

THE POTENTIAL ECONOMIC IMPACTS OF THE COMPLETED EXPANSION OF SCHUYLKILL BANKS

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EXECUTIVE SUMMARY

Schuylkill Banks has become an attractive amenity in Philadelphia. Visited by residents and tourists alike, it has reconnected the City of Philadelphia with the Schuylkill River, and has become synonymous with Center City Philadelphia. Its attractiveness has played an important role in making properties with access to Schuylkill Banks more desirable. It has increased demand and values for proximate residential and commercial properties and therefore the tax base in Philadelphia.

The Schuylkill River Development Corporation (“SRDC”) Strategic Plan for 2016 – 2020 lays out the next phases of expansion for Schuylkill Banks, which encompass both sides of the river and extends to the Navy Yard and Fort Mifflin. The Bartram’s Mile segment recently opened and the South Street to Christian Street segment will open later this year. In the near future, the segments that will complete the connection from Fairmount Water Works to Bartram’s Garden will begin construction. Schuylkill Banks confers and will confer many benefits to the city and state including:

- Resident and Business Attraction: Schuylkill Banks has greatly improved the quality of life in the city. From the sunniest of days to snow covered trails, there are always people on Schuylkill Banks. Developers build near Schuylkill Banks and properties advertise their proximity to Schuylkill Banks for business and resident attraction.
- Existing Property Value Appreciation: Proximity to green space, recreational trails and waterfronts have positive impacts on surrounding property values. The next phase of Schuylkill Banks expansion connecting to and within Grays Ferry could potentially increase nearby residential property values by 15 to 30 percent and increase nearby commercial and industrial property values by 25 percent.
- Economic Development/Investment Catalyst: The desire to be located near Schuylkill Banks will spark new construction and major renovations. We estimate an increase of ten percent for new residential units and ten percent for commercial/industrial capital stock in and near Grays Ferry.
- Combined Growth in Property Values: We forecast Schuylkill Banks could lead to commercial and residential property value growth of \$150 million to \$200 million near the soon to be expanded segments.
- Expanded Tax Base: Increased property values and new construction translate into new tax revenues. Near the next phase of Schuylkill Banks expansion in Grays Ferry, there could be a potential of \$2.3 million in new total annual property taxes to the city and school district.

