

The Underline - Segment 6

BUILD Grant FY 2018

Appendix B

HR&A Economic Impact Assessment:

The Economic Impacts of

The Underline

Creating Value Through Open Space: The Economic Impacts of The Underline

December 2015



"The Brichells came to the Miami River. They owned the first store on Indian Creek road. They acquired 3 acres in fee of any land not running from present downtown Miami to Coconut Grove."

William & Mary Brichell
Founders of Miami
and Fort Lauderdale
by Del Brichell
c. 1876

TABLE OF CONTENTS

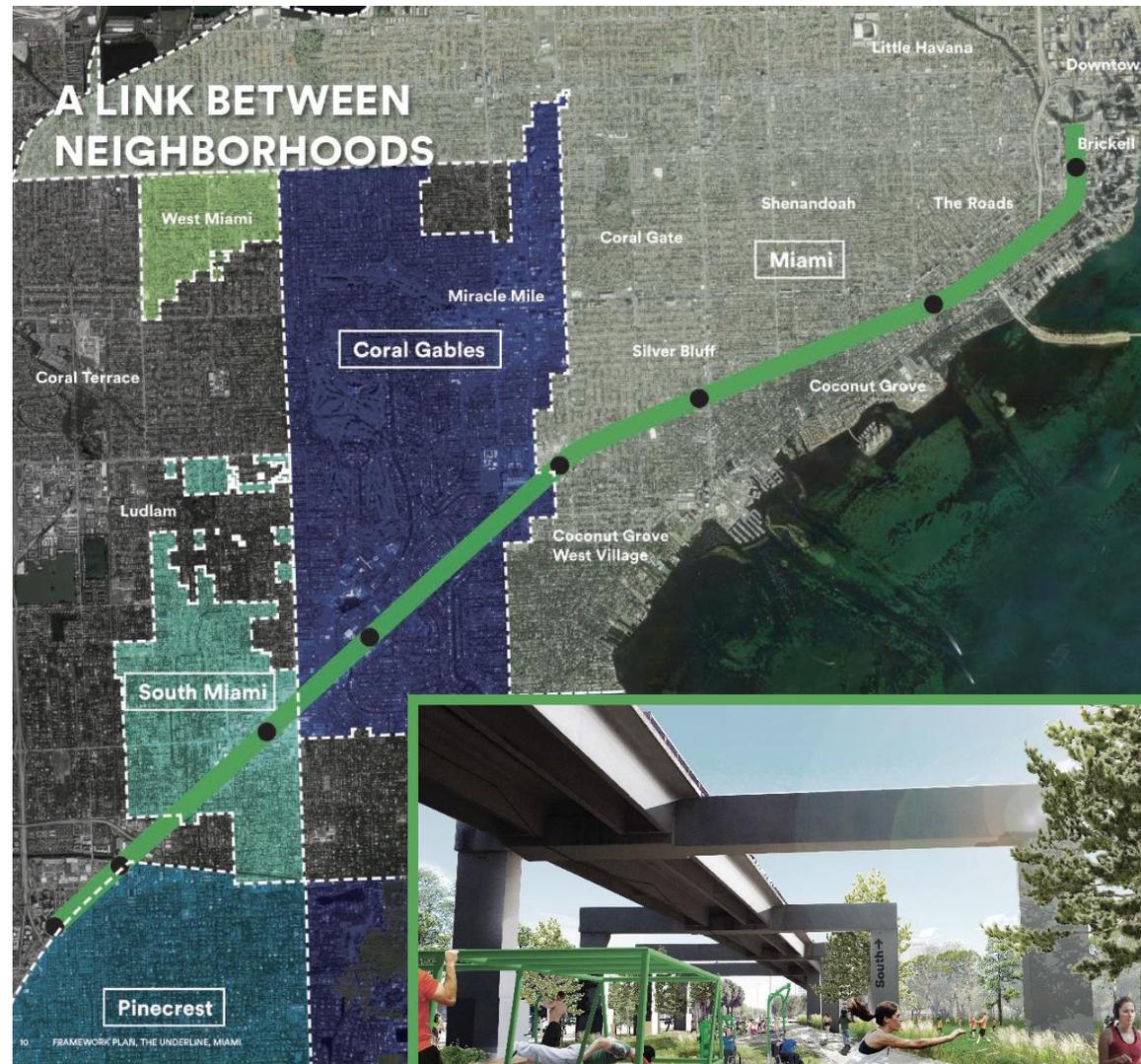
Executive Summary	2
Open Space as Value Creation	5
Economic & Fiscal Benefits	6
Construction Impacts	6
Impacts of Park Operations	7
Real Estate Value Creation	8
New Development	10
City-Building	12
Conclusion	15
Technical Appendix: Study Methodology	16

A signature opportunity for Miami-Dade: The Underline

The Underline will become **a signature linear park and urban trail** improving the **quality of life** for Miami-Dade County residents and generating **economic benefits to thousands of residents, businesses and properties.**

The Underline will create **a new type of open space amenity** that connects neighborhoods and bolsters existing transportation nodes throughout the 10-mile corridor, **expanding the benefits of health and wellness** to local residents through new recreational and transportation alternatives. As a new signature open space, The Underline will **strengthen the civic fabric and brand of Miami-Dade County.**

The Underline will also **catalyze new real estate development** and **increase the value and fiscal potential** of surrounding properties, which will benefit from proximity to open space, access to destination programming and improved urban connectivity.



Creating value & catalyzing development

Increasing property values & tax revenues



- The Underline will become a valuable amenity for surrounding neighborhoods, creating **\$300-\$485 million in incremental assessed value** for property owners.
- Increased property values will equate to **\$6 to \$10 million in new annual tax revenue** for Miami-Dade County and the cities of Miami, Coral Gables and South Miami.

Spurring new development across the corridor



- The Underline will enhance and accelerate opportunities for more than **20 million square feet** of potential new development across the corridor, with a total estimated **\$3 billion in new gross taxable value**.
- For these new projects, The Underline is projected to add **\$150 million in incremental assessed value**, generating up to **\$3 million in additional fiscal revenue each year** once fully built out.

Creating jobs & bolstering the regional economy



- The Underline will create more than **1,000 jobs during construction** and **400+ permanent jobs** during operations of the park.
- These activities will increase spending throughout the local economy, including:
 - **\$170 million in total economic output during construction;** and
 - **\$50 million in economic activity every year** following completion.

Construction Impacts*

Capital investment in the park cycles through the local economy, creating jobs and enriching businesses and workers.

\$170 million+
total economic output

1,000+
total jobs

\$45 million+
total compensation

Impacts of Park Operations

Park operations and maintenance creates new employment and economic activity throughout the region.

\$50 million+
total economic output per year

400+
total jobs annually

\$15 million+
total annual compensation

Real Estate Value Creation

Investment in open space generates incremental value premiums to surrounding existing real estate.

\$300-\$485 million
incremental assessed value for existing properties

\$6 - \$10 million
incremental annual tax revenue

New Development

The Underline will spur new development and add incremental value to planned development projects.

