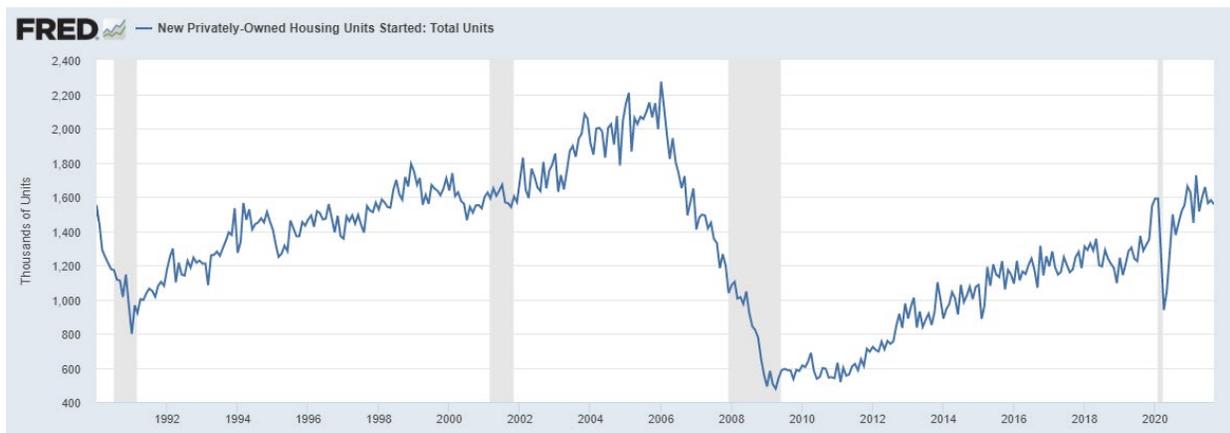
**Since special assessment fees are tied to a property’s value, these fees may decline during an economic shock.** While in many cases, fees levied in special assessments are tied to a property’s square footage, there are instances of special assessments calculated on an ad valorem basis, i.e., tied to the property value. In the case of the Mosaic District in Virginia, as discussed in Appendix 1, the assessed value of the properties in the district slightly declined in 2020 due to the Pandemic. If the special assessment mechanism in that transaction were utilized—although it was not—then the available monies would have been less than projected.

**Another possibility during an economic shock is that it may be more difficult to levy new special assessments.** This risk may be stronger in jurisdictions such as Oregon and Washington, where the creation of a SAD (known locally as a “local improvement district”) is more grassroots-driven, i.e., formed on initiative of a group of landowners, and requiring approval of a majority of affected landowners. During an economic shock, these property owners could have hesitations about creating a district that levies new fees. In the case of jurisdictions like Georgia, where the creation of a SAD is initiated by local government—and not property owners—the risk that such a district could not be created may be lower—though it still exists. The Atlanta City Council approved a type of SAD (locally called a special services district) in 2021 while COVID-19 had a major impact on local businesses. The BeltLine SAD managed to pass a City Council vote even though some of these local businesses were

opposed to it since they stated that the COVID-19 pandemic was still adversely affecting their businesses.<sup>14</sup>

### Lower Impact Fees

**Impact fees may decline or may even be suspended during economic shocks, because they are tied to new development.** During an economic shock, new development can slow significantly. One indicator of new development is “housing starts data,” the number of new residential construction projects that began on a monthly basis. As Figure 2 shows, during recessions such as the GFC, which began in 2008, new housing starts can decline significantly. In this situation, municipalities that rely on impact fees to fund their infrastructure could face shortfalls in fees they were initially projected to receive. An example is in Osceola, Florida, during the economic slowdown between the years 2008 and 2012 and profiled in Box 1.



**Figure 2. New Privately Owned Housing Units Started, 1990-2021 (shaded areas indicate economic recession)<sup>15</sup>**

<sup>14</sup> Kelley, Colin, “Small Business Owners Urge Delay in BeltLine Tax District During Community Meeting,” *Atlanta In Town*, January 29, 2021, <https://reporternewspapers.net/2021/01/29/small-business-owners-urge-delay-in-beltline-tax-district-during-community-meeting/>.

<sup>15</sup> U.S. Census Bureau and U.S. Department of Housing and Urban Development, New Privately Owned Housing Units Started: Total Units.

**Box 1: Osceola County's Suspension of Impact Fees Due to Economic Slowdown<sup>16</sup>**

Osceola County, FL, implemented transportation impact fees in 1990 to address rapid growth in the county that had led to severe traffic issues and citizen frustration. The fees sought to facilitate construction of key bridge and roadway infrastructure. **In response to an economic slowdown, the fees were suspended in 2011 and repealed in 2012.**

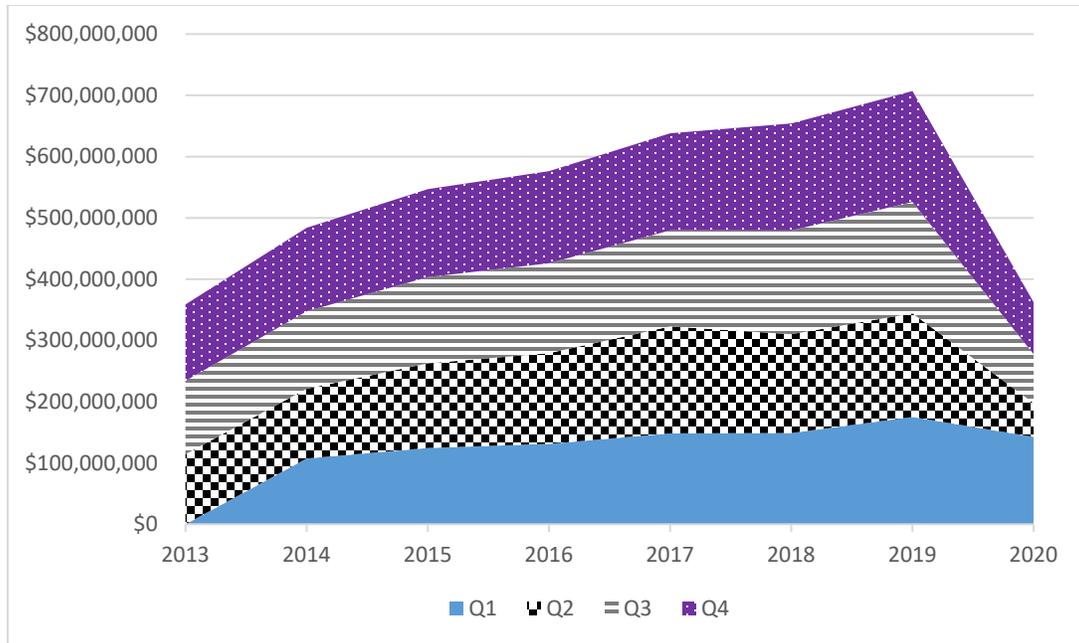
In 2015, as growth picked up, the fees were re-implemented under the name “mobility fees,” and changes were made to allow for faster collection. In their initial form, transportation impact fees were collected once a building was occupied. The new mobility fees were collected when a building permit was issued. Therefore, governments could make roadway improvements before the arrival of new traffic. As the county’s economy improved, mobility fees also increased. Between 2017 and 2018, single-family home mobility fees increased from \$4,585 to \$8,671, and multifamily mobility fees increased from \$3,203 per unit to \$6,058 per unit.

**Lower Sales Tax District Fees**

**Correlated with retail sales, sales taxes often decline during an economic shock.** Sales tax declines caused by an economic shock can negatively affect the revenues collected within a sales tax district created to help fund the transportation asset. This was the case in the “Starter Line Transportation Development District (TDD)” to fund the Kansas City streetcar (KC Streetcar). The sales tax of 1 percent was applied to all applicable retail sales within the TDD’s boundaries.<sup>17</sup> As shown in Figure 3, after several years of growth, the value of taxable sales in the district fell by 49 percent from 2019 to 2020, the year the Pandemic hit. While sales taxes fell across the U.S. in 2020, it is possible that the TDD was more negatively impacted than others, as it is home to bars, restaurants, theaters, and music venues, retail very much affected by Pandemic-imposed social distancing and quarantining measures.

<sup>16</sup> FHWA, Value Capture Implementation Manual, 2019, “Example 1: Osceola County Roadway and Bridge Program.” McBride, Brian, “Mobility Fees for Osceola Developers Nearly Double,” *Osceola News-Gazette*, January 12, 2018.

<sup>17</sup> Kansas City Streetcar Authority, “The Kansas City Main Street Rail Transportation Development District,” <https://kcstreetcar.org/wp-content/uploads/2021/05/Final-TDD-2021.pdf>.



**Figure 3. Volume of Taxable Sales in the KC Streetcar’s Starter Line Transportation Development District<sup>18</sup>**

**Patterns of sales tax receipts vary by region and district, however.** When looking at the U.S. as a whole, State and local sales taxes saw a significant decline in 2020 Q2 compared to 2019 Q2. By Q3, revenue from them had rebounded, as reflected in Table 3. However, as shown in the KC Streetcar, this sales tax growth at the national level masks different dynamics playing out at local levels. As discussed, the KC Streetcar runs through a downtown district replete with theaters, restaurants, and other amenities that require foot traffic to generate sales. COVID-19 forced several lockdowns and stay-at-home orders, which depressed foot traffic. In contrast, areas reliant on sales tax revenues from large purchases may have seen a quicker rebound as people focused on home improvement projects or bought cars as anecdotal evidence suggests.

**Table 3. U.S. Sales Tax Receipts by Quarter, 2019 and 2020 in \$ Millions<sup>19</sup>**

	2019	2020	% Change
Q1	107,482	111,597	4%
Q2	107,936	96,129	-11%
Q3	111,478	113,342	2%
Q4	110,846	115,892	5%

#### Demand for Naming Rights May Change

**Demand for naming rights may decline as corporations and large institutions cut back on branding and marketing budgets.** This was the case during the GFC when, according to one naming rights expert, the market was quiet. However, the COVID-19 economic shock has not

<sup>18</sup> Sales tax data from: Missouri Department of Revenue, Taxation Division, Taxable Sales and Use Tax by Locality – Taxable Sales for All Districts (2013 – 2021).

<sup>19</sup> Sales tax data from: *Fiscal Conditions During the COVID-19 Pandemic in Selected States*. Government Accountability Office, GAO-21-562, p. 2, <https://www.gao.gov/assets/gao-21-562.pdf>.

led to lower naming rights demand. On the contrary, given that several parts of the economy are booming, naming rights deals are still very possible, with several new players—including firms in the cryptocurrency sector and home lenders (driven by lower interest rates) are very active.<sup>20</sup>

### 3.3 Project Implications

#### Inability to Meet Funding or Debt Service Requirements of Current Projects

**With reduced funding available, public agencies may not be able to complete projects funded with value capture monies.** This could particularly affect TIF districts dependent on growth in assessed property values. The Atlanta BeltLine case, featured in Appendix 1, experienced such a scenario in the mid-2010s after the GFC limited the property appreciation in the TIF district established for the project. Forecasted revenues failed to materialize at expected levels, and the project had difficulty progressing. The Pandemic has also shown the fragility of tax bases—often commercial real estate—for special assessment districts. For example, in New York City, the assessed value of office buildings declined by 16.6 percent in fiscal year 2021, resulting in a loss of \$850M in property taxes.<sup>21</sup> Furthermore, with a bit less than one-third of Manhattan building leases expiring by 2024, New York City and other cities with similar large office markets may see dramatic losses of property tax revenue.<sup>22</sup>

**A decline in value capture revenues, such as through tax increment financing districts or special assessments, could mean that projects may not be able to meet their debt service requirements.** The Atlanta BeltLine case, featured in Appendix 1, always managed to service its bond debt. However, it struggled to honor some of its other obligations after the GFC, namely the ‘Payments-in-lieu-of-Taxes’ (PILOT) it owed to the Atlanta Public School (APS) system. Ultimately, it was forced to renegotiate these PILOT payments.

#### Reduced Ability to Secure Project Financing

**The lack of funding could affect the public agency’s ability to secure financing from lenders.** Again, the Atlanta BeltLine case (Appendix 1) illustrates this case. In the mid-2010s when the project’s TIF-related revenues failed to materialize at the initial levels projected, the project did not have enough debt capacity to issue more bonds using the TIF revenues as a pledge. Ultimately, a negotiated reduction in the PILOT payments to the APS gave the project the “breathing space” it needed to issue more debt and move forward.

**On the flipside, lenders themselves may struggle during economic crises and pull back support.** For example, the construction of the second to fourth phases of the Colorado E-470 toll road became more difficult when a lender pulled back support: “in October 1990, UBS withdrew its April 1990 proposal to provide letter of credit financing for the remaining tollway

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<sup>20</sup> Private consultant, personal communication, October 25, 2021.

<sup>21</sup> Office of the New York State Comptroller, Thomas P. DiNapoli, “More Than \$850 Million in Property Taxes Lost in FY 2022,” Press release, October 7, 2021, <https://www.osc.state.ny.us/press/releases/2021/10/dinapoli-nyc-office-market-will-take-years-recover-pandemic>.

<sup>22</sup> Hong, Nicole, and Matthew Haag, “Why Co-Working Spaces Are Betting on the Suburbs,” *New York Times*, Oct 28, 2021, <https://www.nytimes.com/2021/10/28/nyregion/co-working-space-suburbs.html>.

segments due to the Persian Gulf crisis, international economic crises, and the savings and loan crisis.”<sup>23</sup> The project was eventually built after several delays.

#### Reduced Public Agency Willingness to Fund Future Projects

**With reduced prospects for value capture funding and/or increased value capture volatility, public agencies may not be able to or choose not to fund these projects.** Even in good economic times, many projects fail to get off the ground due to funding scarcity. For example, Moynihan Train Hall, which is an expansion of Penn Station in New York City, and which opened to much fanfare during COVID-19, had previously failed due to lack of funding, among other issues. With the fiscal resource constraints faced by public agencies during times of economic stress, it is likely that those projects with unidentified funding sources or with less support will fail to get off the ground during economic shocks.