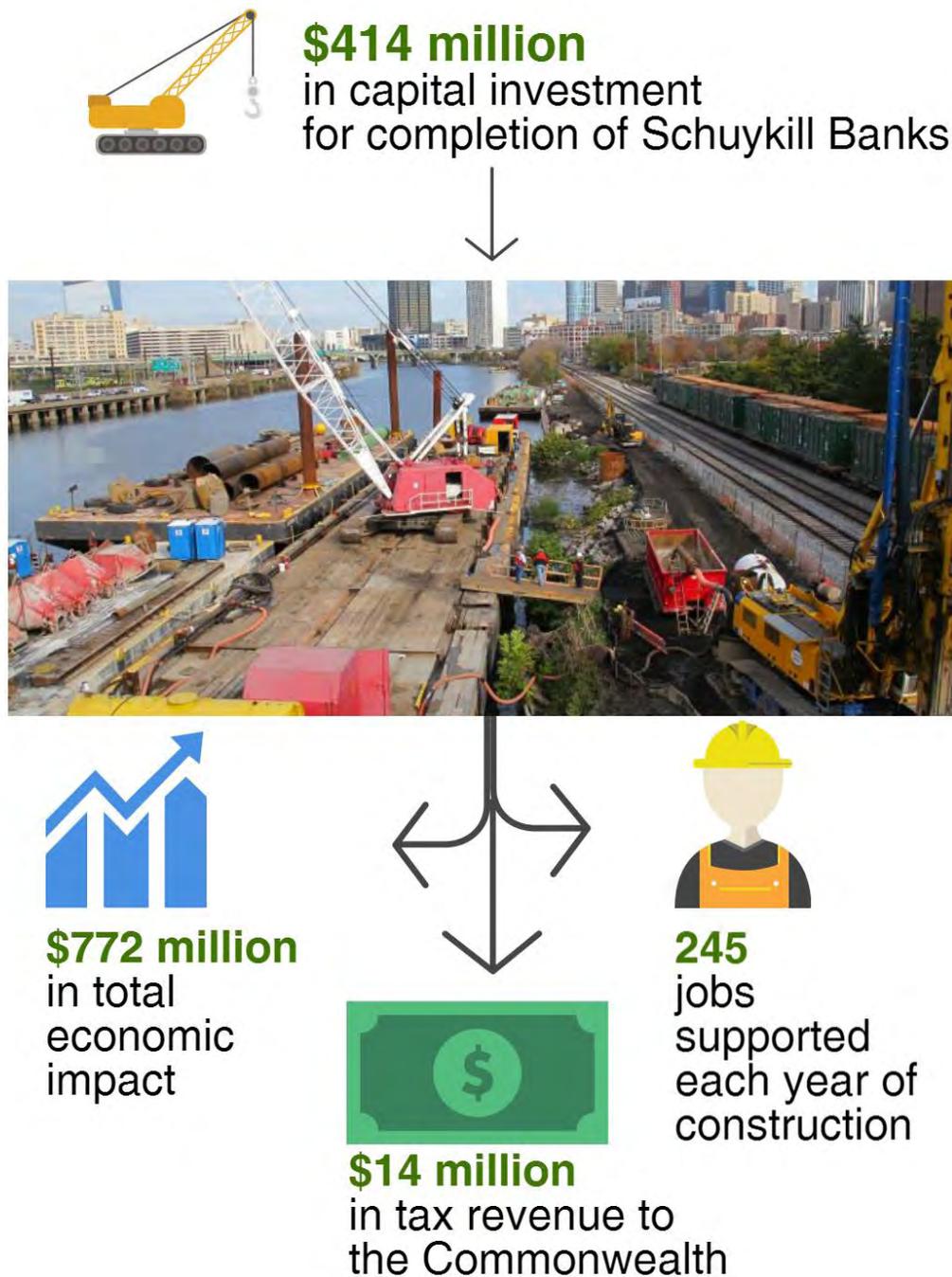


- **Economic Opportunity for Diverse and Lower-Income Neighborhoods:** The expansion of Schuylkill Banks connects diverse and lower-income neighborhoods to the rest of the city. The trail promotes accessibility, recreation, job opportunities, and a greater economic network that benefits these isolated communities.
- **Transportation Route:** Many of the cyclists, runners and walkers use Schuylkill Banks to get from point A to point B. For instance, many cyclists use Schuylkill Banks to get from their homes in Northwest Philadelphia to their places of employment in Center City.
- **Generator of Economic Impact from Capital Investments:** The estimated \$414 million capital investment in Schuylkill Banks for all projects completed by 2024 will generate an estimated economic benefit of \$772 million to the commonwealth during construction, supporting 245 total employees annually over 19 years of active construction and results in approximately \$14 million in state tax revenue (see Table ES.1).
- **Tourist Attraction:** Schuylkill Banks has increased Philadelphia’s visibility as a tourist destination and is a great complement to the Philadelphia Museum of Art. Tourist amenities such as bike rentals, itineraries for bike trips, and easy access to Schuylkill Banks allow tourists to enjoy Philadelphia’s waterfront.
- **Environmental Amenity:** Construction of Schuylkill Banks has included riparian vegetation, native landscaping, erosion control, and green storm water infrastructure.

TABLE ES.1 – POTENTIAL ONE-TIME ECONOMIC IMPACT FROM UPFRONT CONSTRUCTION FOR ALL SEGMENTS OF SCHUYLKILL BANKS (FROM 2000 THROUGH 2024)

Economic Impact Category	City of Philadelphia	Commonwealth of Pennsylvania
Total Output (\$M)	\$695	\$772
Annual Employment Supported Over 19 Active Years of Construction (FTE)	225	245
Total Tax Revenue (\$M)	\$12	\$14

FIGURE ES.1 – INFOGRAPHIC OF POTENTIAL ONE-TIME ECONOMIC IMPACT FROM UPFRONT CONSTRUCTION FOR ALL SEGMENTS OF SCHUYLKILL BANKS (FROM 2000 THROUGH 2024) TO THE COMMONWEALTH OF PENNSYLVANIA



As Center City has benefited from Schuylkill Banks, the neighborhoods near the planned expansions will also realize benefits. While these areas along the planned expansion segments are not as dense as Center City, or in some cases, as proximate to the trail, access to Schuylkill Banks will afford some of the same benefits as seen in Center City. As occurred in Center City, we expect housing values to increase as real estate agents use access and proximity to the expanded Schuylkill Banks as a selling tool, especially in more diverse and lower-income communities that will experience the economic and health benefits of connection to other areas of the city via Schuylkill Banks. With its expansion, there will be new visions for the future of development along Schuylkill Banks, attracting new infrastructure investment, new business, new jobs, and new residents.