20 million+ SF
of potential new development along the corridor

\$3 million+
total new annual tax revenue across the corridor

\$150 million
incremental tax value created by The Underline

City Building

A significant new amenity for the region can help to attract and retain residents and businesses, including in-demand “innovation” workers and industries.

Increased quality of life

Attract & retain businesses & residents

**Represents the total jobs and economic activity created over the full buildout of The Underline’s construction (e.g. if phased evenly over 10 years, 1,000 jobs would equate to approximately 100 full-time equivalent (FTE) jobs per year.*



OPEN SPACE AS VALUE CREATION | Parks generate substantial civic, economic and fiscal value by serving as public amenities, destinations and local brand-builders.

AMENITY



Rose Kennedy Greenway | Boston

Decked park over downtown highway generated a ~5% net new increase in surrounding property values.

DESTINATION



Fountain Square | Cincinnati, OH

Revitalized public plaza became a new downtown destination and anchor for development, spurring an additional \$125 million in new private investment.

BRAND



The High Line | New York, NY

Repurposed elevated rail has become an international attraction, drawing 5 million annual visitors, and influencing corporate relocation and investment decisions.

There is a growing national recognition that **parks create value for their users, communities and regional economies**. Indeed, parks are an increasingly important part of many regional economic development strategies.

In addition to providing tangible wellness benefits to users, parks can **attract and sustain healthy residential and business communities**,

enhance the real estate market to provide **increased fiscal revenue for local governments**, and build and sustain a vibrant **city brand**.

These and other benefits have been widely demonstrated over the past 30 years of scholarship, and the specific applications of these benefits to **The Underline** are described in greater detail in the body of this report.

CONSTRUCTION IMPACTS | Throughout the duration of its construction, The Underline will create jobs for residents and generate significant regional economic activity.

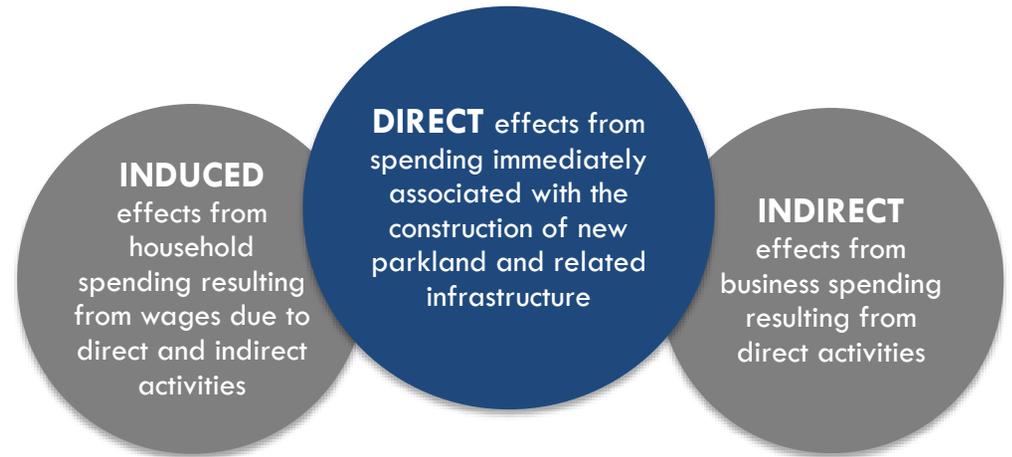
SPENDING & MULTIPLIER IMPACTS

Capital investment in the park cycles through the local economy, creating jobs and enriching businesses and workers.

\$170 million+
total economic output

1,000+
total jobs

\$45 million+
total compensation



This study measures the **direct** and **multiplier, or induced and indirect, effects** of the projected \$110-120 million total capital construction costs of The Underline.

The \$110-120 million construction of The Underline will create a total of **more than 1,000 jobs** throughout the duration of the park's construction, with an **average compensation of more than \$44,000** per new job created. The construction will also increase new spending, creating **more than \$170 million** of new direct, induced, and indirect economic activity throughout the region. All values are presented in 2016 dollars.

Given the phased development of The Underline, values are presented across the total capital investment. For example, should buildout of The Underline occur steadily over 10 years, approximately 100 full time equivalent (FTE) position would be employed each year.

IMPACTS OF PARK OPERATIONS | Ongoing operations and maintenance will create new permanent employment, boosting annual economic activity throughout the region.

SPENDING & MULTIPLIER IMPACTS

The operations and maintenance of The Underline will create economic impacts cycling through the local economy, enriching businesses and workers.

\$50 million
total annual economic output

400+
total permanent jobs

\$15 million+
total annual compensation



HR&A compared operations and maintenance (O&M) spending in comparable signature urban parks to derive estimated annual expenditures for The Underline. At full buildout, ongoing operation and maintenance (O&M) of the park will create and sustain a total of **more than 400 permanent jobs** across the regional economy, with an **average compensation of \$40,000+**.

This estimate includes **260+ full-time equivalent direct jobs for employees** related to the management, operations, maintenance and programming of the park. As is the case in most signature parks nationally, conservancy and non-profit park stewardship leverages a wide variety of funding sources, **providing these economic benefits to the local economy at reduced cost to the public sector.**

These activities will increase local spending, creating additional impacts throughout the regional economy totaling **\$50 million each year.**

REAL ESTATE VALUE CREATION | The Underline will create substantial incremental value for existing real estate, translating to higher values for property owners.

INCREMENTAL IMPACTS FOR EXISTING PROPERTIES

Investment in open space generates incremental value premiums to surrounding existing real estate.

Studies of similar signature linear parks across the country indicate that **the value of nearby residential and commercial properties increases by about 3 to 5%** with the creation of nearby open space, with the greatest impact occurring on properties directly adjacent to the park. Thorough modeling of a range of valuation scenarios along The Underline corridor, respecting the unique physical relationship between The Underline and adjacent real estate, confirms this premium range.

When applied to the 9,000+ residential, office and retail parcels likely to be impacted by The Underline, this approximate 3 to 5% value premium is anticipated to **create \$300 to \$485 million in new assessed property value**, translating to new value for landowners. This calculation assumes total values in 2015 dollars following the full buildout of the park.

Jurisdictional Boundary	Current Assessed Property Value	Increase in Assessed Value
Miami	\$8.5B	\$175M - \$300M
Coral Gables	\$1.5B	\$45M - \$70M
South Miami	\$0.6B	\$15M - \$25M
Miami-Dade County*	\$1.2B	\$65M - \$90M
Total	\$11.8B	\$300M - \$485M

*Includes proximate properties in Pinecrest

REAL ESTATE VALUE CREATION | Increases in property values would in turn enhance property tax revenue for relevant jurisdictions.