#### Switch to Pay-As-You-Go (Paygo) Modality

**When value capture related revenues are volatile or less than expected due to economic shocks, public agencies and project sponsors may opt to pay for the projects or maintenance as they go.** To some extent, this phasing occurred in the Colorado E-470 toll road example and the Atlanta BeltLine. In times of economic stress when value capture sources like TIFs and SADs are more volatile, local governments could consider fee-based value capture sources, such as TUFs, where applicable. TUFs are typically invoiced in conjunction with water bills, which most people will pay for fear of losing access to their water. As a result, they have strong payment records in times of economic shocks and can provide a source of ongoing funding for operations and maintenance of road and local transportation infrastructure.

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<sup>23</sup> FHWA, “Colorado E-470 Toll Road and Vehicle Registration Fees,” [https://www.fhwa.dot.gov/ipd/value\\_capture/case\\_studies/colorado\\_e470\\_toll\\_road\\_and\\_vehicle\\_registration\\_fees.aspx](https://www.fhwa.dot.gov/ipd/value_capture/case_studies/colorado_e470_toll_road_and_vehicle_registration_fees.aspx).

# 4 TOOLS TO MANAGE THE IMPACTS OF ECONOMIC SHOCKS

As shown in Figure 4, agencies/sponsors can employ a number of tools to reduce the impact of economics shocks in value capture funded projects.

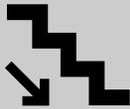
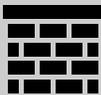
Symbol	Tool
	Analyze downsides
	Overcollateralize
	Build in reserve funds
	Collect revenues before project start
	Reduce early year cashflow pressure
	Develop projects by phase or extend development period
	Backstop projects with creditworthy sources

Figure 4. Summary of Tools to Mitigate Economic Shocks

## 4.1 Conduct Robust Analysis of Potential Downside Scenarios

Public agencies and project sponsors should carry out downside analyses and structure their funding plan accordingly. While project planners hope downside scenarios do materialize, unfortunately, as COVID-19 demonstrates, the reality is that they do. To plan for the worst case, it is important during project planning to run several downside scenarios on value capture revenue projections. Conducting this analysis will help public agencies and project

sponsors understand what funding mechanisms need to be in place to ensure the project has enough cash flow to survive periods of stress. Mitigation measures for handling such downside scenarios are discussed in the remaining sections of this chapter.

**Box 2: The Assembly Project in Doraville, GA Demonstrates Importance of Conducting Downside Analysis**<sup>24, 25</sup>

The Assembly Project, an adaptive re-use project that features commercial, residential, entertainment, and a filmmaking studio in Doraville, GA, illustrates the importance of conducting a downside scenario. During the planning phase, the scenario analyses showed the need for additional funding sources if the project's primary funding sources—tax increment funds, a Payment in lieu of Taxes (PILOT) fund (a payment made by a non-profit entity for public services instead of paying property taxes), and additional taxes levied on commercial property owners in the defined district—failed to materialize at projected levels. In this eventuality, a type of special assessment would be levied as a backstop. During the COVID-19, the project's primary funding sources did not meet projections and the Assembly project drew on \$2.8M of special assessments.

**Beyond shocks to funding, public agencies and project sponsors should prepare for and be flexible in the face of tightened financial markets.** The need for financing flexibility was evident in the development of Denver Union Station, which occurred during the GFC. The Denver Union Station Project Authority (DUSPA) originally assumed a financial plan consisting of tax-exempt securities to be sold in financial markets. Unfortunately, due to the GFC, the tax-exempt markets were shied away from this type of riskier credit. DUSPA then turned to Federal financing—the Transportation Infrastructure Finance and Innovation Act (TIFIA) and the Railroad Rehabilitation and Improvement Financing (RRIF) loan programs. This flexibility in financing sources allowed the project to be successfully completed, and the loans were repaid ahead of time.

## 4.2 Overcollateralize

**Default risk can be reduced by increasing the debt service coverage ratio (DSCR) and/or the value-to-bond ratio in a SAD financing.** A DSCR measures cash that is available to pay for debt service in a certain period. A value-to-bond ratio or value-to-lien ratio measures the assessed values in the respective SAD to the principal amount of the bond or loan. For a DSCR and value-to-bond ratio, higher ratios give lenders greater comfort in the event that taxes or fees are inadequate and/or the assessed value of properties does not grow as anticipated.<sup>26</sup> Including special assessments, Mosaic's DSCR is over 2.00 in the base case (Scenario A). This is generally considered a healthy DSCR level, as discussed in Appendix 1.<sup>27</sup> By overcollateralizing, cash sponsors commit additional revenues to be available to pay debt

<sup>24</sup>Assembly Community Improvement District Assessment Bonds, Series 2017A, Annual Filing, December 31, 2020. CUSIP No. 04539H AB0. P2.

<sup>25</sup> Ibid.

<sup>26</sup> Moody's, "Special Assessment / Special Project Tax (Non-Ad Valorem) Debt," November 23, 2016, p. 4.

<sup>27</sup> Municap, "Tax Increment and Special Assessment Report, 2011," p. 80 in "Mosaic District OS," 2011.

service. The same is the case for limiting the size of the loan, which requires sponsors to find other funding sources, such as grants or their own resources, to make up the difference.

### 4.3 Build in Reserve Funds

**Public agencies and project sponsors should consider reserve funds and other resources to mitigate real estate-related volatility.** These are funds that can consist of reserves that the agency/sponsor establishes using project revenues and other resources to which they are legally entitled. Setting aside these funds may be at the agency/sponsor's discretion and not necessarily a requirement of the financing.

**The agency/sponsor could also establish a fund that is incorporated into the financial documents.** In the case of Mosaic in Appendix 1, the sponsor entered into a "Memorandum of Understanding" with Fairfax County, in which the project was located, to allow it to establish a "Surplus Fund" which would consist of special assessments that were in excess of the debt service requirements in the period in question.<sup>28</sup> The sponsor was allowed to maintain a Surplus Fund of 1.50x of the periodic debt service and use such monies to repay itself for debt service that they had covered over the last two years should incoming tax increments not be adequate. However, in Mosaic's case, the Surplus Fund was technically not pledged as collateral to repay interest on the Mosaic bonds.

**These reserve funds are in addition to a standard debt service reserve fund that is typical of municipal bonds.** A DRSF is usually funded at the time of bond issuance at:

*. . . an amount that is equal to the least of:*

- (i) The maximum amount of principal and interest due on the Bonds in the current or any future fiscal year, or*
- (ii) 10 percent of the original stated principal amount of the Bonds, or*
- (iii) 125 percent of the average annual amount of principal and interest due on the bonds in the current or any future fiscal year.<sup>29</sup>*

The debt service reserve fund is usually pledged as collateral to repay bonds, as is the case in Mosaic.

### 4.4 Collect Revenues before Project Start

**Public agencies and other project sponsors can begin to collect revenues and/or tax increments before project start or before project financing, thereby creating a reserve and demonstrating to lenders the adequacy of pledged revenues.** A good example of this is the Parole Town Center project \$8.3M of interchange and improvements to Federal, State of Maryland, and local roads in Parole, Maryland. To fund this project, a 2.4-square-mile TIF district was established that included major commercial real developments. The district was established three years *prior* to financial close in 1999. Between the establishment of the district and financial close, the property valuations within the district grew by a rate of over 6 percent per year, resulting in \$500,000 in the "Tax Increment Fund" that would be available to fund the

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<sup>28</sup> 2011 OS, p. 21.

<sup>29</sup> 2021 OS, p. 20.

over \$1M in debt service in the next year.<sup>30</sup> This “on-the-ground” evidence was valuable to establish a revenue track record for lenders.

#### 4.5 Reduce Early-Year Cash Flow Pressure

To reduce pressure on cash flows in early years of a project, agencies/sponsors can employ financing techniques that reduce or delay the payment of debt service. These techniques come in a number of forms, including:

- Delaying the repayment of principal for several years as is the case in Mosaic, which delayed repayment for over four years as shown in Figure 5.
- Increasing the debt service amounts each year by an escalation factor that follows the expected growth of the property valuations in a TIF district. In the case of Mosaic, total debt service increased by 3.7 percent on a compounded annual basis during this period as shown in Figure 5.
- Capitalizing interest for one or two years or capitalizing it for an extended period of time through a “Capital Appreciation” bond or a “Zero Coupon” bond.<sup>31</sup> Interest on these instruments compounds each period, providing agencies/sponsors relief primarily during early years of the project. Bond purchasers consider these instruments riskier since they do not receive principal or interest until maturity, exposing them to significant interest rate risk as well as credit risk. Therefore, these instruments tend to be expensive (i.e., higher interest rate) and/or are not always available in the marketplace.

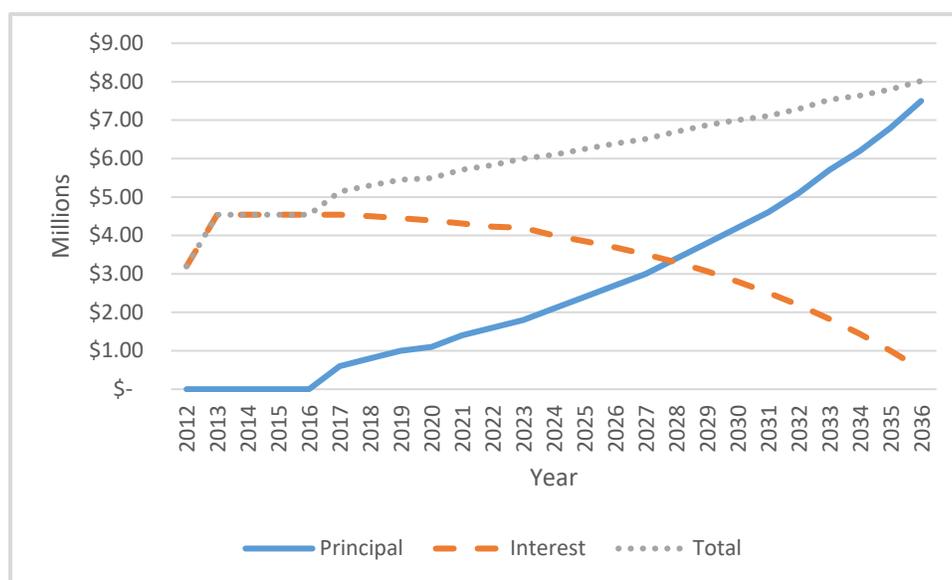


Figure 5. Mosaic Project Total Debt Service Payments 2012-2036<sup>32</sup>

<sup>30</sup> Parole OS, pp. 19-23.

<sup>31</sup> Municipal Securities Rulemaking board, “About Zero and Capital Appreciation Bonds,” see: <https://www.msrb.org/~media/Files/Education/About-Zero-Coupon-and-Capital-Appreciation-Bonds.ashx>.

<sup>32</sup> “\$65,650,000 Mosaic District Community Development Authority (Fairfax County, Virginia) Official Statement (OS),” May 26, 2011, p. 15.

## 4.6 Develop Projects by Phase or Provide Additional Development Flexibility

**Public agencies and project sponsors may want to build projects in phases and/or provide additional development flexibility.** Developing projects in phases allows the project to be built as public budgets or debt capacity to raise financing becomes available. Doing a project this way might take longer. However, as the Colorado E-470 project shows, this approach helps to eventually complete the project even if some portions are delayed.

**The Colorado E-470 project was built in segments in response to economic issues that affected toll and value capture-related revenue projections.** E-470 is 47-mile, toll highway that forms approximately half of a beltway around the Denver metropolitan region. Constructed in the 1990s, the first segment was financed before the Persian Gulf War, savings and loan crisis, and the early 1990s economic recession. The subsequent three segments were delayed as both the configuration of the project and its financial plan were restructured. This included: 1) moving the project closer to population centers to increase the value capture and toll funding sources and 2) obtaining loans from local jurisdictions and Colorado DOT. The project was funded with “Highway Expansion Fees,” vehicle registration fees collected within E-470’s boundaries, and tolls. Highway expansion fees were a type of impact fee, one-time fees paid when a building permit was issued for new construction within 1.5 miles of the E-470 centerline, varying by property type and proximity to E-470. Vehicle registration fees were additional fees collected within the boundaries of the county jurisdiction through which the highway passed, similar to a sales tax district. These value capture sources helped sustain the project during the early years until toll revenue grew to financially sustainable levels.<sup>33</sup>

## 4.7 Backstop Projects with Creditworthy Sources

**Public agencies and project sponsors should consider creditworthy funding sources such as a secondary pledge or backstop.** In the case of Mosaic (see Appendix 1), the project funding plan included a special assessment as a funding backstop. In the worst-case scenario, \$40M in special assessments would have been required. This worst-case scenario did not materialize and TIF revenues exceeded expectations. However, as in the Assembly case, referenced in [Box 2](#) above, these creditworthy backstops are sometimes needed.

**In the example of Mosaic, the sponsor used a SAD to provide strong credit support to the TIF district.** As discussed in Appendix 1, Fairfax County could levy special assessments on properties in the district if tax increments were not adequate. The sponsors analyzed several scenarios in which special assessments would be required and made this available to lenders. This analysis included evaluating the impact of the Pandemic on real estate demand at district properties. Mosaic has used other complementary risk mitigation measures to reduce the risk that TIF revenues may not be adequate, including:

- A Surplus Fund from tax increments
- A debt service reserve fund
- Reducing early-year cash flow pressure by delaying repayment of principal for more than four years

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<sup>33</sup> FHWA, *Value Capture: Capitalizing on the Value Created by Transportation, Implementation Manual*, 2019, pp. 172-175, [https://www.fhwa.dot.gov/ipd/value\\_capture/resources/value\\_capture\\_resources/value\\_capture\\_implementation\\_manual/ch\\_4.aspx](https://www.fhwa.dot.gov/ipd/value_capture/resources/value_capture_resources/value_capture_implementation_manual/ch_4.aspx).