Now with additional funding acquired, the next phases of Schuylkill Banks, south of South Street on the eastern banks and the connection to Bartram's Garden on the western banks, can continue. Bartram's Mile opened on April 22, 2017, an apropos celebration on Earth Day. SRDC is also currently leading construction of the South Street to Christian Street segment on the eastern banks and finalizing the bid documents for the Schuylkill Crossing at Grays Ferry (the Swing Bridge project). Next to be constructed will be the Christian Street to Grays Ferry segment. This trail segment will be difficult as the area is still industrially active; SRDC is looking at options for a second boardwalk or similar structure. The completion of this segment will be another significant milestone for Schuylkill Banks and SRDC, connecting the Fairmount Water Works to Bartram's Garden. These plans to connect the Schuylkill Banks trails on both sides along the Schuylkill River will confer multiple economic benefits across large areas of the city including new economic opportunities in diverse and lower-income neighborhoods.

FIGURE ES.2 – IMAGES OF SCHUYLKILL BANKS AND THE SCHUYLKILL BOARDWALK



Source: Econsult Solutions (February 18, 2017)

1.0 INTRODUCTION

1.1 THE SCHUYLKILL RIVER DEVELOPMENT CORPORATION

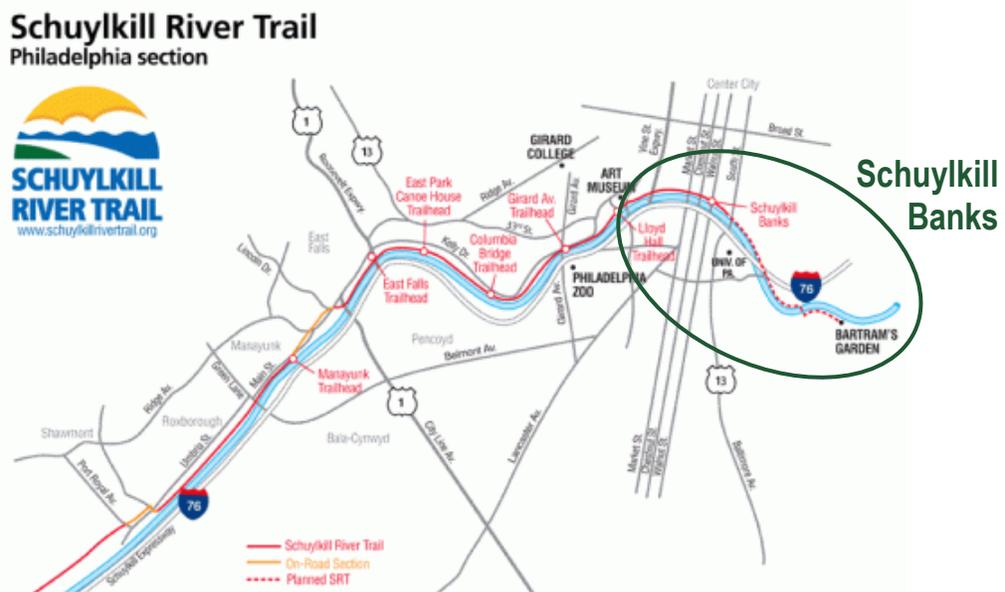
The Schuylkill River Development Corporation (“SRDC”) is a non-profit organization that manages the planning and development along the banks of the Schuylkill River, along with the Department of Parks & Recreation, on behalf of the City of Philadelphia. SRDC assists with year-round maintenance, hosts riverfront programming, promotes Schuylkill Banks, and leads fundraising and volunteer efforts.