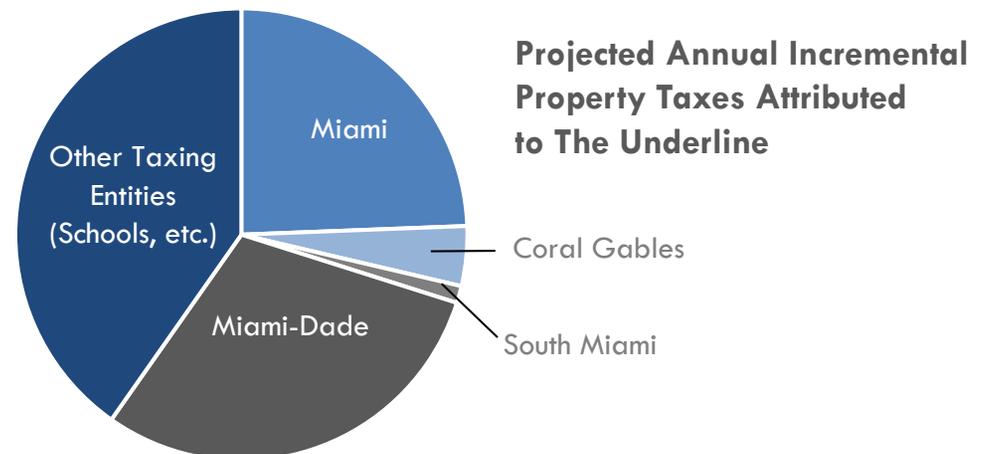
Based on this projected increase in assessed property values, **The Underline is expected to generate an additional \$6 to \$10 million in annual incremental property tax revenue for the County, local municipalities and other taxing jurisdictions.**

These estimates are calculated in 2015 dollars, and assume full buildout of the park and resulting real estate value growth. The majority of new tax revenue will accrue to Miami-Dade County, the City of Miami and Coral Gables.

* City Parks Alliance: Frontline Parks - Millennium Park

** Includes proximate properties in Pinecrest

Taxing Jurisdiction	Increase in Assessed Value	Incremental Annual Property Taxes
Miami	\$175M - \$300M	\$1.5M - \$2.5M
Coral Gables	\$45M - \$70M	\$0.2M - \$0.5M
South Miami	\$15M - \$25M	\$0.1M
Miami-Dade County**	\$65M - \$90M	\$1.9M - \$3.0M
<i>Other Taxing Entities (Schools, etc.)</i>		\$2.5M - \$4.1M
Total	\$300M - \$485M	\$6.2M - \$10.2M



NEW DEVELOPMENT | The Underline can help spur new development that would not otherwise occur, in addition to adding value to planned projects.

INCREMENTAL IMPACTS FOR NEW DEVELOPMENT

The Underline will spur new development and add incremental value to planned development projects.

20 million+

potential new SF of development

\$3 billion

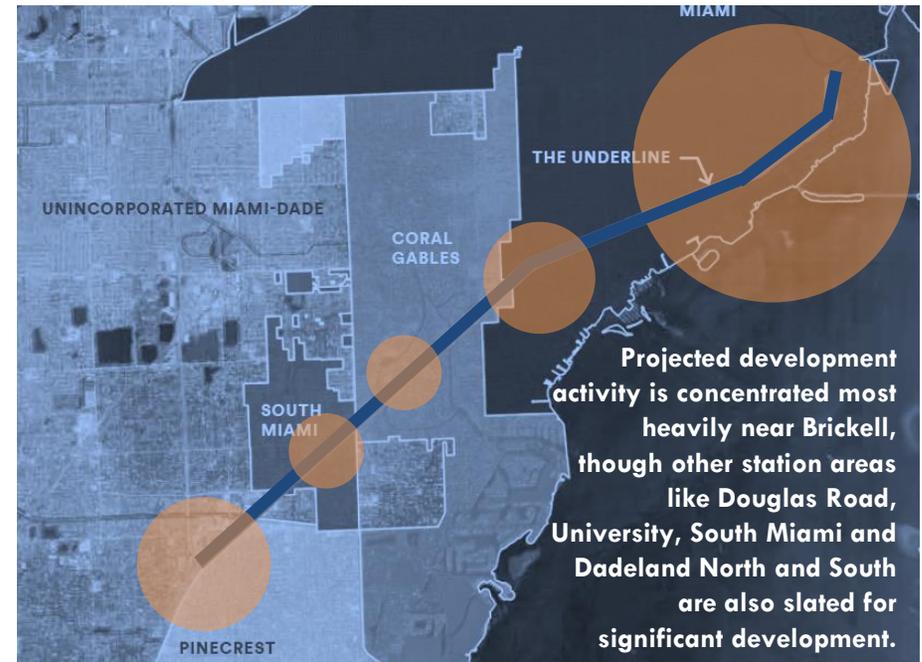
estimated new taxable value

\$150 million

incremental assessed value*

\$3 million+

annual incremental fiscal revenue



According to HR&A's analysis, there are approximately 50 projects proposed, planned or in construction along The Underline corridor. In addition to **supporting the vibrancy and success of these new developments**, The Underline will also be a **catalyst for further neighborhood transformation** by triggering additional new development that might not have occurred otherwise.

The Underline will create **additional incremental value of up to \$150 million**, by improving rents and sale prices and increasing asset value for future developments.

*When a comparable 5% premium is applied

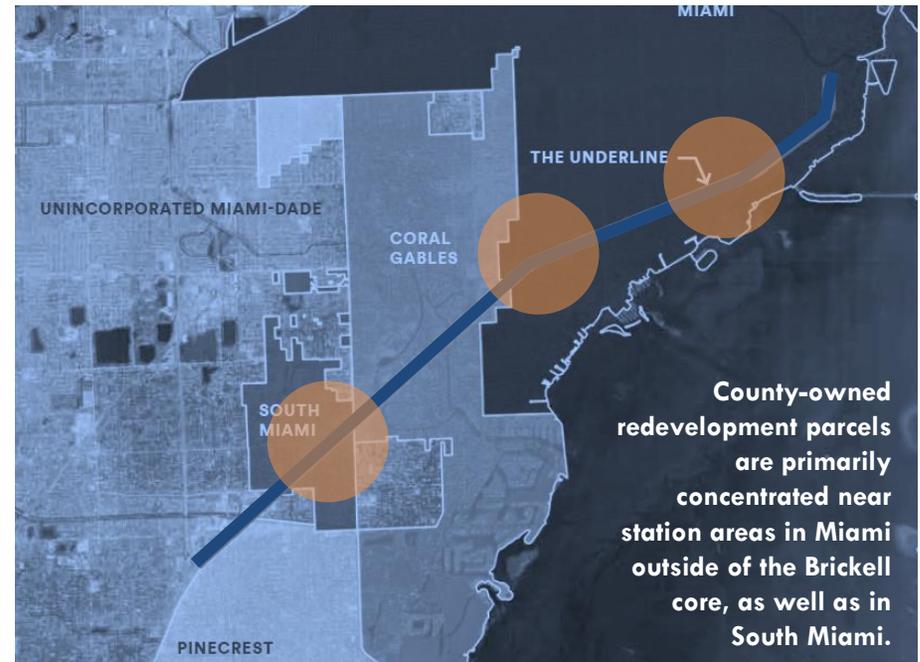
NEW DEVELOPMENT | If repositioned to higher and better uses, underutilized County property should also benefit from the value generated by The Underline.