- Escalating the repayment amount each year, thereby pushing back repayment to later years when cash flows were expected to be more plentiful

#### **4.8 Effective Stakeholder Engagement**

Generally, effective engagement across a range of stakeholders can determine the success of transportation projects reliant on value capture funding. This may be even more important in times of economic shock. As the Atlanta BeltLine case, profiled in Appendix 1 demonstrates, strong stakeholder and community support can also help projects remain resilient the face of economic shocks like the GFC or the COVID-19 pandemic. Focused on engaging the broader community from the start, the Atlanta BeltLine front-loaded highly visible and high-priority improvements. This early success enabled the project to earn community support. Thus, despite the presence of an economic shocks, the project has been able to access additional value capture funding sources. For example, in 2021 during the pandemic, the City of Atlanta was able to approve a Special Services District (i.e., special assessment district) to generate an additional 100 million for the BeltLine trail project to keep it on track.

## APPENDIX 1 CASE STUDIES

### Atlanta BeltLine

#### Summary

**The Atlanta BeltLine (“BeltLine”) sought to transform Atlanta’s mostly abandoned freight rail corridors into a 33-mile trail network and about 22 miles of transit.** The full trail network and transit system will connect 45 neighborhoods in Atlanta. The project, much of which has already been constructed or is under design, is expected to be completed by 2030 at an estimated cost of \$4.8 billion (B).

**This project illustrates how a project was been impacted by the GFC and COVID-19 economic shocks and the mitigation measures it employed.** While strategic planning for the project was comprehensive, the initially-projected funding levels never materialized. Revenues came in lower in part because the forecast of TIF revenues was overly optimistic. Another reason was the GFC, which depressed property values. Overcoming these funding constraints required flexibility on the part of stakeholders and the renegotiation of key project agreements, including with the Atlanta Public School (APS).

#### Initial Funding and Financing Plan

**After its initial introduction, the project quickly gained support from the broader community and governance structures were put in place to raise funding for the project.** The BeltLine began with an idea put forward in a 1999 Master’s thesis by Georgia Tech graduate student Ryan Gravel and grew into the largest redevelopment project in Atlanta’s history.<sup>34</sup> By November of 2005, after six months of community engagement, the Atlanta City Council, Fulton County Board of Commissioners, and the APS Board of Education approved the BeltLine Redevelopment Plan and the BeltLine Tax Allocation District (TAD), which is the term for TIF in Georgia.<sup>35</sup>

**When the TAD was created in 2005, properties around the proposed BeltLine generated limited tax revenue.** To spur economic development, the City of Atlanta, Fulton County, and APS agreed to create a TAD on parcels surrounding this BeltLine’s rail corridor, with the idea being that as investment increased, the TAD would generate tax revenue to support ongoing project investments.

**Initial projections estimated property values to rise by \$20B between 2006 and 2030, and of this growth, the TAD was originally projected to collect \$3B in revenue for the BeltLine.**<sup>36</sup> This projection would mean that the TAD would cover 66 percent of the project’s initially estimated \$4.4B in required investments. The balance was expected to come from Federal, State, local, and private philanthropic funds and to be used for several purposes, based on the relative flexibility of the TAD guidelines

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<sup>34</sup> Blau, Max, “What Happens Now That the Atlanta Beltline Dispute is Over?” *Atlanta Magazine*, January 29, 2016, <https://www.atlantamagazine.com/news-culture-articles/what-happens-now-that-the-beltline-dispute-is-over/>.

<sup>35</sup> These are also known as tax increment financing districts in other jurisdictions.

<sup>36</sup> Atlanta BeltLine, “Securing Economic Resources to Get the Project Done,” <https://beltline.org/the-project/project-funding/>.

**With the revenues projected from the BeltLine TAD, Atlanta BeltLine Inc., was able to issue \$78.1M in revenue bonds.** The bonds were successfully placed since the assessed value of the BeltLine properties when the bonds were sold in 2009 was over 100 percent higher than the 2005 “Base Value” assessment, as shown in Table 4. Bondholders became comfortable that the large assessment increase would remain stable even though it declined by over eight percent in 2009 due to the GFC. This was in part because annual average property appreciation from 2000 to 2009 was 13.36 percent throughout Fulton County. Furthermore, the project sponsor demonstrated high expected debt service coverage levels in projections.<sup>37</sup> The bonds were successfully placed in the municipal finance market without a credit rating and Moody’s subsequently assigned the bonds an investment grade rating of A2 in 2012, a confirmation of the bonds’ credit quality.<sup>38</sup>

**Table 4. Growth in Assessed Valued with the BeltLine TAD since 2005<sup>39</sup>**

Tax Year	2005	2006	2007	2008	2009
Assessed Value	\$542,867,760	NA	\$862,283,230	\$1,121,949,870	\$1,028,029,444
% Increase over Base Value	NA	NA	+58.8%	+113.6%	-8.37%

**As per an initial intergovernmental agreement, the City of Atlanta, and the Atlanta Development Authority (d/b/a “Invest Atlanta”), were to make payments in lieu of taxes to APS.** This is because APS would forego additional tax revenues from within the TAD over the life of the TAD. To compensate APS, initially, starting in year six of the TAD, BeltLine was to pay APS \$7.5M per year during years 6 to 25.<sup>40</sup> Fulton County, GA, had a similar arrangement with the City of Atlanta, paying APS \$13.5M per year during the same years.<sup>41</sup>

#### Challenges to the Funding Plan

**Funding from the BeltLine TAD failed to materialize as forecast.** This occurred in part because of the GFC, which depressed property values and slowed property value appreciation in Atlanta. In 2012, as part of the development of a Strategic Implementation Plan for the project, the TAD revenue projections were updated. The update used a more conservative forecasting approach, which considered only development projects that had been completed at

<sup>37</sup> Municap, “BeltLine Tax Allocation District: Tax Increment Project Study,” October 20, 2009, p. 14, in City of Atlanta, GA Tax Allocation Bonds (BeltLine Project) Series 2008A, Official Statement (OS).

<sup>38</sup> Moody’s, “Moody’s Assigns an Initial A2 Rating to City of Atlanta’s (GA) Tax Allocation Bonds (BeltLine Project), Series 2008 A, B and C and Series 2009 B and C,” October 18, 2012, <https://emma.msrb.org/ER626477-ER485530-ER888413.pdf>

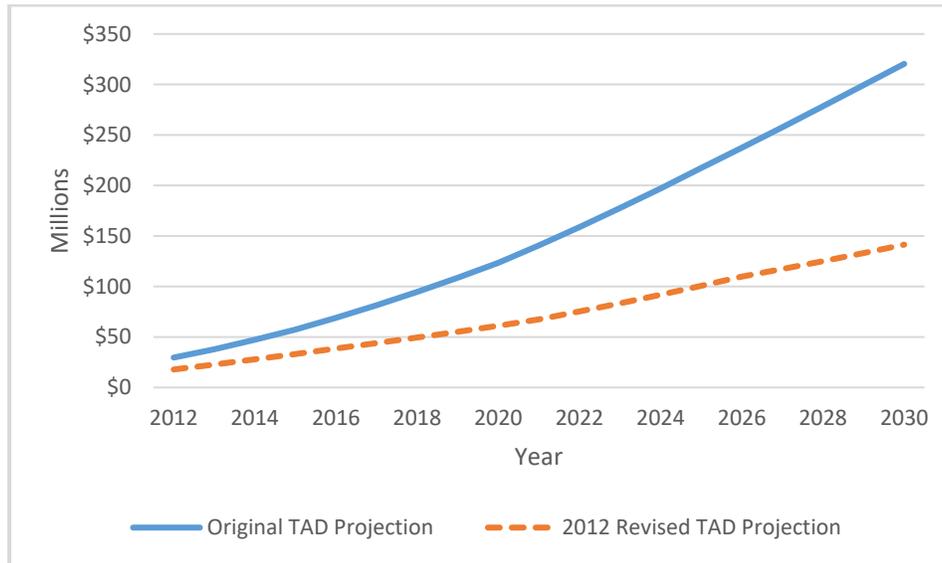
Atlanta BeltLine. Atlanta BeltLine 2030 Strategic Implementation Plan. Final Report. 2013. [https://beltline.org/wp-content/uploads/2019/03/Beltline\\_Implementation-Plan\\_web.pdf](https://beltline.org/wp-content/uploads/2019/03/Beltline_Implementation-Plan_web.pdf).

<sup>39</sup> City of Atlanta, GATax Allocation Bonds (BeltLine Project) Series 2008A, OS, 16.

<sup>40</sup> *Intergovernmental Agreement by and between the City of Atlanta, Georgia, the Atlanta Development Authority, and the Atlanta Independent School System.* December 31, 2005.

<sup>41</sup> *Resolution Consenting to the Inclusion of Certain Fulton County Taxes in the computation of the Tax Allocation Increment for the City of Atlanta Tax Allocation District Number Six-Beltline Redevelopment Area; and for Other Purposes.* December 28, 2005.

the time of the analysis.<sup>42</sup> Based on this new analysis, total tax increment revenue from the BeltLine TAD available for the project was halved, as illustrated in Figure 7.<sup>43</sup>



**Figure 6. Projected Annual TAD Revenue, 2012-2030<sup>44</sup>**

**The updated projections were more realistic as assessed valuations declined from 2009 to 2013.**<sup>45</sup> As shown in Figure 8, assessed valuations did not really take off until 2014 to 2015, forcing the BeltLine to experience approximately five years of stagnant assessments, essentially a full business cycle. Figure 9 shows the impact of a recession on assessment growth.

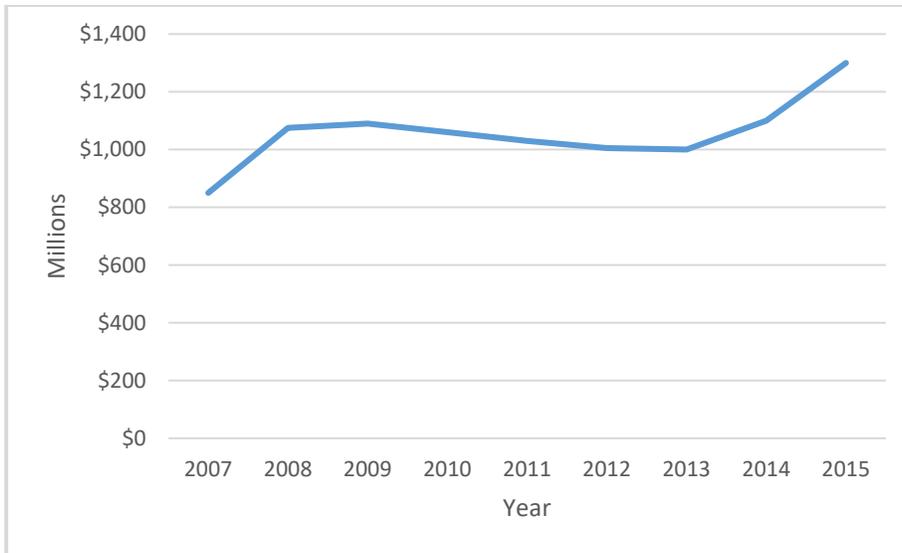
<sup>42</sup> Atlanta BeltLine. *Atlanta BeltLine 2030 Strategic Implementation Plan*.

<sup>43</sup> FHWA, "Atlanta BeltLine Tax Allocation District,"

[https://www.fhwa.dot.gov/ipd/value\\_capture/case\\_studies/atlanta\\_beltline\\_tax\\_allocation\\_district.aspx](https://www.fhwa.dot.gov/ipd/value_capture/case_studies/atlanta_beltline_tax_allocation_district.aspx).

<sup>44</sup> Atlanta BeltLine. "Changes in Tax Increment Projections." <https://beltlineorg-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/Atlanta-BeltLine-Projection-Comparison-Chart.jpg>.

<sup>45</sup> Municap, "BeltLine Tax Allocation District Number 6 (BeltLine TAD) City of Atlanta: Tax Increment Report," December 19, 2016, p. C-28, in City of Atlanta, GA Tax Allocation Bonds (BeltLine Project) Series 2016A, OS.



**Figure 7. Updated Tax Digest Values, Atlanta BeltLine TAD<sup>46</sup>**

**Ongoing legal battles over the contribution of the APS further complicated the funding.**

The legal trouble over the APS PILOT payments began shortly after the creation of the TAD with a 2006 lawsuit that challenged the constitutionality of APS forgoing its tax revenue for a purpose other than education. This question was ultimately put to voters in a referendum, and voters narrowly approved use of school property taxes for the TAD.<sup>47</sup> In addition to this legal challenge, the intergovernmental agreement between APS, City of Atlanta, and the Atlanta Development Authority (d/b/a Invest Atlanta) needed to be amended multiple times to renegotiate the PILOT payments from the BeltLine TAD to APS. The first two amendments in 2009 effectively backloaded the PILOT payments. Thus, more was paid to APS in the later years of the TAD district, freeing up revenues in the early years of the project.<sup>48</sup>

**The 2030 Strategic Implementation Plan in 2014 showed a roughly \$900M funding gap for the project.** The funds identified to finish the project are listed in Table 5.

**Table 5. Identified Funding Sources for the Atlanta BeltLine, 2014<sup>49</sup>**

Funding Source	Amount (millions)
TAD	\$1,575
Federal funds	\$1,295
City of Atlanta	\$146

<sup>46</sup> Municap, "BeltLine TAD Tax Increment Report," December 19, 2016, p. C-28, in City of Atlanta, GA "Tax Allocation Bonds, Series 2016A," OS.