1.2 SCHUYLKILL BANKS

Schuylkill Banks is the name used to brand the 8-mile tidal portion of the Schuylkill River in Philadelphia, from the Fairmount Water Works to the Delaware River. Schuylkill Banks includes both the eastern and western sides of the Schuylkill River. On the eastern side of Schuylkill Banks is the Center City Philadelphia portion of the Schuylkill River Trail. The Schuylkill River Trail will cover 130 miles when complete, from Philadelphia to Pottsville, PA (see Figure 1.1). The trail is managed by multiple entities as it crosses into many different municipalities with SRDC in partnership with the city, managing, promoting and developing the portion that runs through Center City.



FIGURE 1.1 – THE PHILADELPHIA SECTION OF THE SCHUYLKILL RIVER TRAIL



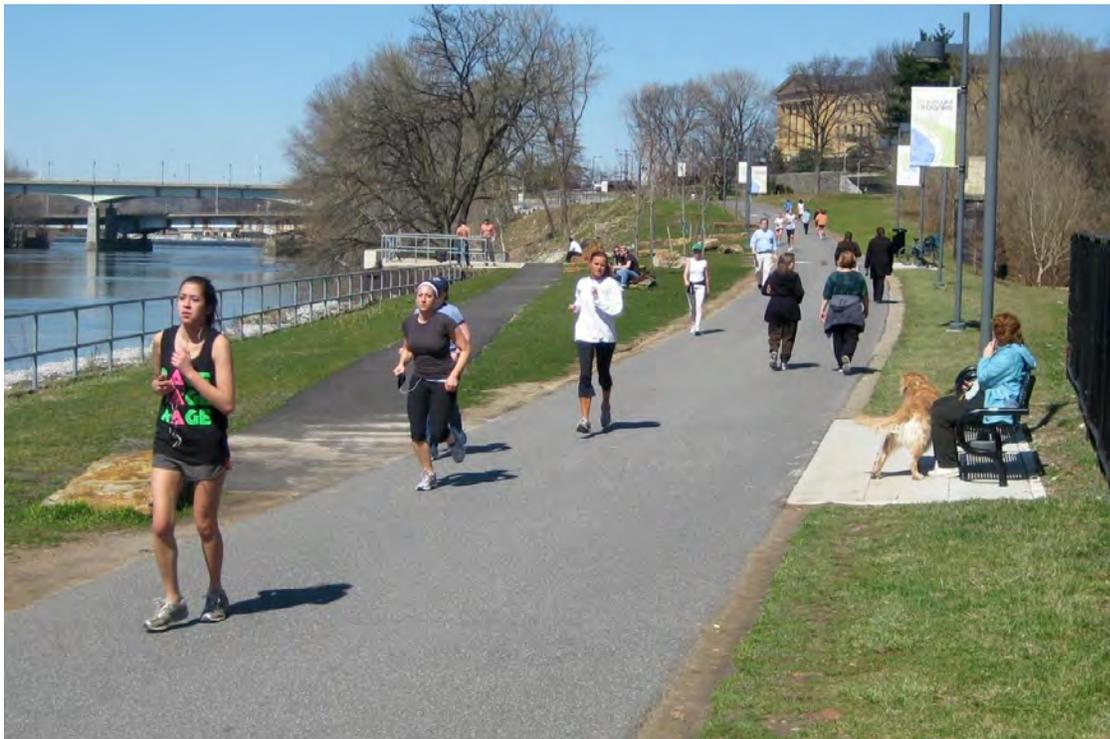
Source: Schuylkill River Trail Association (2017)

1.3 PURPOSE OF THE REPORT

Since its creation, SRDC has led the revitalization of Schuylkill Banks and its environs. This report quantifies the economic and fiscal benefits generated by these economic development activities, including the significant impact the continued development of Schuylkill Banks has had on the Philadelphia real estate market. Developments in proximity to Schuylkill Banks reference it as an amenity and asset to living and working in the area. New development has occurred along the tidal Schuylkill River due in part to Schuylkill Banks trail and greenway. As Schuylkill Banks is further developed, it is expected that areas proximate to it will benefit in terms of increased desirability for new residents, businesses, developments, as well as creating greater economic opportunities for diverse and low-income neighborhoods.

This report first discusses the importance of Schuylkill Banks as an amenity in Philadelphia (Section 2). Next, we estimate the one-time economic impact the capital investment in Schuylkill Banks has and will have in Philadelphia and Pennsylvania (Section 3). Section 4 lists new developments that are along the completed portions of Schuylkill Banks and how those developments are shaping the future of these areas in Philadelphia. Finally, Section 5 discusses the potential property value impact Schuylkill Banks will have along the next phases of expansion.