\$175 million

estimated additional revenue to the County from redevelopment

\$9 million

incremental revenue associated with The Underline



Within the parcels identified by the study as potential new development opportunities, the **County owns 8 such sites potentially suitable for redevelopment**. These sites, situated near station areas along the corridor, represent **significant monetization opportunities for the County**.

Similar to other properties along the corridor, these sites should benefit from premiums for rental and sales values, translating to **higher land sale and/or lease values for the County**, valued at approximately **\$9 million** based on current land values within the study area and existing zoning. This total is reported in 2015 dollars. In addition, these properties may now be able to go to market sooner, as well as see quicker absorption once developed.

CITY BUILDING | As a signature open space that will herald international attraction, The Underline will help strengthen Miami-Dade’s brand and serve as a core amenity.

RESIDENT & BUSINESS ATTRACTION

A significant new amenity and alternative mobility corridor for the region can help to attract and retain residents and businesses, including in-demand “creative” workers and industries.



Annual spending on parks and recreation per resident in Miami is below the national average. The Miami metro area spends up to 50% less on parks and recreation per resident than its peers. The region spends only \$80 per resident annually, compared to the national median of \$89 and up to \$160 per resident by competitive peers such as San Jose, New York, Los Angeles, San Antonio and Austin.*

Signature open spaces can attract residents and business to Miami. A large body of research indicates that the presence of developed urban amenities and a perceived high quality of life are of primary importance to modern workers and companies alike, particularly for businesses as growth industries have moved away from more location-dependent industries such as manufacturing.

and companies has been observed by the loss of businesses from areas in which quality of life has been perceived to decline.**

Parks are social infrastructure that support quality of life for all residents and an equitable future for all communities. The Underline will be Miami-Dade County’s first alternative mobility corridor, providing connections to transit on bike or foot and alleviating traffic. Over the long term, investment in The Underline could be critical to re-stitching divided communities along its path, bolstering the impacts of transit nodes and providing a public health and community amenity free of charge, to help support a unified and economically vibrant Miami. New amenities for low-moderate income communities can bridge the socioeconomic divide and celebrate the diversity of Miami.

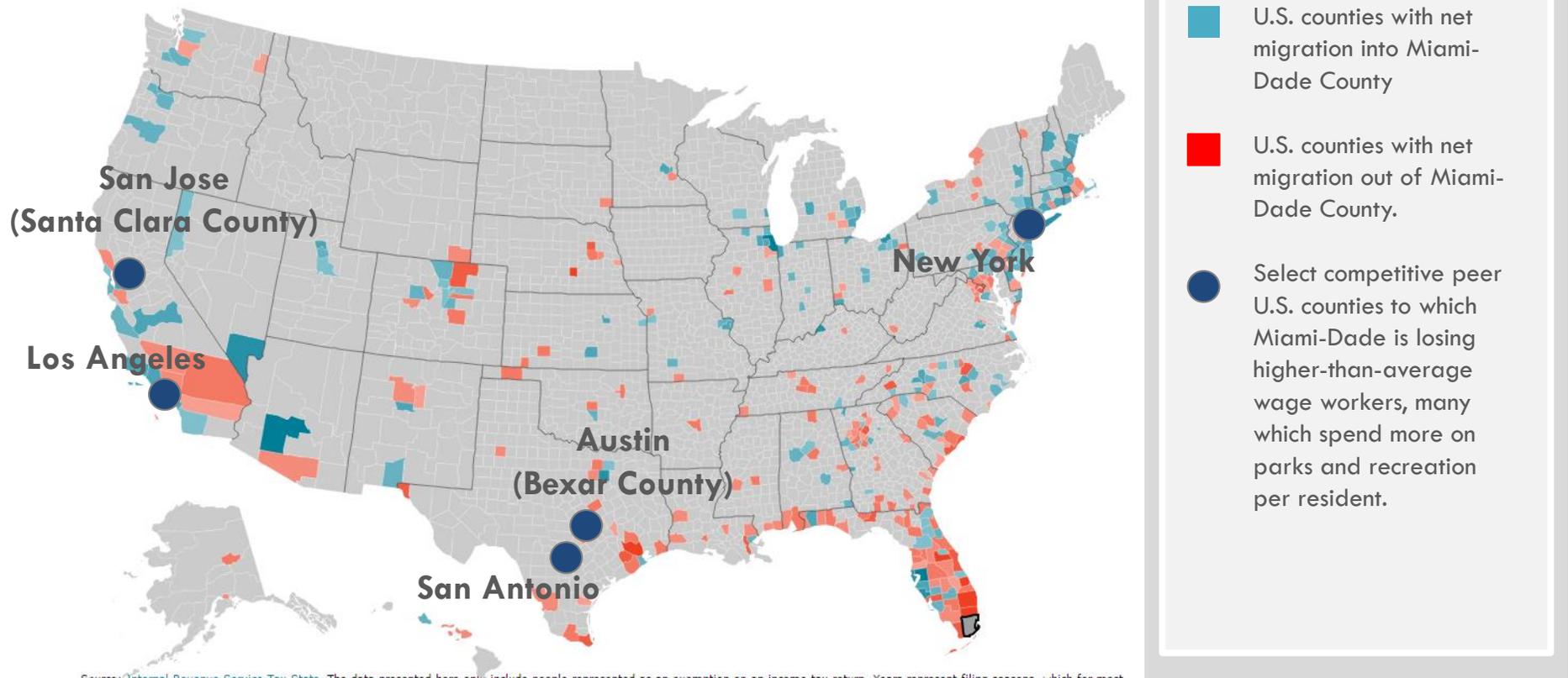
*Trust for Public Land: Facts About Parks, 2015

**Crompton, Love, and More: An Empirical Study of the Role of Recreation, Parks, and Open Space in Companies’ (Re)Location Decisions
Indeed, the importance of amenities in attracting and retaining workers

CITY BUILDING | Miami-Dade County loses high-wage workers to peers with cultures of active recreation or rich urban amenities.

Miami-Dade County Migration (2010)

The following map illustrates net in- and out-migration for Miami-Dade County. The same analysis also indicates average wages for in- and out-bound workers for Miami-Dade County, identifying Counties to which Miami is losing higher-than-average workers. Many of these metro areas spend far more on parks and recreation per capita than does metro Miami.



Source: Internal Revenue Service Tax Stats. The data presented here only include people represented as an exemption on an income tax return. Years represent filing seasons, which for most people end on April 15, but they include returns received as late as the end of September. For best results, please use FireFox, Chrome, Safari, or Internet Explorer 9.

Source: Forbes

CITY BUILDING | Companies and workers in target high-impact industries place a strong value on quality of life and urban amenities.

Quality of location matters.

1. Research has consistently demonstrated the **importance of quality of life in business location decision-making**, in particular for businesses employing highly-skilled workers in information-based services.*
2. Of the fastest growing companies, **one in five leaders named quality of life factors such as parks** or local cultural attractions as key criteria in choosing where to launch their companies, versus only 5% who cited low tax rates.**
3. Among established corporations, **urban amenities are the most important factor** in established companies' decision to relocate. * *** **

Information Tech.