<sup>47</sup> Leslie, Katie, "Inside the Battle over the Beltline Debt to APS," Atlanta Journal Constitution, July 5, 2014, <https://www.ajc.com/news/inside-the-battle-over-the-beltline-debt-aps/eD0KyBMBiler8ly9sdLjWK/>.

<sup>48</sup> *Second Amendment to the Intergovernmental Agreement among the City of Atlanta, Georgia, The Atlanta Development Authority, and the Atlanta Independent School System.* November 9, 2009. Accessible here: <https://beltlineorg-wpengine.netdna-ssl.com/wp-content/uploads/2012/03/APS-IGA-Second-Amendment.pdf>.

<sup>49</sup> Atlanta BeltLine. 2013. *Atlanta BeltLine 2030 Strategic Implementation Plan.* Final Report. pp. 46–47. <https://beltline.org/wp-content/uploads/2019/03/Beltline-Implementation-Plan-web.pdf>.

Funding Source	Amount (millions)
Federal, State, regional, or local funding for streetscapes	\$343
Local funding for parks	\$157
Private philanthropic donations	\$312
Other	\$11
Unidentified (funding gap)	\$891
<b>Total</b>	<b>\$4,730</b>

Further, the City of Atlanta had trouble making the payments to APS.<sup>50</sup> By 2014, there was a push from the city to renegotiate the terms of the agreement with APS to better reflect the real estate market realities and the reduced TAD revenues. This renegotiation proved tough, but a third amendment to the intergovernmental agreement resulted in the transfer of real property—a space APS intended to use to house its school buses—in exchange for reducing the PILOT obligation, from \$162M<sup>51</sup> to \$73M,<sup>52</sup> over the life of the TAD.

#### Path Forward

Despite the challenges faced by the project, especially in the mid-2010s, the project was bolstered by robust stakeholder and community engagement. As shown in Table 6, there were several public and non-profit stakeholder groups engaged in the development of various aspects of the project. The involvement and support of these stakeholders, as well as the visible success of the parts of the BeltLine trail that were completed, resulted in sufficient political support from Atlanta residents to continue supporting the project.

**Table 6. Stakeholders Involved in the Development of the Atlanta BeltLine<sup>53</sup>**

Stakeholder	Description of Role
<b>City of Atlanta</b>	Future owner of all Atlanta BeltLine investments. Participated in BeltLine TAD. Appointed members to the Atlanta BeltLine, Inc. (ABI) and Atlanta BeltLine Affordable Housing Advisory Boards.
<b>Fulton County</b>	Participated in BeltLine TAD. Makes appointments to the ABI Board of Directors and the Atlanta BeltLine Affordable Housing Advisory Board.
<b>Atlanta Public Schools</b>	Participated in BeltLine TAD. Makes appointments to the ABI Board of Directors and the Atlanta BeltLine Affordable Housing Advisory Board.

<sup>50</sup> Blau, “What Happens Now That the Atlanta Beltline Dispute is Over?”

<sup>51</sup> *Second Amendment to the Intergovernmental Agreement among the City of Atlanta, Georgia, The Atlanta Development Authority, and the Atlanta Independent School System.* November 9, 2009. Accessible here: <https://beltlineorg-wpengine.netdna-ssl.com/wp-content/uploads/2012/03/APS-IGA-Second-Amendment.pdf>.

<sup>52</sup> *Third Amendment to the Intergovernmental Agreement among the City of Atlanta, Georgia, The Atlanta Development Authority, d/b/a Invest Atlanta, and the Atlanta Independent School System.* February 8, 2016. Accessible here <https://beltlineorg-wpengine.netdna-ssl.com/wp-content/uploads/2012/03/Third-Amendment-to-BeltLine-IGA-FINAL-Fully-executed-2-8-2016.pdf>.

<sup>53</sup> FHWA, “Atlanta BeltLine Tax Allocation District,” [https://www.fhwa.dot.gov/ipd/value\\_capture/case\\_studies/atlanta\\_beltline\\_tax\\_allocation\\_district.aspx](https://www.fhwa.dot.gov/ipd/value_capture/case_studies/atlanta_beltline_tax_allocation_district.aspx).

Stakeholder	Description of Role
<b>Atlanta Development Agency, d/b/a Invest Atlanta</b>	City of Atlanta’s economic development agency. Responsible for the creation and management of all Atlanta-based TADs. Plays an active role in the affordable housing components of the project.
<b>Metropolitan Atlanta Area Rapid Transit Authority</b>	The Atlanta transit agency. Will develop intermodal linkages to the Atlanta BeltLine and will be responsible for the development of the Atlanta BeltLine’s transit components.
<b>Georgia Department of Transportation (GDOT)</b>	GDOT owns the right-of-way (ROW) on the Atlanta BeltLine corridor and coordinates with ABI to manage the Atlanta BeltLine’s ROW. GDOT administered the Statewide Transportation Improvement Program, part of which funds the Atlanta BeltLine’s design, ROW acquisition, and construction.
<b>Atlanta Regional Commission</b>	A planning and intergovernmental coordination agency that has supported ABI’s planning and has assisted in securing State funds.
<b>Tax Allocation District Advisory Committee</b>	The Atlanta BeltLine Tax Allocation District Advisory Committee was established by the city of Atlanta to make recommendations to ABI, Invest Atlanta, and the city on issuance, allocation, and distribution of TAD bond proceeds. The committee also measures the Atlanta BeltLine’s impact and progress on implementation of its redevelopment plan.
<b>BeltLine Affordable Housing Advisory Board</b>	Advised on issues related to affordable housing with members from Fulton County, the city of Atlanta, Atlanta Public Schools, community development corporations, and the real-estate community.
<b>Department of City Planning</b>	Responsible for the Atlanta BeltLine’s planning area zoning. It separated the 16,000 acres within one-half mile of the rail corridor into 10 subareas for land-use master plans, which encourage land uses that facilitate transit, parks, denser development, walking, and bicycling.
<b>Atlanta BeltLine Partnership</b>	The Atlanta BeltLine Partnership was funded by the private sector. It was created to raise capital, awareness, and support for the project. The Atlanta BeltLine Partnership hosted guided tours, “adopt-a” programs, speakers, and other programming.
<b>PATH Foundation</b>	Created to enhance and preserve Georgia greenways. Works with ABI and the Atlanta BeltLine Partnership to develop the Atlanta BeltLine trail network, including coordinating the use of private funding.
<b>The Trust for Public Land</b>	The Trust for Public Land helped evaluate the Atlanta BeltLine TAD’s financial feasibility and purchased the parcels on which Atlanta BeltLine parks will be developed.
<b>Trees Atlanta</b>	Trees Atlanta is working with ABI to create an arboretum, to plant trees, and to remove certain species from the Atlanta BeltLine area.

**After the successful renegotiation of the APS PILOT payments, Atlanta BeltLine Inc. successfully issued refunding and new money bonds close to \$145M using TAD revenues as a pledge and secured additional sales taxes monies.** In 2016, the City of Atlanta refunded its 2008 and 2009 bonds for a lower interest rate and issued bonds to help pay for around \$40M of further capital expenditures related to the BeltLine project. The amounts of the bonds and their intended purposes are outlined in Table 7. While not a pledge for the bonds, in 2016 Atlanta voters also voted in favor of a special-purpose, local-option sales tax for transportation of 0.4 percent. Expected to generate approximately \$300M over a five-year

period to fund significant and expansive transportation projects citywide, it included \$66M for the BeltLine.<sup>54</sup> The sales tax approval further illustrates the community’s support of the project.

**Table 7. 2016 Atlanta BeltLine Bonds<sup>55</sup>**

Bond	Amount (\$)	Notes
BeltLine Project – Refunding Series 2016A	21,600,000	For refunding the original bonds
BeltLine Project – Refunding Series 2016B	39,035,000	For refunding the original bonds
BeltLine Project – Refunding Series 2016C	6,290,000	For refunding the original bonds
BeltLine Project – Series 2016D	39,605,000	Net proceeds will be used primarily to fund portions of capital projects related to the trail, transit and park system.
BeltLine Project – Series 2016E	38,325,000	To fund APS PILOT Payments and costs and expenses associated with the implementation of the Affordable Housing and targeted Economic Development elements of the project.
<b>Total</b>	<b>144,855,000</b>	

**Despite the Pandemic’s impact on BeltLine area businesses, the City of Atlanta approved a type of SAD to raise \$100M to finalize the BeltLine trail.** Approved on March 16, 2021, the district, called locally a “Special Services District” or the “BeltLine SSD”, will impose an ad valorem property tax on all taxable real property located the Atlanta BeltLine SSD. A substantial portion of the SSD overlaps with the BeltLine TAD. This funding, alongside \$100M in positive tax allocation increment from the BeltLine TAD and \$150M from additional Federal, State, philanthropic and local sources, will help fund the remaining \$350M needed to finalize the project’s trail portion.<sup>56</sup>

### Conclusions

The BeltLine project took advantage of two tools identified in Section 4 to mitigate the impact of economic shocks:

1. **Development of strong community support:** The BeltLine has managed to progress and garner new funding sources primarily due to broad-based public support. This support has enabled the project to overcome stresses and achieve key funding milestones:

<sup>54</sup> Transportation Special Purpose Local Option Sales Tax and Metropolitan Atlanta Area Rapid Transit Authority Referenda, City of Atlanta 2016 Transportation Special Purpose Local Option Sales Tax Proposal, <https://www.atlantaga.gov/government/mayor-s-office/projects-and-initiatives/tsplost-and-marta-referenda>.

<sup>55</sup> OS City of Atlanta 2016 Tax Allocation Bonds, pp. 23-24. These figures do not include original issue premiums.

<sup>56</sup> 21-O-0049. *An ordinance by councilmembers Dustin Hillis, Carla Smith, Matt Westmoreland, Joyce Sheperd, Michael Julian Bond, and Cleta Winslow as substituted and amended (2) by Community Development/human services committee; an ordinance creating the Atlanta Beltline Special Service District; Designating the boundaries of such district; providing for definitions; and for other purposes.*

- Helping the project survive in the face of difficult negotiations with the APS regarding the PILOT payments; and
  - Enabling the City Council to create an additional district (BeltLine Special Services District) to levy more taxes to fund the remaining trail portion of the BeltLine.
- 2. Successful / strategic project phasing:** Driven out of funding necessity the project is being built in phases. Initial developments were completed in heavily used areas where bikers and walkers could enjoy the trails and understand the project's goal. By allowing these stakeholders to partake in early project benefits, the BeltLine encouraged community-buy in, thus helping subsequent phases to receive needed funding.

## Mosaic Project

### Summary

**The Mosaic District (Mosaic) is a walkable, mixed-use, primarily “road-oriented” development in northern Virginia, successfully financed with TIFs and supported by special assessments.** Mosaic was successfully developed after the 2008-2010 recession with financial measures that anticipated financial downturns. Its debt was refinanced in 2020, with additional mechanisms that anticipated downturns in the market due to the Pandemic. It demonstrates the process from planning to developer input to financing that resulted in significant funding for local roads and other infrastructure financed by the project.

### Initial Financing in 2011

**Mosaic is a mixed-use development constructed from 2012 to 2018.** As of August 31, 2020, Mosaic included 1,004 rental apartments; 112 townhouses; approximately 509,501 square feet of retail space; 72,750 square feet of office space; and a 148-room Hyatt House hotel.<sup>57</sup> It also included two acres of park and open space.<sup>58</sup> By 2018, the original plan has been realized and is fully built out, as described in Table 8.

**Table 8. Mosaic District Project by Property Type, 2011 and 2020<sup>59</sup>**

	2011 Intended Plan	2020 Actual Plan
Retail Space (sq. ft)	504,100	509,501
Target Store (sq. ft)	168,900	168,900
Class-A multifamily rental apartments (units)	853	1,004
Class-A townhomes (units)	114	112
Class-A Office Space (sq. ft)	65,000	72,750
Hotel (number)/(rooms)	2/150	1/148

**Mosaic is in suburban Washington, D.C., near the region’s “beltway,” another interstate, major arterials, and a 20-minute walk to a transit station.** Consisting of approximately 31 acres in Fairfax County, Virginia, Mosaic is located approximately 12 miles west of Washington, D.C. and close to the heart of the metropolitan region. It is located close to the I-495 beltway, the major I-66 east-west route, and other east-west routes of Routes 29 and 50.<sup>60</sup> Its center is located 0.9 miles from the Washington Metropolitan Area Transportation Authority’s Dunn-Loring Merrifield Station.<sup>61</sup>

**Mosaic is located on property that was in a low-density, former industrial area, a less desirable location.** The property consisted of a former movie theater, a heavy equipment rental enterprise, and parking lots. It was termed “an uninviting industrial suburban crossroads” by the

<sup>57</sup> “\$65,650,000 Mosaic District Community Development Authority (Fairfax County, Virginia) Official Statement (OS),” May 26, 2011, <https://emma.msrb.org/IssuerHomePage/Issuer?id=48AE1DDF15CE62F06868A80ABF2440AB>, p. 36. “\$55,650,000 Mosaic District Community Development Authority (Fairfax County, Virginia)” Official Statement (OS), October 20, 2020, <https://emma.msrb.org/IssuerHomePage/Issuer?id=48AE1DDF15CE62F06868A80ABF2440AB>, p.2.

<sup>58</sup> Mosaic District OS, 2020, p.34.

<sup>59</sup> Mosaic District OS, 2011, p. 36; Mosaic District OS, 2020, p. 2.

<sup>60</sup> Mosaic District OS, 2020, p. 34.

<sup>61</sup> Google maps analysis, September 21, 2021.

*New York Times* in 2012.<sup>62</sup> While it had good transportation access, it was in a sort of “no man’s land” between “inside the beltway” housing developments to its east and more desirable developments to the north and northwest. The property was originally zoned “Medium Intensity Industrial,” “General Industrial,” and “Highway Corridor Overlay Districts.”<sup>63</sup>

**Mosaic planning began in the late 1990s and underwent several stages before construction commenced in 2012, a period not unusual for such a complex project.** In 1998, a Fairfax County Board of Supervisors task force started to plan what became the “Comprehensive Plan for Merrifield in 2001.”<sup>64</sup> In 1998, the Supervisors also designated the area including Mosaic as “a Commercial Revitalization Area,” setting the groundwork for the creation of the County’s first TIF district.<sup>65</sup> Then in 2009, Fairfax County established its first “Community Development Authority” allowing for TIF and special assessments in the Mosaic District.<sup>66</sup> As part of the process, the area was rezoned to “Planned Development Commercial,” “Planned Residential Mixed Use,” and “Highway Corridor Overlay Districts.”<sup>67</sup>

**As often occurs, Mosaic’s developer changed during the planning process.** The developer, Edens, teamed up with National Amusements, the owner of the existing movie theater and additional property, and Clark Realty Group, to develop the “Merrifield Town Center Plan.” At the end of a two-year entitlements process, Edens had bought out both partners. Such a change in developer configuration is not unusual, especially during a major regional and national recession that had a major impact on real estate development.<sup>68</sup>

**Mosaic’s developer created the Mosaic District Community Development Authority (Mosaic CDA) to issue bonds to pay for a majority of the infrastructure.** Under Commonwealth of Virginia law, the Mosaic CDA could issue bonds to finance infrastructure within the Mosaic CDA benefitting Mosaic. It also could levy special assessments to pay for debt service. The Mosaic CDA was created by a petition filed with Fairfax County from owners of more than 51 percent of properties consisting of the Mosaic.<sup>69</sup>

**The primary funding source for the Mosaic infrastructure was TIF.** Mosaic’s developer entered a memorandum of understanding with Fairfax County for Mosaic TIF revenues to be used to pay the debt service on the bonds issued in 2011 (2011 Bonds) as long as they were

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<sup>62</sup> Rice, Alison, “A Suburban Wasteland in Virginia Gets a Modern Urban Feel,” *New York Times*, December 18, 2012, <https://www.nytimes.com/2012/12/19/realestate/commercial/a-suburban-wasteland-in-virginia-gets-a-modern-urban-feel.html>.

<sup>63</sup> Municap, “Mosaic District Official Statement (Fairfax County, Virginia) Revenue Refunding Bonds Series 2020A and 2020A-T, County Advanced Revenues and Special Assessment Report, October 20, 2020,” p. 22, in Mosaic District OS, 2020.

<sup>64</sup> Fairfax County, “Staff Report for Plan Amendment 2018-I-1MS,” August 22, 2019, p.3.

<sup>65</sup> Fairfax County, “Fairfax County Comprehensive Plan, 2017 Edition Area I, The Merrifield Suburban Center, Amended through 9-24-2019,” p. 4, <https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/complan/area1/merrifield.pdf>.

<sup>66</sup> Fairfax County, “The Mosaic District,” accessed as of 10/5/2021, <https://www.fcsevite.org/merrifield/mosaic-district>.

<sup>67</sup> Municap, “County Advanced Revenues and Special Assessment Report,” 2020, p. 22, in Mosaic District OS, 2020.

<sup>68</sup> ULI, “The Mosaic District: Urban Village Grows from Suburban Wasteland,” *Development Magazine*, Commercial Real Estate Development Association, Fall 2013.

<sup>69</sup> Mosaic District OS, 2011, p. 6.

outstanding. Should these tax increments not have been adequate, then Mosaic CDA would request Fairfax County to levy a special assessment.<sup>70</sup>

**Mosaic financed a portion of the approximately \$68.1M of public infrastructure costs, mostly roads and parking, with the 2011 Bonds.** The 2011 Bonds funded public roads, streetscaping, parks, and open space, stormwater improvements, other utilities, school improvements, and retail parking open to the public. Of the total amount funded by the 2011 Bonds, 46 percent was for roads and 35 percent for public parking.<sup>71</sup>

**A significant increase in property values helped yield a high value-to-bond ratio, a statistic evaluated by the credit rating agencies for TIFs and SAD projects.** The ability to repay 2011 Bond debt service was demonstrated by a forecast of incremental property value increases from \$38.2M in 2011 to over \$400M at full build-out, based on several development scenarios, as shown in Table 9 and defined as follows:

- **Scenario A** is based on the approved development plan, serving as a base case, with real property value increases of 3 percent and real property tax rate decreases of 0.75 percent annually. Scenario A was based on specific square footage for retail, restaurants, hotel rooms, a smaller number of rental units, townhouses, and a movie theater.
- **Scenario B** represented a proposed amended development plan, assuming less retail and theater space, more rental units, townhouse, but the same inflation/tax rate growth factors as in Scenario A.
- Serving as the primary downside case, **Scenario C's** main difference from Scenario B was no real increase in real estate value and no decline in the tax rate growth.
- **Scenario D** was similar to Scenario B, except that the projected value was based on a market study prepared by an experienced real estate consultant, the Concord Group, making this the "upside" case. This study assumed different market values by real estate type, including lower values for residential and office, higher for hotel and theater, higher for rental units, and lower for townhouses.

**Table 9. Assumptions Used in Four Scenarios Deriving Incremental Value<sup>72</sup>**

Scenario	Inflation/ Tax Rate Growth	Retail (Sq Ft)	Restaurant (Sq Ft)	Hotel Rooms	Theater (Sq Ft)	Rental Units	Town- houses (For Sale)	Incremental Value
<b>A</b>	3%/0.75%	450,063	52,600	375	120,000	803	0	<b>\$424,335,098</b>
<b>B</b>	3%/0.75%	403,300	60,700	300	40,100	853	114	<b>\$411,396,588</b>
<b>C</b>	0%/0%	403,300	60,700	300	40,100	853	114	<b>\$411,396,588</b>
<b>D</b>	3%/0.75%	403,300	60,700	300	40,100	853	114	<b>\$437,106,789</b>

**The 2011 Bonds were secured by a SAD backstop, which, in the worst case, resulted in a payment of \$40M SADs over the life of the 2011 Bonds.** As shown in Table 10 and illustrated

<sup>70</sup> Mosaic District OS, 2011, p. 11. Municap, "Case Studies: The Mosaic District, Fairfax, VA," <https://www.municap.com/case-study-mosiac.htm>.

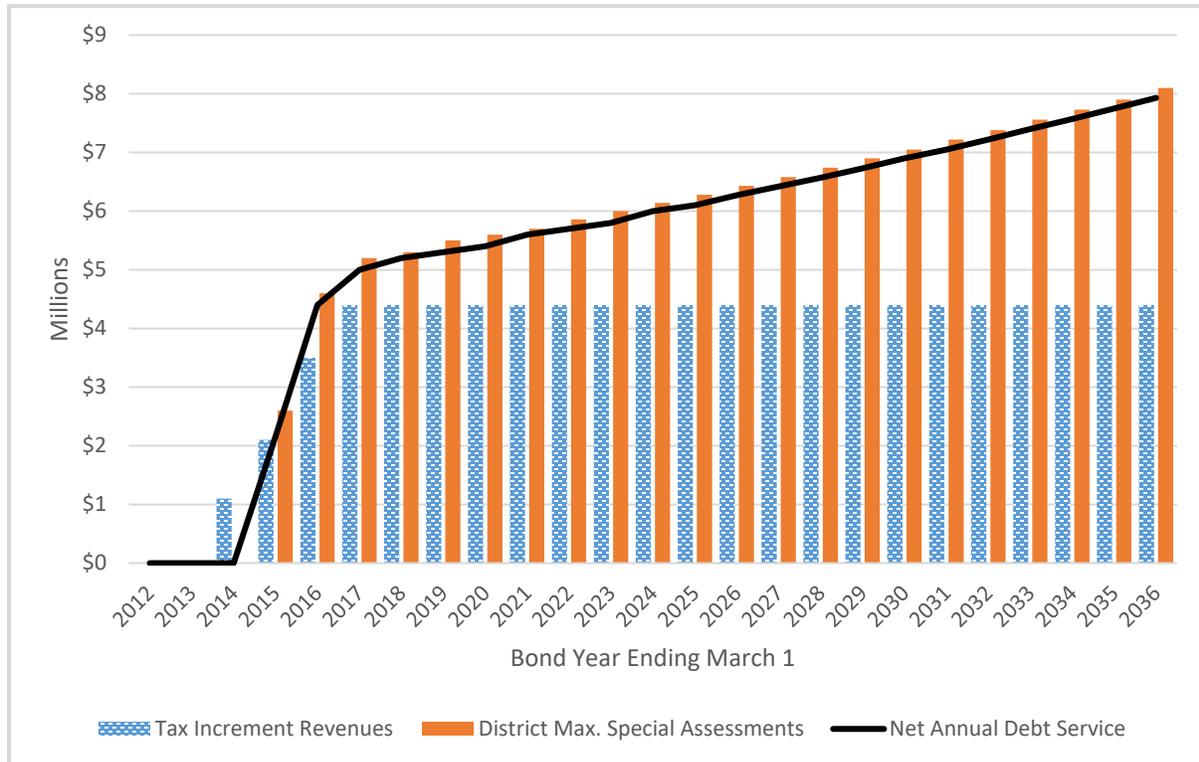
<sup>71</sup> Mosaic District OS, 2011, p. 55.

<sup>72</sup> Municap, "Tax Increment and Special Assessment Report, 2011," p. 1, and Mosaic District OS, 2011, pp. 65-68.

in Figure 9, the projected special assessments through the life of the outstanding 2011 Bond were \$38.8M in Scenario C; Scenario B was also projected to require \$1.2M of SADs.<sup>73</sup>

**Table 10. Mosaic District Projected Special Assessment, Life of Tax Revenue Bonds<sup>74</sup>**

Scenario	Total Project Special Assessments Through Bond Year Ending 2041
A	\$0
B	\$1,160,244
C	\$39,820,889
D	\$0



**Figure 8. Projected Available Revenues and Debt Service for Scenario C<sup>75</sup>**

**The 2011 Bonds included standard credit features that helped reduce financial risk.**

Mosaic structured the expected financing with a debt service coverage (DSCR) ratio, the amount of available cash flow over annual debt service, of over 1.00x assuming only tax increments. If special assessments were assumed in addition, then coverages would be over 2.00x.<sup>76</sup> The 2011 Bonds also included a standard debt service reserve fund structured as either 1) the maximum amount of debt service due in any year, 2) 10 percent to the original bond amount, or 3) or 1.25 percent of the average annual amount of debt service.<sup>77</sup> As shown in Table 11, Mosaic also benefitted from two years of capitalized interest during the construction

<sup>73</sup> Municap, “Tax Increment and Special Assessment Report, 2011,” p. 5, in Mosaic District OS, 2011.

<sup>74</sup> Ibid.

<sup>75</sup> Id., p. 8.

<sup>76</sup> Id., p. 80.

<sup>77</sup> Mosaic District OS, 2011, pp. 20-21.

period of several years of interest-only payments and upward sloping debt service payment curve, all of which reduced the debt service payment pressures in the early years.<sup>78</sup>

**Table 11. Mosaic District Annual Debt Service Requirements, 2011 Bonds (\$ thousands)<sup>79</sup>**

Year	2011 A Bonds: Principal	2011 A Bonds: Interest	2011 A Bonds: Total	2011 A-T Bonds: Principal	2011 A-T Bonds: Interest	2011 A-T Bonds: Total	Total Principal	Total Interest	Grand Total
2012	-	2,320.5	2,320.5	-	883.6	883.6	-	3,204.1	3,204.1
2013	-	3,188.5	3,188.5	-	1,353.6	1,353.6	-	4,542.1	4,542.1
2014	-	3,188.5	3,188.5	-	1,353.6	1,353.6	-	4,542.1	4,542.1
2015	-	3,188.5	3,188.5	-	1,353.6	1,353.6	-	4,542.1	4,542.1
2016	-	3,188.5	3,188.5	-	1,353.6	1,353.6	-	4,542.1	4,542.1
2017	465.0	3,188.5	3,653.5	150.0	1,353.6	1,503.6	615.0	4,542.1	5,157.1
2018	580.0	3,159.5	3,739.5	200.0	1,342.7	1,542.7	780.0	4,502.2	5,282.2
2019	705.0	3,123.2	3,828.2	250.0	1,328.2	1,578.2	955.0	4,451.4	5,406.4
2020	840.0	3,079.1	3,919.1	305.0	1,310.1	1,615.1	1,145.0	4,389.2	5,534.2
2021	990.0	3,026.6	4,016.6	360.0	1,288.0	1,648.0	1,350.0	4,314.6	5,664.6
2022	1,145.0	2,964.8	4,109.8	430.0	1,261.9	1,691.9	1,575.0	4,226.6	5,801.6
2023	1,320.0	2,888.9	4,208.9	500.0	1,230.7	1,730.7	1,820.0	4,119.6	5,939.6
2024	1,505.0	2,801.5	4,306.5	580.0	1,194.4	1,774.4	2,085.0	3,995.9	6,080.9
2025	1,705.0	2,701.8	4,406.8	660.0	1,152.4	1,812.4	2,365.0	3,854.1	6,219.1
2026	1,920.0	2,588.8	4,508.8	755.0	1,104.5	1,859.5	2,675.0	3,693.3	6,368.3
2027	2,155.0	2,461.6	4,616.6	850.0	1,049.8	1,899.8	3,005.0	3,511.4	6,516.4
2028	2,410.0	2,313.4	4,723.4	960.0	988.2	1,948.2	3,370.0	3,301.6	6,671.6
2029	2,690.0	2,147.8	4,837.8	1,070.0	918.6	1,988.6	3,760.0	3,066.3	6,826.3
2030	2,985.0	1,962.8	4,947.8	1,195.0	841.0	2,036.0	4,180.0	2,803.8	6,983.8
2031	3,305.0	1,757.6	5,062.6	1,330.0	754.4	2,084.4	4,635.0	2,512.0	7,147.0
2032	3,650.0	1,530.4	5,180.4	1,475.0	657.9	2,132.9	5,125.0	2,188.3	7,313.3
2033	4,025.0	1,279.4	5,304.4	1,630.0	551.0	2,181.0	5,655.0	1,830.4	7,485.4
2034	4,420.0	1,002.7	5,422.7	1,805.0	432.8	2,237.8	6,225.0	1,435.5	7,660.5
2035	4,850.0	698.8	5,548.8	1,985.0	302.0	2,287.0	6,835.0	1,000.8	7,835.8
2036	5,315.0	365.4	5,680.4	2,180.0	158.1	2,338.1	7,495.0	523.5	8,018.5

**The Mosaic CDA further benefitted from a surplus fund of excess tax increment revenues.** The surplus fund, which consisted of excess tax increment revenues for the Mosaic CDA, could be used to restore any deficiency in the debt service reserve fund or pay debt service on the 2011 Bonds if tax increment revenues are insufficient.<sup>80</sup>

<sup>78</sup> Id., p. 15.