\$780k

Average total output
per job

\$85k

Average direct
income per job

Creative Design

\$290k

Average total output
per job

\$58k

Average direct
income per job



New York City's High Line has been a boon for the growth of the Chelsea neighborhood, attracting new and dynamic employers such as Google to the formerly industrial district.

The High Line, which opened in 2009 and has since been expanded, has successfully attracted billions of dollars of investment and development in Chelsea. In 2010, Google spent \$2 billion to acquire a nearly 3 million SF office building two blocks from the High Line for its New York City headquarters. Soon thereafter, the company signed leases for 180,000 SF of additional office space immediately next to the High Line and is expected to double the size of its leased space by late 2015 or early 2016.



Discovery Green has transformed downtown Houston, with \$625 million in new development completed and an additional \$1 billion in the pipeline.

Since opening to the public in 2008, Discovery Green has become a keystone amenity for Downtown – along with the longer-term, \$80 million Buffalo Bayou project. Discovery Green generates approximately 1.2 million annual visitors, of which nearly 25% come from suburban and other surrounding areas. The One Park Place Tower opened adjacent to the park in 2009 with 346 new residential units, and Hess consolidated its Houston operations in the adjacent Hess Tower (formerly Discovery tower) in 2011.

*Crompton, Love, and More: *An Empirical Study of the Role of Recreation, Parks, and Open Space in Companies' (Re)Location Decisions*; ***What Do the Best Entrepreneurs Want in a City?: Lessons from America's Fastest-Growing Companies*, Endeavor Insight; ****Interview: Suzanne Farren, Keller Williams Realty; Sheena Gohil, Colliers International*

CONCLUSION | The Underline will be a transformative investment in Miami-Dade's future, and will require public and private collaboration to maximize economic returns.

Investments in open space provide both valuable community amenities and meaningful economic returns, as has been consistently documented in precedent open space projects across the country. Similarly, the transformative vision for The Underline will create significant benefits for Miami-Dade County and for the Cities of Miami, Coral Gables, and South Miami.

Successful implementation will require coordination among a range of public and private stakeholders. It will also require a diverse funding strategy that reflects and draws upon project value to be created over its lifetime and use. There are a range of opportunities to tie economic benefits to funding sources in order to support project implementation, including tapping into the incremental real estate value generated by The Underline to fund park construction and operations (see table to the right).

This study can serve as a launching point for these discussions, demonstrating a rationale for investment in The Underline and in an evolving vision of Miami's future. The study defines the anticipated benefits of the planned signature park and quantifies three principal benefits, including the permanent and construction impacts on local spending, incremental real estate value of existing and future development, and the value of expanding recreational opportunities, multi-modal transportation and quality of life of Miamians in attracting and retaining residents and businesses.

Together, these benefits comprise:

- More than **\$170 million** in total economic output from **construction**
- **\$48 million** in economic output from **operations** annually
- **\$6 million to \$10 million** in annual incremental **fiscal revenue**
- **1,000 construction-related jobs** and **400 permanent jobs** introduced into the region.

Implementation Strategy

- 1 Position underutilized County and municipal land for redevelopment to bring higher and more complementary uses that activate the corridor
- 2 Consider the application of design guidelines and targeted rezoning to encourage complementary uses and design in new development adjacent to The Underline
- 3 Invest in a network of key streets and open space to set a physical framework for growth
- 4 Explore means of tapping into the incremental real estate value generated by The Underline to fund park construction and operations
- 5 Introduce targeted programming to key nodes along The Underline – both within the park and in currently underutilized adjacent spaces - to create identity, generate visitation and spur new development opportunity
- 6 Spur greater investment around The Underline through coordinated neighborhood partnerships to improve and activate the corridor

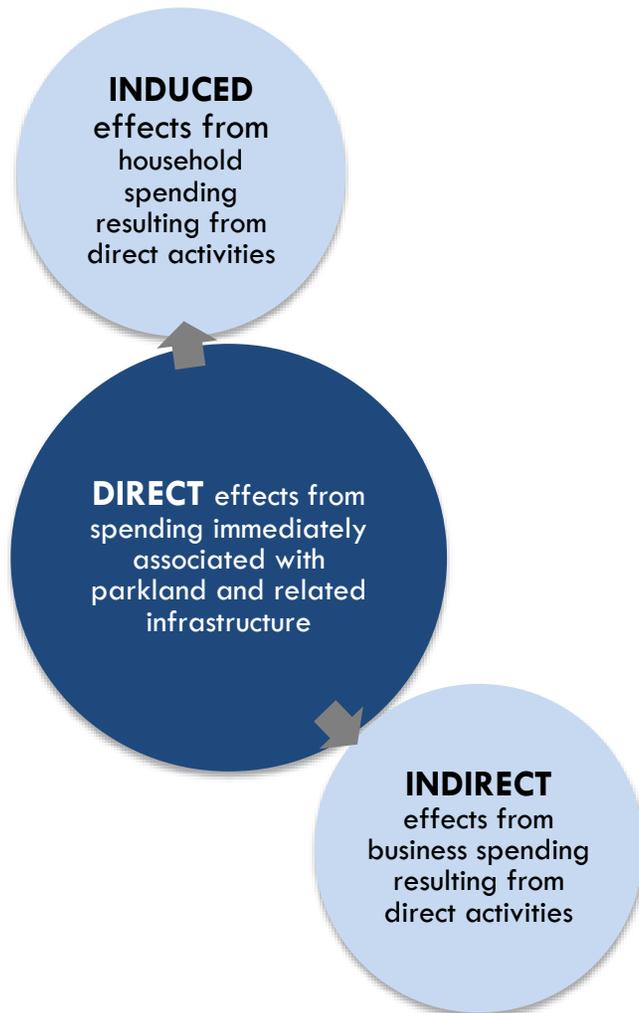
**See the full "Corridor Opportunity Study" in The Underline Framework Plan*

TECHNICAL APPENDIX

Study Methodology



METHODOLOGY | Direct and multiplier effects for construction and operations impacts



Economic impacts take multiple forms. In the language of economic impact analysis, value created by the investment itself is called a **direct impact**. Direct impacts of The Underline’s public space are described on the following pages, and are likely to be:

- Project spending on **construction** and **ongoing operations and maintenance**
- Changes in **real estate value**, due to both increases in existing property value and new investment.

The new economic activity generated by The Underline will yield business and personal income that can be spent within the local economy, creating additional indirect and induced impacts (**multiplier impacts**). **Indirect impacts** result from business spending by organizations or businesses that receive direct benefits, including park / open space construction and operations contractors; government entities or companies involved in the sale and/or development of real estate assets; or contracted operations and maintenance partners that are engaged to provide maintenance, programming, or other services in the park. **Induced impacts** result from spending from households that receive direct benefits, including park employees and employees of affected businesses.

Modeling Economic Impacts

The relationship between direct and multiplier impacts is specific to each region and industry, as well as to the components of the investment itself. The “multiplier effect” measured in precedent studies is typically between 50% and 100% of the initial investment.