<sup>79</sup> Ibid.

<sup>80</sup> Id, p. 55.

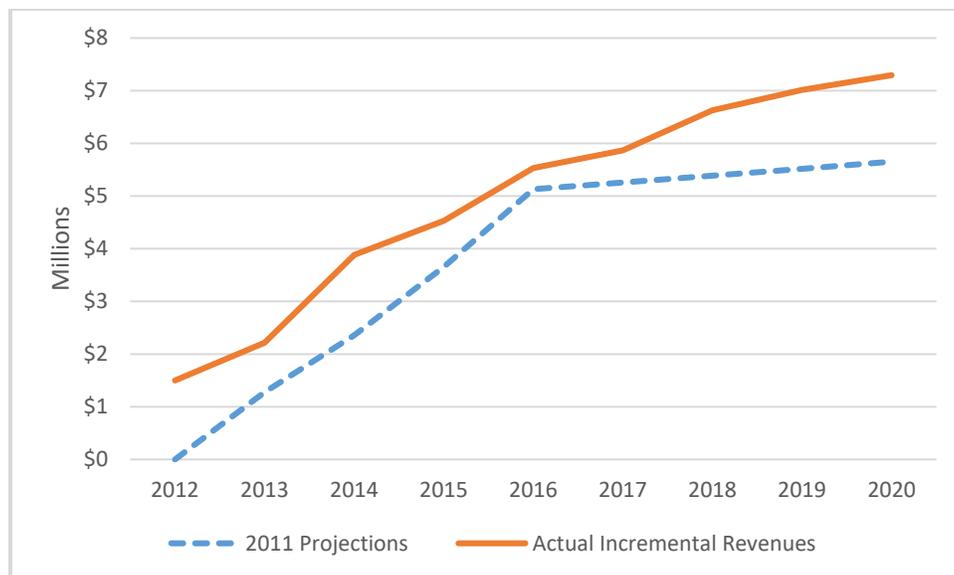
## Refunding in 2020

**Mosaic developers completed most of the development as intended, yet some changes were made, reflecting inevitable changes in market demand.** As shown in Table 8, the developers completed a similar amount of retail space intended in the 2011 Bonds, including the anchor Target store. It realized 17 percent more rental apartments and almost the same amount of townhomes. It also developed slightly more office space. The biggest change was a reduction in about half of the hotel beds and the construction of only one hotel.<sup>81</sup>

**Because Mosaic was successful, it was able to take advantage of a refunding in 2020.**

This refunding allowed the bonds to attain an investment-grade rating, which therefore allowed them to be sold in the public tax-exempt market. This made the bonds accessible to all retail bondholders, instead of the private placement market, which is generally restricted to sophisticated ones. This higher quality was the reason why the interest rates declined from 7 percent to 2 percent from the 2011 bonds to the 2020 bonds, respectively.<sup>82</sup>

**A review of tax increment history shows that Mosaic’s sponsors had accurately forecast the revenues supporting the 2011 Bonds with a reasonable degree of accuracy.** However, as shown in Figure 10, the actual incremental revenues vary by year. Actual revenues in 2016 came close to projections, leaving very little room for a buffer. This underscores the uncertainty of projections and the need for a backup in downside cases.



**Figure 9. Projected and Actual Incremental Revenues, 2011 Bonds<sup>83</sup>**

**From 2012 to 2018, the assessed value of Mosaic properties increased by almost four times, resulting in a positive value-to-bonds ratio, a financial metric.** The assessed value was \$178M in 2012 and \$673M in 2020 or a compound annual growth rate of 18.1 percent and

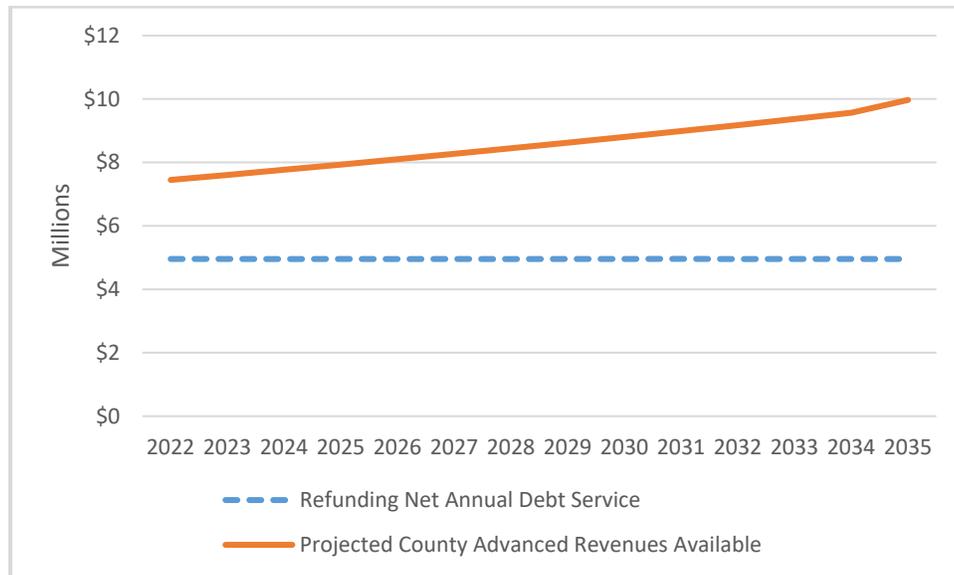
<sup>81</sup> “Mosaic District OS,” 2020, p.34.

<sup>82</sup> Municap, “County Advanced Revenues and Special Assessment Report,” 2020 p. 28 in Mosaic District OS, 2020.

<sup>83</sup> Municap, “County Advanced Revenues and Special Assessment Report,” 2020, pp. 14 and 36, in Mosaic District OS, 2020. Municap, “Tax Increment and Special Assessment Report, 2011,” p. 80, in Mosaic District OS, 2011.

a change of \$495M. Based on principal in 2020 of \$56M, this resulted in a value to bonds ratio of 12.09x. This is a metric used by credit rating agencies to evaluate the credit quality of a special assessment district transaction.<sup>84</sup>

**Future assessed growth is expected to result in incremental taxes that will more than cover debt service.** Mosaic expects assessed value to increase by 2 percent per year under “Scenario A” as shown in Figure 11. This results in \$7M of 2021 debt service increasing to \$10M in 2036. This assumed a tax rate of \$1.150 per \$100 assessed value, Fairfax’s current rate in 2020 and 2019, and roughly the median of Fairfax tax rates over the last 32 years.<sup>85</sup> This results in a coverage ratio of 1.50 in 2022 and increasing thereafter.<sup>86</sup>



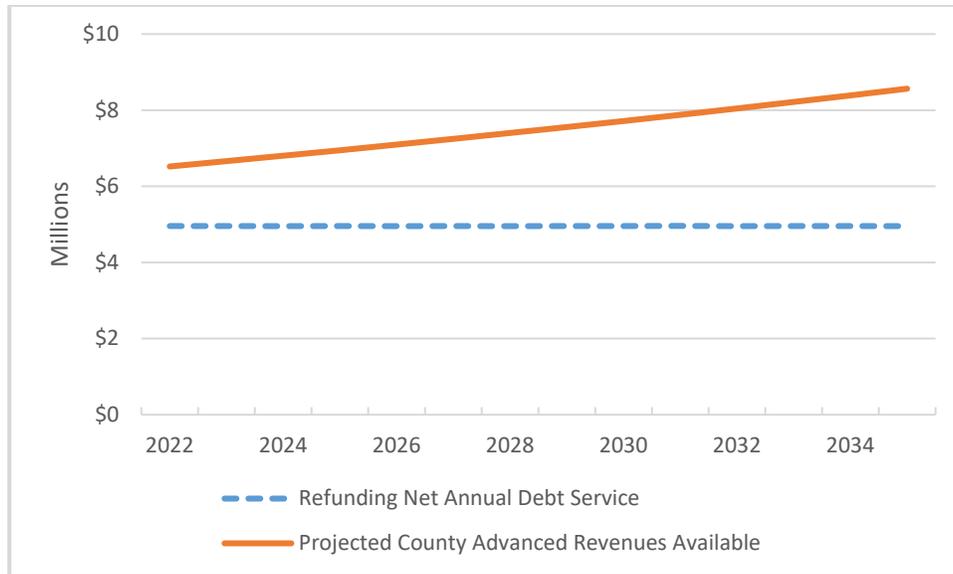
**Figure 10. Projected Debt Service & County Advanced Rev. (Base Case), 2020 Bonds<sup>87</sup>**

<sup>84</sup> “Mosaic District OS,” 2020, p.13. Moody’s, “Special Assessment / Special Property Tax (Non-Ad Valorem) Debt,” November 23, 2016, p.8, [https://www.moody.com/researchdocumentcontentpage.aspx?docid=PBM\\_1044931](https://www.moody.com/researchdocumentcontentpage.aspx?docid=PBM_1044931).

<sup>85</sup> Municap, “County Advanced Revenues and Special Assessment Report,” 2020, p. 17, in “Mosaic District OS,” 2020.

<sup>86</sup> Id., p. 7.

<sup>87</sup> Id., p. 9.



**Figure 11. Projected Debt Service & County Advanced Rev. (Sensitivity), 2020 Bonds<sup>88</sup>**

**Mosaic’s pandemic “Scenario B” downside case assumed 2020 assessed values remained the same for two years showing that no special assessment was necessary.**

The scenario assumed that January 1, 2021, assessed values are the same as the January 1, 2020, values and remain that way on January 1, 2022, as well. Thereafter, real property values will increase at a 2 percent annual rate of inflation from January 1, 2023, onwards as shown in Figure 12. It assumed the same \$1.150 tax rate per \$100 of assessed value. In this scenario, coverage ratios in 2021 will decline from 1.50x to 1.32x, still a reasonable margin.<sup>89</sup> Mosaic made it clear that “This scenario is purely illustrative in nature. The full extent and duration of pandemic impacts to future County Advanced Revenues is not known at this time, and actual reductions of these revenues could materially exceed those forecasted under Scenario B.”<sup>90</sup>

**The financial markets accepted the 2020 refinancing for several reasons, including because Mosaic made reasonable assumptions about property tax appreciation and future tax rates, although subject to market volatility and local politics.** The two-percent rate appreciation is much lower than 3.80-percent CAGR of the combined appreciation of residential and non-residential property appreciation over the last 32 years.<sup>91</sup> During two sets of years during this period, however, assessed values fell four years and three years in a row, during the early 1990s recession and the GFC, respectively. Further, the assumed tax rate (\$1.150 per \$100 assessed value tax rate) was roughly the median of Fairfax tax rates over the last 32 years. While the tax rate was affected by the level of revenue generated as a result of assessed values, they are also set by policymakers whose motives are not necessarily based on purely technocratic estimates of budget needs. Policymakers may unexpectedly delay or change tax rates to reflect new budget needs and/or reduce taxes to win favor with voters.

**As a backstop, the bonds benefited from a special assessment on Mosaic property should tax increment monies be inadequate; they also benefited from standard municipal**

<sup>88</sup> Id., p. 10.

<sup>89</sup> Id, p. 8.

<sup>90</sup> Id, p. 3.

<sup>91</sup> Id., p. 20.

**bond credit features.** The special assessment is an ad valorem special tax that may be levied within Mosaic of \$0.25 per \$100 of assessed value<sup>92</sup> in case the tax increment revenues were inadequate. The bonds issued in 2020 (2021 Bonds) also benefited from the same standard municipal bond credit features that helped reduce financial risk as with the 2011 bonds, which included coverage ratios and reserve funds. Furthermore, the bonds benefitted from municipal bond insurance, provided by Build America Mutual Assurance Company.<sup>93</sup>

**While Mosaic was structured around the downside case, has standard credit mitigation measures, and benefitted from special assessments, the Mosaic District Official Statement, 2020 underscored the financial uncertainty of COVID-19:** “With respect to the Mosaic District, COVID-19 has created significant business disruption for many retail operators, including theater and fitness uses, while some quick-service restaurant businesses have seen growth during the Pandemic . . . Given the uncertainty of the progression of the virus and government emergency orders affecting the operations of some leases within the Mosaic District, there is no timetable for when operations at the Mosaic District will return to normal for all leases. The full impact of COVID-19 and the scope of any adverse impact on the Mosaic Development cannot be fully determined as of the date of this Official Statement.<sup>94</sup>

**Because of the way that it was structured, Mosaic was able to obtain an investment-grade rating from Moody’s.** Moody’s awarded the refunding bonds a rating of S&P AA/Moody’s A2,<sup>95</sup> based on several rating criteria:

*The A2 rating reflects the moderately-sized and growing tax base within the Mosaic District, a fully developed mixed-use residential and commercial TIF district in Fairfax County, VA (Aaa stable). The rating also reflects above-average top taxpayer concentration, strong resident income levels, and adequate debt service coverage provided by growing tax increment revenues. The rating also incorporates a special assessment back-stop in the event incremental revenues are insufficient to cover debt service, a cash-funded debt service reserve fund, additional available liquidity in a surplus fund (not pledged to bondholders) comprised of excess tax increment revenues, and strong oversight from the county.*<sup>96</sup>

## 2021 Experience

**Bond disclosure documents show how Mosaic has weathered the Pandemic since the 2020 Refunding.** As reported on March 31, 2021, Mosaic has reported that leased occupancy of retail and office space was 96 percent and 100 percent on June 30, 2020, respectively, and 94 percent and 100 percent on October 9, 2020.<sup>97</sup>

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<sup>92</sup> Mosaic District OS, 2020, p.24.

<sup>93</sup> Id., p. 20.

<sup>94</sup> Id., p. 30.

<sup>95</sup> Id., cover.

<sup>96</sup> “Moody’s Assigns Initial A2 to Fairfax County, VA’s Mosaic District TIF Bonds; Outlook Stable,” September 30, 2020, [https://www.moodys.com/research/Moodys-assigns-initial-A2-to-Fairfax-County-VAs-Mosaic-District--PR\\_906727712](https://www.moodys.com/research/Moodys-assigns-initial-A2-to-Fairfax-County-VAs-Mosaic-District--PR_906727712)

<sup>97</sup> Municap, “Development Activity and Disclosure Report for the Fiscal Year Ended June 30, 2020, Mosaic District Community Development Authority, Fairfax County, Virginia, \$37,765,000 Revenue Refunding Bonds, Series 2020A And \$17,885,000, Revenue Refunding Bonds, Taxable Series 2020A-T,” March 31, 2021, p. 1.

**Tax increment revenues declined because assessed values and tax rates declined in the last year.** The assessed value of \$672,598,740 as of January 1, 2020, declined to \$663,560,710 in January 1, 2021, or a 1.3 percent decline. Furthermore, Fairfax may lower its tax rate to \$1.14.<sup>98</sup> The combined impact of changes to tax increment 2021 receipts is to reduce them from \$7,294,761 to \$7,128,294 or an overall decline of 2.3 percent.<sup>99</sup>

**The impact of this expected decline from 2021 was not expected to trigger the need for special assessments.** The debt service coverage ratio is expected to decline from 1.50 to 1.44.<sup>100</sup> In comparison, Scenario B from the Mosaic District Official Statement, 2020 assumed a decline to 1.32.<sup>101</sup> As per the terms of the Surplus Fund, a balance of \$2,442,411 was also available to cover potential downsides.<sup>102</sup>

## Conclusions

The following are key takeaways from this case that may be appropriate for other value capture-related projects:

- Mosaic provides a useful example of how an underutilized industrial district can be transformed into a mixed-use, resilient area, even when it is not well-connected to high-capacity transit. This is relevant for many suburban areas throughout the U.S. Furthermore, it shows how projects may change during planning and implementation and that well-thought plans can anticipate this risk.
- Mosaic has employed many of the tools to manage the impact of economic shocks as discussed in chapter [4]. These include:
  - **Analyze downsides:** Mosaic prepared a number of scenarios and showed that it could mitigate them.
  - **Overcollateralize:** Mosaic showed high DSCRs as well as value-to-bond ratios.
  - **Add reserve funds:** Mosaic bondholders benefitted from a surplus fund of excess tax increment revenues that could be used to restore any deficiency in the debt service reserve fund or pay debt service on the 2011 Bonds if tax increment revenues were insufficient.
  - **Reduce early year cashflow pressure:** Mosaic had several features to reduce early-year cashflow pressure, including delaying the repayment of principal for several years, two years of capitalized interest during the construction period and upward sloping debt service payment curve all of which reduced the debt service payment pressures.
  - **Backstop projects with creditworthy sources:** While it has not been used, the SAD has backstopped the TIF and was cited as one factor in Moody's A2 rating.

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<sup>98</sup> Municap, "Development Activity and Disclosure Report," p. 13.

<sup>99</sup> Id., p. 1.

<sup>100</sup> Id., p. 2.

<sup>101</sup> Municap, Mosaic District OS, 2020, p. 41.

<sup>102</sup> Municap "Development Activity and Disclosure Report," p. 26.

## Further Information on Additional Cases Referenced

Case	Mode	Value Capture Technique	Summary	Further Information
<b>Route 28, Virginia</b>	Highway	Transportation Improvement District/ Special Tax District	State Route 28 was a primary State highway through Northern Virginia. In the 1980s, Route 28 was a two-lane country road in need of expansion to accommodate the region's growth and increased traffic volume. To fund this expansion, Virginia made use of special tax districts (transportation improvement districts) together with bond financing. In the district, a 20-cent surcharge was applied to property tax bills for each \$100 of value for commercial and industrial properties.	<a href="#">Virginia Route 28 – Special Tax District</a> , Case Study, FHWA
<b>E-470, Colorado</b>	Highway	Impact Fee	E-470 is a 47-mile, primarily four-lane, limited-access toll road that makes up a major portion of a beltway around the eastern portion of the Denver metropolitan area.	<a href="#">Colorado E-470 Toll Road and Vehicle Registration Fees</a> , Case Study, FHWA
<b>Denver Union Station, Colorado</b>	Transit	SAD, TIF, Joint Development	Redevelopment of historic Denver Union Station as a transit hub as the center point of a new transit system and vibrant neighborhood in downtown Denver. Ultimately, the \$500M project tapped nine different sources, including an inventive use of two federal loan programs repaid with joint development, SAD, and TIF monies. Part of the project also involves a real estate P3.	<a href="#">Value Capture Case Studies: Denver's Historic Union Station</a> , Chicago's Metropolitan Planning Council  <a href="#">Guide to Value Capture Financing for Public Transportation Projects (2016)</a> , <a href="#">Appendix C</a>
<b>Kansas City Streetcar, Missouri</b>	Transit	Special Assessment District; Sales Tax District	The KC Streetcar is a two-mile modern streetcar, which opened in 2016. The streetcar was developed during a period of economic expansion in downtown KC. Sixty percent of the project's \$102M capital costs were covered by bond financing which was backed by property and parking assessments as well as a 1 percent sales tax levied from within the borders of a transportation development district (TDD)	<a href="#">Guide to Value Capture Funding for Public Transportation Projects, Appendix E – Kansas City Streetcar, Kansas City, MO</a> . Transit Cooperative Research Program, 2016.
<b>Parole Town Center, Maryland</b>	Highway and Roads	TIF	Parole was a neighborhood in Annapolis, MD, which was being redeveloped beginning in the mid-1990s, designed to focus future growth into an "Urban Design Concept Plan" to reduce future suburban sprawl. Tax increments of property in the	<a href="https://emma.msrb.org/IssueView/Details/MS57274">https://emma.msrb.org/IssueView/Details/MS57274</a>

Case	Mode	Value Capture Technique	Summary	Further Information
			2.35-mile Development District were used to fund the \$8.3M bond, which paid for needed improvements to help realize the plan, including streets, roadways, and ramps to US 50, MD Route 2, MD Route 450, and other roads.	
<b>Assembly, Doraville, Georgia</b>	Transit	TIF, SAD	The Assembly Project, an adaptive re-use project that featured commercial, residential, entertainment, and a filmmaking studio in Doraville, GA, illustrated the importance of conducting a downside scenario.	<a href="https://emma.msrb.org/P21433847-P21113500-P21524247.pdf">https://emma.msrb.org/P21433847-P21113500-P21524247.pdf</a>
<b>Osceola County, Florida</b>	Roads and Bridges	Impact Fees	Osceola County, FL, has taken advantage of transportation impact fees to facilitate construction of key bridge and roadway infrastructure for three decades. The fees were implemented in 1990 to address rapid growth in the county that had led to severe traffic issues and citizen frustration. The fees were suspended in 2011 and repealed in 2012 in response to an economic slowdown.	<a href="https://www.fhwa.dot.gov/ipd/pdfs/value_capture/value_capture_implementation_manual_2019.pdf">https://www.fhwa.dot.gov/ipd/pdfs/value_capture/value_capture_implementation_manual_2019.pdf</a> ; see Section 4.1.8

## APPENDIX 2 COVID-19 IMPACTS ON VALUE CAPTURE

**Projects funded using value capture techniques are inherently subject to the cycles and volatility of the real estate market.** This appendix focuses on the Pandemic's impact on the private and public office market and, to a lesser extent, the residential market. Although these are only two of several real estate sectors, they have a significant impact on transportation needs and have been sectors primarily responsible for funding many value capture projects. Though future economic shocks may have different impacts on office, housing, or other real estate markets, this discussion should be helpful in understanding some drivers of real estate change. It also suggests how the "new normal" may look like post-Pandemic office market and respective transportation infrastructure impacts.

### Changing Real Estate Demand

#### Office

**The Pandemic's impact on real estate demand may affect the future location of major employee occupational groups.** During the Pandemic, a material number of employees have shifted to working from home. In April 2020, a couple of months after the Pandemic reached the U.S., only about 10 to 15 percent of office employees were working in their offices. This represented about one-fifth of pre-pandemic rates. By September 15, 2021, a year and a half later, roughly 34 percent of all office employees worldwide were working in their offices. This compared to around 60 percent pre-pandemic, or slightly more than half of the expected rates pre-pandemic.<sup>103</sup> This reduced office activity dramatically decreased commuting on all transportation modes, including car, mass transit, bicycling, and walking.

**Many studies document that productivity of office employees during the Pandemic has been as good or better than pre-pandemic.** A pre-COVID-19 study led by Stanford professor Nicholas Bloom of travel agents found a 13-percent increase in productivity from working at home due to less break time shifts and a quieter work environment.<sup>104</sup> Bloom colleague's Jose Maria Barrero's subsequent work found that working from home could raise productivity by 5%, with 54% due to true productivity gain and the rest due to commuting time savings.<sup>105</sup> A random monthly survey of 2,500 employees per month during the Pandemic found that productivity was reported to be 4 percent above pre-pandemic productivity.<sup>106</sup> Common explanations of such increased productivity include the elimination of commute time and less unproductive "water

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<sup>103</sup> Cushman & Wakefield, "Predicting the Return to the Office," September 2021, <https://www.cushmanwakefield.com/en/insights/Predicting-the-Return-to-the-Office>, pp. 10 and 16.

<sup>104</sup> Bloom, Nicholas, James Liang, John Roberts, and Zhichun Jenny Ying, "Does Working from Home Work? Evidence From a Chinese Experiment," *The Quarterly Journal of Economics* (2015), 165–218. doi:10.1093/qje/qju032, <https://nbloom.people.stanford.edu/sites/g/files/sbiybj4746/f/wfh.pdf>

<sup>105</sup> Barrero, Jose Maria, "The Work-From-Home Outlook in 2022 and Beyond," *Work From Home Research*, January 2022, <https://wfhresearch.com/wp-content/uploads/2022/01/Barrero-AEA-NABE-Jan22.pdf>, P. 28.

<sup>106</sup> Shea, Christopher, "No Commute, Less Water Cooler Talk, More Exercise, Maximum Productivity," *The Washington Post*, October 14, 2021, [https://www.washingtonpost.com/outlook/the-great-pandemic-work-from-home-experiment-was-a-remarkable-success/2021/10/14/c21123d0-2c64-11ec-985d-3150f7e106b2\\_story.html](https://www.washingtonpost.com/outlook/the-great-pandemic-work-from-home-experiment-was-a-remarkable-success/2021/10/14/c21123d0-2c64-11ec-985d-3150f7e106b2_story.html)

cooler talk,” more exercise time, the leveraging of quiet spaces at home for complex work, and greater flexibility to balance work and non-work needs.<sup>107</sup>

**The rise of “hybrid” workplaces may reduce white-collar demand for commercial office space.** A number of surveys suggest that a hybrid workplace may become the new normal.<sup>108</sup> This may include three days in the office and two days out of office, as technology leaders Google and Amazon are planning. Facebook may allow more employees to work from home permanently.<sup>109</sup> Other studies show that employees want to work at home at least 2.5 days per week.<sup>110</sup> In one survey, over 40 percent of employees said that they would seek another job if they could not work from home part of the time.<sup>111</sup> The pandemic’s “forced experiment” of working from home, has helped employees to experience telecommuting benefits, including less physical commuting time, ability to better address childcare and eldercare issues, and overall flexibility to manage work and non-work activities.<sup>112</sup> However, for many “blue-collar” and “white-coat” employees, who work in manufacturing or warehousing and in customer-facing organizations like hospitals or retail, respectively, hybrid workplaces are generally much less possible.<sup>113</sup> While it is difficult to project the ultimate impact of these changes, some studies suggest that all organizations will reduce space needs by 10 to 20 percent.<sup>114</sup>

**The nature of the office—purpose, layout, location—may change.** In a hybrid workplace, certain functions may remain in the office while others are accomplished elsewhere. For instance, “team-based work,” which includes formal meetings, intensive collaboration activities, training functions, and in-person interviews may be most appropriate in an office. Layouts for larger firms may change from a standard office cubicle or open-plan format to a variety of meeting spaces and better eating offerings.<sup>115</sup> Locations may change as well, as organizations may require different types of spaces—possibly more space per person depending on health

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<sup>107</sup> Apollo Technical, “Surprising Working From Home Productivity Statistics (2021),” June 2, 2021, <https://www.apollotechnical.com/working-from-home-productivity-statistics/>. Stopoli, Rebecca, “Are We Really More Productive Working from Home?” *Chicago Booth Review*, August 18, 2021, <https://review.chicagobooth.edu/economics/2021/article/are-we-really-more-productive-working-home>

<sup>108</sup> CBRE, “The Next Normal: How Hybrid Work Will Transform Real Estate,” 2021, p.9, <https://www.cbre.com/insights/reports/the-next-normal-how-hybrid-work-will-transform-commercial-real-estate>. Short, Aaron, “Majority of Employees Want Flexibility to Work From Home Instead of Raises,” *Commercial Observer*, October 13, 2021, <https://commercialobserver.com/2021/10/majority-of-employees-want-flexibility-to-work-from-home-instead-of-raises/>. Slack, “Report: Remote Work in the Age of Covid-19,” April 21, 2020, <https://slack.com/blog/collaboration/report-remote-work-during-coronavirus>.