Impact analysis for PLANning (IMPLAN) is an input-output model created by MIG, Inc. (formerly Minnesota IMPLAN Group, Inc.) used to analyze the economic impacts on local regions. For each dollar of spending in the economy, IMPLAN traces the pattern of commodity purchases and sales between 440 industries within the specified geography. The IMPLAN model is used to conduct economic impact analyses by leading public and private sector organizations across the United States.

METHODOLOGY | Construction Impacts

Economic Output (2016 Dollars)

Direct	\$104.6M
Indirect	\$34.3M
Induced	\$33.0M
Total	\$171.9M
Multiplier	1.64

Employment

Direct Jobs (FTE)	551
Indirect Jobs (FTE)	228
Induced Jobs (FTE)	228
Total Jobs (FTE)	1,007
Total Wages	\$37.6M
Total Compensation	\$45.0M
Average Compensation	\$45,000

This study measures the direct and multiplier effects of the total development costs of The Underline.

APPROACH

These estimates are based upon the current master plan proposed by James Corner Field Operations and the cost estimate that Friends of the Underline and Stuart-Lynn Company recently prepared, estimated at a total development cost of \$115 million across the 10-mile The Underline.

VALUATION

HR&A modeled the impact of The Underline's construction budget using IMPLAN.

The construction and operations of The Underline will create **more than 1,000 full time equivalent jobs** and **increase local spending by more than \$170 million**. Full-time equivalent employment is the number of full-time equivalent jobs, defined as total hours worked divided by average annual hours worked in full-time jobs.

Given the phased development of The Underline, values are presented across the total capital investment. For example, should buildout of The Underline occur steadily over 10 years, approximately 100 full time equivalent (FTE) positions would be employed each year.

METHODOLOGY | Impacts of Park Operations

APPROACH

HR&A framed its approach by drawing on experience developing business plans for signature and neighborhood parks across the country, and considering the relationship between operations and maintenance (O&M) expenses and the relative level of design and programming across The Underline park. In our experience, and across the budgets of comparable signature open spaces we surveyed, highly programmed or “intensive” signature parks carry significantly higher O&M costs per acre than “low-intensity” parks.

As is the case in most signature parks nationally, it is anticipated that many of these jobs may be supported by a conservancy or non-profit park stewardship, leveraging private philanthropy, sponsorship and earned revenue opportunities.

The Underline, as designed by James Corner Field Operations, is comprised of both high- and low-intensity programmed components along its 10-mile length, at proportions of approximately 20% and 80%, respectively.

HR&A identified relevant high- and low-intensity urban parks that were comparable to The Underline’s sections, and examined each park’s operations and maintenance budgets across three primary categories: capital maintenance, landscaping, and all other O&M.

HR&A projected costs per acre for The Underline by averaging costs across these categories for comparable projects in high- and low-intensity categories, applying these estimates across The Underline’s total acreage.



Note: Figures rounded to nearest \$10,000th.

METHODOLOGY | Impacts of Park Operations

VALUATION

HR&A modeled the impact of The Underline’s operation and maintenance activities through IMPLAN, applying the projected annual O&M budget described on the previous page. Our analysis applied the budgetary averages per acre for each budget category as previously described to the corresponding IMPLAN industries (see table below), and assumed impacts at full buildout of the park in 2016 dollars. This calculation considers the jobs and output created each year, equating to permanent impacts and job creation.

IMPLAN Categories	Includes:
Maintenance, repair & construction of nonresidential structures	All capital maintenance and repairs
Landscape & horticultural services	Regular landscaping Plantings
Museums, historical sites, zoos & parks	Management Administration Routine O&M (including security, etc.) Programming Planning and Advocacy Fundraising

Economic Output (2016 dollars)

Direct	\$24.7M
Indirect	\$13.4M
Induced	\$10.4M
Total	\$48.5M
Multiplier	1.96

Employment

Direct Jobs (PT/FT)	269
Indirect Jobs (PT/FT)	96
Induced Jobs (PT/FT)	81
Total Jobs (PT/FT)	446
Direct Jobs (FTE)	227
Indirect Jobs (FTE)	88
Induced Jobs (FTE)	71
Total Jobs (FTE)	386
Total Wages	\$12.4M
Total Compensation	\$15.7M
Average Compensation	\$ 41,000

METHODOLOGY | Real Estate Value Creation



1. Define Study Area

This study assesses property surrounding the corridor likely to experience positive economic impacts from The Underline, focusing on real estate within one-third of a mile from the corridor, which represents the outer-bounds of areas likely to experience an increase in property value. HR&A's review of the extensive body of reports on the demonstrated value premium of open space found that the typical premiums for linear parks on property value is between 3% to 5% within 1/3 of a mile of the park.



2. Consider Physical Context

The Underline Corridor spans 10 miles with widely varying physical relationships to The Underline that also fall within the boundaries of three distinct municipalities and County land. Within 1/3 mile, the type of physical relationships of nearby property will either enhance or impede the impact of The Underline on surrounding real estate. HR&A designated relative value segments based on their physical relationships and likelihood to benefit from the park.



3. Quantify Real Estate Value

Our study of the impacts on existing real estate examined residential, office and retail properties within the study area. We quantified the total assessed value of these use types within the study area to calculate the baseline assessed value. For our analysis of new development value, we profiled large scale residential uses that are currently in the pipeline, and calculated baseline assessed value per square foot using County data on recent developments over the past 10 years in each submarket.



4. Calculate Increment

We applied a premium range of 3 to 5% to the total assessed value of qualifying uses within the study area, with the understanding that some parcels in high-value segments are likely to experience a more significant value increment, while other parcels throughout the study area experience little to no impact based on their physical context. The resulting increment is the value attributed to The Underline above baseline growth, and the basis of our fiscal impact analysis to the three municipalities and the County.

Step 1: Define Study Area, Value Increments

HR&A established a dual-section 500-foot and 1760-foot study area based on a review of the body of existing research, consistent with the high- and low-impact benefit areas of precedent studies relevant to the context of The Underline.

We then looked to the existing literature and past HR&A studies for research on the demonstrated value premium associated with proximity to open space. With this review, we sought to define broad categories of urban open space within which to contextualize The Underline’s value creation potential, including signature parks, community/neighborhood parks, linear parks, and natural parks.

This analysis suggested the following general parameters for valuation:

- **A maximum premium of 25%** for the most valuable segments (those with double-frontage on the planned park, and then those with single-frontage), which is consistent with value premium increments associated with existing open space on the national scale.
- **A weighted average range of 3 to 5%** across all value segments modeled from aggressive to conservative, consistent with national averages for value premiums associated with community parks and natural areas.