<sup>109</sup> Lawler, Richard, “Google Pushes Its Mandatory Return to Office Date into 2022,” *The Verge*, August 31, 2021, <https://www.theverge.com/2021/8/31/22650639/google-mandatory-return-january-2022-remote-work>. Grocery Dive, “Facebook Remote Working Plan Extended to All Staff for Long Term,” August 17, 2021, <https://www.grocerydive.com/press-release/20210817-facebook-remote-working-plan-extended-to-all-staff-for-long-term/>.

<sup>110</sup> Shea, “No Commute.”

<sup>111</sup> Grant Thornton, “Grant Thornton Survey: Employees value flexibility over salary increases — one-third looking for new jobs,” October 6, 2021, p. 1, <https://www.grantthornton.com/library/press-releases/2021/october/gt-survey-employees-value-flexibility-over-salary-increases-one-third-looking-for-new-jobs.aspx>.

<sup>112</sup> Grant Thornton, pp. 1-2.

<sup>113</sup> Lipman, Joanne, “The Pandemic Revealed How Much We Hate Our Jobs. Now We Have a Chance to Reinvent Work,” *Time*, May 27, 2021, <https://time.com/6051955/work-after-covid-19/>.

<sup>114</sup> CBRE, pp. 17, 21, and 28.

<sup>115</sup> Propmodo, “Landlord’s Guide to Remote Space Strategies,” September 15, 2021, <https://www.propmodo.com/landlords-guide-to-remote-workplace-strategies/>.

guidelines—and quality of space, including furniture, quality of materials, and quality of location to house “event-based work,” such as company events that help to foster corporate culture.<sup>116</sup>

**White-collar employees are more likely to be able to work outside of their traditional place of employment, the office.** This occupational category makes up around a quarter of the total U.S. workforce, as shown in Table 12. Based on 2020 U.S. Bureau of Labor Statistics data, around 26 percent of 147.8M U.S. employees could be classified as “white-collar.” These are occupations where the primary work can be done with a computer and a phone and therefore outside of an office.<sup>117</sup> Around 23 percent of the labor force could be classified as “blue-collar,” where most of the work involves production needing to be carried out in a factory, warehouse, farm, or construction site. The remaining 52 percent of the workforce could be considered “white-coat” employees, service occupations that primarily require being present in a school, hospital, laboratory, theater, stadium, or other purpose-built facility.<sup>118</sup> Many white-coat employees use computers and communicate by phone; during the Pandemic, a portion of them (e.g., teachers) worked at home. However, most of these occupations are poor telecommuting candidates. This is likely to be the case for some blue-collar employees as well.

**Table 12. Breakdown of U.S. Occupations by White, Blue, and White Coat<sup>119</sup>**

Labor Category	Percent of Workforce
White Collar	26%
Blue Collar	23%
White Coat	52%

**This analysis suggests that a good portion of U.S. employees could work from home in the future.** Pre-pandemic, approximately 17 percent of all U.S. employees worked at home, while at the one-year mark of the Pandemic, as much as 60 percent of the workforce worked at home.<sup>120</sup> This is very dependent on the type of business organization, culture, and short- and long-term needs. Furthermore, health guidelines could require greater social distancing in offices, thereby increasing per-employee space demands even if the overall number of employees in an office declines. Nevertheless, if two-thirds of white-collar employees worked

<sup>116</sup> CBRE, pp. 13, 25, and 29.

<sup>117</sup> U.S. Bureau of Labor Statistics, “Labor Force Statistics from the Current Population Survey, Household Data Annual Averages, 11. Employed persons by detailed occupation, sex, race, and Hispanic or Latino ethnicity,” 2020, <https://www.bls.gov/cps/cpsaat11.htm>. White collar includes “management, business, and financial operations occupations.” Blue collar includes “natural resources, construction, and maintenance occupations.” Pink collar includes “life, physical, and social science occupations;” “community and social service occupations;” “education, training, and library occupations;” “arts, design, entertainment, sports, and media occupations” with some exceptions; “healthcare practitioners and technical occupations;” “protective service occupations;” and “sales occupations.”

<sup>118</sup> This includes occupations covered by the outdated term “pink collar,” which originally referred to occupations that were dominated by women. Numbers do not add to 100% due to rounding. See: Robert Howells, “Why Do We Classify Jobs by Collar Color?” June 22, 2021, <https://historyofyesterday.com/why-do-we-classify-jobs-by-collar-color-895dfab122d1>. Amy Tennery, “The Term ‘Pink Collar’ Is Silly and Outdated — Let’s Retire It,” Time, May 23, 2012, <https://business.time.com/2012/05/23/the-term-pink-collar-is-silly-and-outdated-lets-retire-it/u>.

<sup>119</sup> U.S. Bureau of Labor Statistics, “Labor Force Statistics from the Current Population Survey.”

<sup>120</sup> Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021, “Why Working from Home Will Stick,” National Bureau of Economic Research Working Paper 28731, p. 4, <https://wfhresearch.com/>.

out of the office, 20 percent of white-coat employees and 5 percent of blue-collar employees did the same, this could increase the number of telecommuters to over 30 percent, a major impact on where the workforce spends much of its day.

### Other Real Estate Sectors

**The decrease in office use and leasing has had, and may continue to have, a negative impact on other businesses, including food/beverage and retail.** Many businesses located in central business districts have lost their “lunch” and “business meal” market. Unless they find alternative ways to stay afloat, such as by reducing capacity, cutting staff and/or by offering delivery services, their existence is threatened. The same is the case for non-food retail, which is heavily dependent on office employees and visitors. This real estate sector has also been heavily buffeted by online shopping, a pre-pandemic threat that has only grown during the Pandemic. This business activity loss directly affects business improvement districts (a value capture technique), which often help maintain and invest in small infrastructure projects.<sup>121</sup>

**The widespread adoption of video-conferencing will likely reduce business travel, to the detriment of hotels and related real estate.** The video-conferencing market—which includes the application of common software like Zoom and Microsoft Teams—is expected to grow at a vigorous 11.4-percent compound annual growth rate from 2021 to 2028.<sup>122</sup> Widespread acceptance of these tools will likely result in reduced business travel. This could affect business hotels, convention centers, and restaurants.<sup>123</sup> Other business travel beneficiaries, including entertainment venues such as theaters, stadia, and museums could also be affected. Some analysts have predicted that as much as 20 percent of urban hotel rooms could be permanently closed.<sup>124</sup> Business travel by car could also decline. One manifestation of hotels’ needs to transform themselves include renting out rooms as temporary offices during the day.<sup>125</sup> These hospitality real estate declines may impact the collection of value capture revenues that are dependent on business districts, tax increments, and/or hotel taxes. Furthermore, demand for transportation services around cities and to train stations and airports could also decline.

**For several reasons, the real estate that has been the least affected by the Pandemic is residential real estate.** First, a large proportion of the white-collar labor market was able to work from home, thereby allowing these employees to retain jobs and pay rent or mortgages. Second, some residents of cities heavily affected by the Pandemic (e.g., New York City) moved to suburban or exurban locations, increasing demand for single-family or second homes. This

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<sup>121</sup> Davies, Emily, “Less Than 25 Percent of Office Workers Have Returned to Downtown D.C., New Report Says,” *The Washington Post*, October 8, 2021, <https://www.washingtonpost.com/dc-md-va/2021/10/08/less-than-25-percent-office-workers-have-returned-downtown-dc-new-report-says/>.

<sup>122</sup> Grand View Research, “Video Conferencing Market Size, Share & Trends Analysis Report By Component (Hardware, Software, Service), By Deployment, By Enterprise Size, By Application, By End Use, By Region, And Segment Forecasts, 2021 – 2028,” <https://www.grandviewresearch.com/industry-analysis/video-conferencing-market>.

<sup>123</sup> Pomeroy, Robin, and Ross Chainey, “Has COVID Killed Our Cities?” World Economic Forum, November 12, 2020, <https://www.weforum.org/agenda/2020/11/cities-podcast-new-york-dead/>.

<sup>124</sup> Schoening, Elise, and Michael J. Shapiro, “The Latest on Hotel Reopenings and Closings Due to Covid-19,” April 5, 2021, <https://www.northstarmetingsgroup.com/News/Hotels-and-Resorts/Coronavirus-Update-Hotel-Resort-Casinos-Closed-Economic-Impact>.

<sup>125</sup> Ismail, Nabila, and Caroline Lupini, “Hotels Are Staying In Business By Turning Rooms Into Offices,” *Forbes*, March 12, 2021, <https://www.forbes.com/advisor/travel-rewards/hotels-are-staying-in-business-by-turning-rooms-into-offices/>.

demand was exacerbated by college students and young adults who left dormitory or apartment housing to be with their families, thereby adding additional space needs for households in which one or more adults were now working from home. Finally, the Federal Reserve Bank's monetary policy of keeping interest rates low has made home purchasing more affordable.

**Increased telecommuting may put new pressures on residential design and space allocation.** Beyond the fiscal policy impacts on housing demand, the Pandemic may increase the demand for space in the typical housing unit. With one or more household members working at home, the demand for “Zoom rooms”—quiet, video-conference-friendly rooms and/or dedicated home office spaces—has increased. In one example, a new 2,600-square-foot “concept home” in North Carolina includes two dedicated home office spaces and several multi-purpose flex spaces that can change over time as needs and household members change.<sup>126</sup>

**While home-based locations may benefit the most from increased telecommuting, hybrid workplaces may also encourage the growth of “third” locations and unique, sought-after locations.** The Pandemic has raised employees' concerns about working in crowded and confined spaces, making work at home attractive. However, demand for working in “third” locations also may increase. Weather-permitting, outdoor cafes or parks are one destination. Others include sought-after locations, such as waterfronts or historic buildings. The *New York Times* reports a trend towards co-working spaces located in suburban areas to attract hybrid employees who do not want to work at home and/or whose employers offer this as a perk.<sup>127</sup> As discussed, some employers may want to hold training sessions, meetings, and entertainment activities at these venues, thereby increasing the demand for rentals or long-term leases at choice spots.

## Changing Real Estate Growth Patterns

**Changing patterns of real estate demand within metropolitan regions may affect real estate growth.** As outlined above, as a result of the Pandemic, many employees, especially white-collar ones, have chosen to work from home, at least partially. Collectively, these this may change demand for commercial office space. This may force downtown business districts, which are currently dominated by office space, to adapt. This may mean that the mix of real estate assets prevalent in urban cores will shift from commercial office space to retail, residential, and cultural uses.<sup>128</sup> Further, the Pandemic has currently shifted residential demand from urban cores to suburban areas. This shift was driven by the ability to work from home, which has led employees to look for more space to accommodate their new work-from-home lives and reduce the need for residential neighborhoods with reasonable commutes. Pandemic-related shutdowns also reduced the value placed on urban cultural amenities; however, it is expected that the desire for such amenities will rebound once the Pandemic is under control.<sup>129</sup>

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<sup>126</sup> Businesswire, “Grand Opening of America at Home Study Concept Home “Barnaby” Reflects National Homebuyer Preferences in the Wake of COVID-19,” July 14, 2021, <https://www.businesswire.com/news/home/20210714005191/en/Grand-Opening-of-America-at-Home-Study-Concept-Home-“Barnaby”-Reflects-National-Homebuyer-Preferences-in-the-Wake-of-COVID-19>.

<sup>127</sup> Hong and Haag, “Why Co-Working Spaces Are Betting on the Suburbs.”

<sup>128</sup> Hadden Loh, Tracy and Joanne Kim. *To Recover from COVID-19 Downtowns Must Adapt*, Brookings, April 15, 2021, <https://www.brookings.edu/research/to-recover-from-covid-19-downtowns-must-adapt/>.

<sup>129</sup> Assanie, Laila, and Yichen Su, *COVID-19 Fuels Sudden, Surging Demand for Suburban Housing*, Federal Reserve Bank of Dallas, 2020, <https://www.dallasfed.org/research/swe/2020/swe2004/swe2004b.aspx>.

**How economic shocks affect real estate growth patterns depends on the nature of the shock and are hard to predict.** Arguably, a key reason the Pandemic led to a flight from dense urban cores to areas with more space had to do with the public health consequences of being near others while a deadly virus was circulating. This, combined with the newly earned ability to work remotely, made the decision easy for some employees. While this movement out of the cities was previously a trend in the early 2000s, the economic shock posed by the GFC of 2008-2009 had the opposite impact. During this recession, people moved less and stayed in or moved to urban cores—the areas where the economic opportunity was greatest.<sup>130</sup>

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<sup>130</sup> Frey, William, *The Great American Migration Slowdown: Regional and Metropolitan Dimensions*, Brookings, December 2009, [https://www.brookings.edu/wp-content/uploads/2016/06/1209\\_migration\\_frey.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/1209_migration_frey.pdf).