PARK-DRIVEN VALUE PREMIUM DETERMINATION					
	Source	Signature Park Premiums	Community Parks	Linear Parks	Natural Areas
500'					
Buffer	Existing Research Scan (High)	25%	5%	8%	5%
	Existing Research Scan (Low)	10%	3%	6%	3%
1760'					
Buffer	Existing Research Scan (High)	10%	5%	4%	5%
	Existing Research Scan (Low)	5%	3%	3%	3%

Crompton, John L. “Impact of Parks and Open Space on Property Values and the Property Tax Base” A study commissioned by the National Recreation and Park Association 2001
 Keith Bartholomew and Reid Ewing. April 19, 2011. Hedonic Price Effects of Pedestrian- and Transit-Oriented Development. Journal of Planning Literature 26:18.
 Song, Y., and G. Knaap. 2003. New Urbanism and housing values: A disaggregate assessment. Journal of Urban Economics 54:218-38.

Step 2: Consider Physical Context, Apply Value Increments

Within the corridor-wide study area, HR&A then categorized parcels into a variety of segments based on their physical relationships to The Underline. Factors impacting the potential for The Underline to positively impact surrounding real estate include:

- **Existing infrastructure**, including Highway US-1, a pedestrian bridge at University, and neighborhood streets, all which may influence relationships with neighboring real estate throughout the corridor;
- **Variations in level of park capital and programming investment** throughout the corridor, and the degree to which investment is comparable to those of other signature parks across the US featuring world class design and/or programming; and
- **Walking time and accessibility** to surrounding neighborhoods.

These segments were mapped in GIS, allowing for grouping of parcels within the study area for further analysis, as shown on the following page.

HR&A then applied a range of value increments to each segment of the study area, adapting premiums from our review of the overall literature. This allowed for a differentiation between various sections and parcel throughout The Underline corridor in order to measure differential impacts to the County and municipalities.

This methodology produced a weighted value premium of 3 to 5% across The Underline study area, following completion of methodology steps 3 and 4. This range is consistent with past research findings for comparable linear parks.

The methodology balances the broad application of this premium with a more detailed approach acknowledging that some parcels in value areas are likely to experience a more significant value increment, and other parcels throughout the study area experiencing little to no impact.

CORRIDOR SEGMENTS

North of US-1

Within 500 Feet

Proximity to open space is a key factor in value premiums associated with open space. 500 feet is equivalent to two minutes of walk time or roughly one to two city blocks, equating to a strong if not direct sense of connectivity to open space within this distance. While positive impacts associated with proximity to open space are highest on properties directly facing open space, a survey of existing research indicates that neighborhoods within 500 feet of heavily used parks

Double Frontage

Double frontage sections are those in which properties directly abut The Underline on both sides of its pathway, creating a pedestrian zone centered on the planned park.

Single Frontage

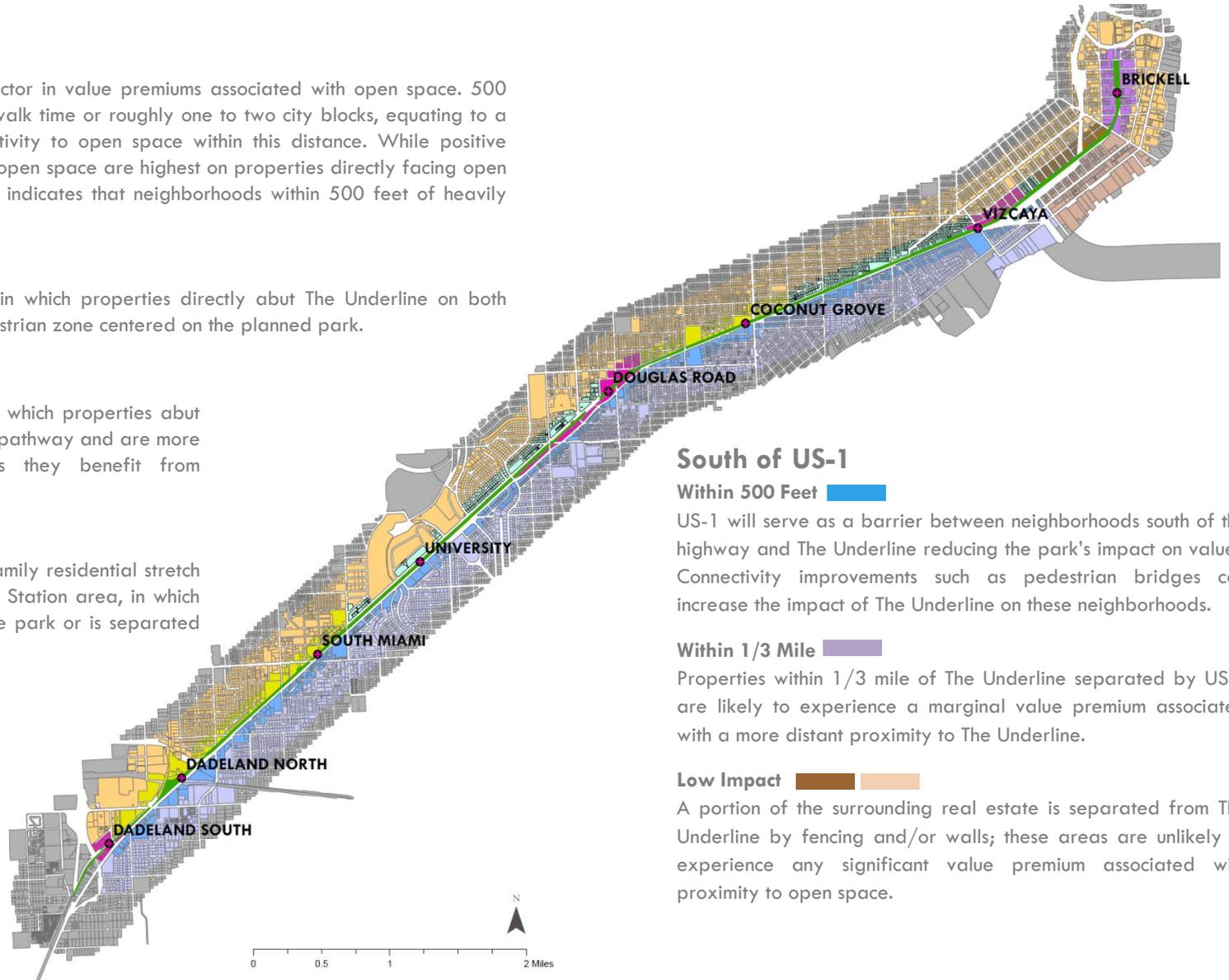
Single frontage sections are those in which properties abut The Underline on the north side of its pathway and are more valuable than those removed, as they benefit from increased pedestrian foot traffic.

Mixed Frontage/Minor Road

This section covers a largely single family residential stretch of the corridor in the Coconut Grove Station area, in which development either directly fronts the park or is separated by a minor road.

Within 1/3 of a mile

The value premiums associated with proximity to open space can be experienced as far as 2,000 feet from parks, though the majority of these benefits accrue to properties closest to the park.



South of US-1

Within 500 Feet

US-1 will serve as a barrier between neighborhoods south of the highway and The Underline reducing the park's impact on values. Connectivity improvements such as pedestrian bridges can increase the impact of The Underline on these neighborhoods.

Within 1/3 Mile

Properties within 1/3 mile of The Underline separated by US-1 are likely to experience a marginal value premium associated with a more distant proximity to The Underline.

Low Impact

A portion of the surrounding real estate is separated from The Underline by fencing and/or walls; these areas are unlikely to experience any significant value premium associated with proximity to open space.

Steps 3 & 4: Quantify Real Estate Value, Calculate Increment

Based on 2015 Miami-Dade County GIS Data, HR&A calculated the assessed value of all residential, office and retail property use types within the study area based on County land use designations. These property types comprise the majority of properties within 1/3 mile of the corridor, and also stand to gain the most significant value as a function of proximity to an open space amenity.

- **Residential:** All existing residential properties within 1/3 mile of The Underline are included in our incremental value estimation.
- **Office:** The impact of open space on office property types is primarily experienced within 500 feet of the park, as value is generated through quality of life improvements to workers through views, outdoor gathering and lunch spaces, and daytime leisure opportunities. Existing research suggests that this impact tapers off beyond 1 to 2 city blocks. To conservatively estimate the impact on office properties, we based our incremental value calculation solely

on assessed properties within 500 feet of The Underline, maintaining consistent premium assumptions applied to residential properties.

- **Retail:** Retail property typologies vary greatly across the 10-mile corridor, from pedestrian-oriented shops that open up directly onto the future Underline to indoor malls driven by car culture. For a conservative estimate of the impact on retail properties, we removed all retail properties beyond 500 feet from The Underline, as well as several large shopping malls including Dadeland Mall, Shops at Sunset Place, and the Shops at Merrick Park from our baseline assessed value.

HR&A then applied its value premiums by segment across these various uses, and calculated the incremental value creation on properties within the study area in terms of additional assessed property value. Using 2015 millage rates, we quantified potential incremental annual property taxes.

Jurisdictional Boundary	Total Built SF	Current Assessed Property Value	Incremental Assessed Value	Incremental Annual Property Taxes
Miami	50M	\$8.5B	\$175M - \$300M	\$1.5M - \$2.5M
Coral Gables	10M	\$1.5B	\$45M - \$70M	\$0.2M - \$0.5M
South Miami	5M	\$0.6B	\$15M - \$25M	\$0.1M
Miami-Dade County*	8M	\$1.2B	\$65M - \$90M	\$1.9M - \$3.0M
<i>Other Taxing Entities (Schools, etc.)</i>				\$2.5M - \$4.1M
Total	~75M SF	\$11.8B	\$300M - \$485M	\$6.2M - \$10.2M

* Includes portions of Pinecrest.

METHODOLOGY | New Development

ESTIMATED ASSESSED VALUE OF NEW DEVELOPMENT

HR&A identified proposed, planned and pipeline sites either slated or positioned for redevelopment into residential uses within our study area that are likely to be catalyzed by or experience an increment in value due to proximity to The Underline.

Site Identification

Soft site analysis. HR&A conducted three high level initial screening methodologies to identify soft sites for potential future development along the corridor, including: (i) a high-level analysis to count all appropriately zoned sites that are currently built to less than 50% of zoned floor area (based on available built floor area data or zoned FAR approximations), (ii) calculating the land value to structure value ratio to identify sites that have low relative structure values (less than 0.5 land value, based on County assessment data), and (iii) excluding all sites outside of Brickell with lot sizes smaller than $\frac{1}{2}$ acre, and excluding all sites within Brickell with lot sizes smaller than $\frac{1}{4}$ acre.

Proposed, planned and pipeline development projects. We supplemented this analysis by focusing on several key areas slated for significant new development including the Douglas Road and University sections of the corridor, factoring in known planned developments sourced from CoStar Realty Information, local stakeholders, municipal and County planning departments, Friends of The Underline, news publications, filtering out unlikely development sites that are not captured in the high-level analysis through site by site inspection. HR&A identified approximately 50 potential projects in the study area.

Value Assessment

We then approximated total additional residential square footage that would be built in the study area based on proposed development plans for known projects, or as-of-right FAR restrictions, and estimated the assessed values based on a survey of per square foot assessed property values of residential developments since 2005, based on product type and submarket. We applied the upper range premium of 5% to this estimated assessed value total, as the majority of new development will take place within 500 feet of The Underline to approximate the baseline incremental value of new development. Finally, we estimated total property tax revenue based on a weighted average millage rate across the corridor.

METHODOLOGY | City Building

APPROACH

“Innovation economy” industries have been shown to produce generally greater impacts than more traditional industries such as manufacturing or hospitality. Companies in these industries are either smaller in size and informed by the preferences of individuals—reflecting their entrepreneurial or “start up” nature—or—if larger—driven in the selection of a location by the potential to attract or retain top talent.

We framed our thinking with a review of prior studies on this subject and attraction strategies; we also interviewed corporate relocation specialists that work with major international entities to open or relocate to new urban locations, who confirmed that quality of life considerations were foremost in the selection of a business location.

We then examined Miami’s current economic development and business attraction goal. Miami’s economic development entity, the Beacon Council, has prioritized the pursuit of two innovation economy industries—creative design and information technology—among its targeted seven industries for high growth (see table to the right).

Target high-growth industries for Miami-Dade County

Source: The Beacon Council

	Average Wages	Number of Companies	Number of Jobs	Jobs per Firm (Average)
Aviation	\$ 71,740	466	21,563	46
Banking and Finance	\$ 105,583	2,870	35,381	12
Hospitality and Tourism	\$ 31,921	6,739	125,511	19
Life Sciences and Healthcare	\$ 61,127	8,035	117,894	15
Trade and Logistics	\$ 56,398	2,262	29,659	13
Creative Design	\$ 78,903	3,408	22,498	7
Information Technology	\$ 91,412	1,485	6,771	5

METHODOLOGY | City Building

VALUATION

Having confirmed the value of high-wage innovation economy workers to Miami (and the importance of quality of life factors to attracting and retaining them), HR&A sought to demonstrate the importance of investment in open space by valuing the potential impact of each incremental creative design and informational technology worker in the Miami economy.

We identified the IMPLAN sectors that corresponded to these industries, and modeled the economic outputs associated with one year of year of employment for a single job in each industry. As illustrated by the average outputs for each industry, the total output for positions in these sectors is significant, and worthy of prioritization as part of a broader economic development strategy.

CREATIVE DESIGN: Average Output per Worker

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1.0	\$ 58,000	\$ 100,000	\$ 170,000
Indirect Effect	0.5	\$ 23,000	\$ 37,000	\$ 63,000
Induced Effect	0.5	\$ 21,000	\$ 35,000	\$ 60,000
Total Effect	2.0	\$ 102,000	\$ 172,000	\$ 292,000

INFORMATION TECHNOLOGY: Average Output per Worker

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1.0	\$ 85,000	\$ 138,000	\$ 413,000
Indirect Effect	2.0	\$ 89,000	\$ 138,000	\$ 240,000
Induced Effect	1.1	\$ 45,000	\$ 76,000	\$ 128,000
Total Effect	4.2	\$ 219,000	\$ 352,000	\$ 780,000