FIGURE 1.2 – SCHUYLKILL BANKS TRAIL LOOKING TOWARDS THE ART MUSEUM



Source: SRDC (2017)¹

¹ All uncredited photos, including the front and back cover of this report were supplied by SRDC

2.0 THE IMPORTANCE OF SCHUYLKILL BANKS IN PHILADELPHIA

2.1 SCHUYLKILL BANKS AS PART OF THE PHILADELPHIA LIFESTYLE

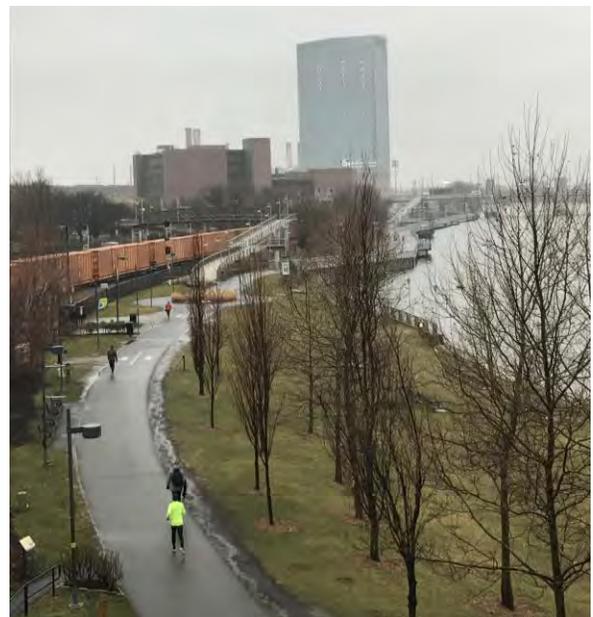
Schuylkill Banks has been the setting for many formal, SRDC-led programs, and informal programs led by other Philadelphia organizations. SRDC-hosted outdoor events occur mostly from late spring to early fall. Hundreds of residents grab their blankets and a picnic basket for movie nights along Schuylkill Banks at Walnut Street and the Grays Ferry Crescent. Residents and tourists take riverboat and kayak tours, where they can explore the river from up to the Fairmount Water Works or down to Bartram’s Garden.

Many other groups informally use Schuylkill Banks to host running events, hold yoga and personal training classes, host meet-up groups, and other social activities. For instance, Yoga on the Banks has partnered with the Philadelphia Film Society to put on “Movie on the Block”, which offers wellness workshops during the day and family-friendly movies at night. Philadelphia Runner organizes group runs along the trail weekly and lists Schuylkill Banks as a premier destination for long distance runners.

In addition to organized events, Schuylkill Banks is part of many peoples’ daily routines. Walkers, runners, cyclists, skaters, and skateboarders have made Schuylkill Banks part of their lives. On a warm, sunny afternoon, friends and families, couples and individuals, will be lounging by the river, enjoying the peace and break from the city landscape. In the early morning and late afternoons, many are getting their exercise, some with their dogs and kids in tow. Others are commuting by bike to neighborhoods in the northwest portion of Philadelphia and into Montgomery County. Even on snowy nights in the dead of winter, trail users are still outside, pounding and pedaling the pavement, and sometimes, even cross-country skiing.

Visit Philly holds the Schuylkill River Trail as one of their top attractions in the city and Discover PHL, run by the Philadelphia Convention and Visitors Bureau has bike itineraries on its website, with many intersecting Schuylkill Banks. Schuylkill Banks is a success in urban place-making. USA Today awarded the Schuylkill River Trail the nation’s “Best Urban Trail” in 2015.

FIGURE 2.1 – TRAIL USERS OUT ON A RAINY DAY



SOURCE: ECONSULT SOLUTIONS (FEBRUARY 12, 2017)

Representatives from all counties where the Schuylkill River Trail is located attended the award ceremony, held at Schuylkill Banks.²

2.2 SCHUYLKILL BANKS AS AN AMENITY

Recreation areas are a public good that benefit residents, commuters, and visitors in the City of Philadelphia. Placement of recreation spaces increases value to nearby properties as recreation spaces and parks improve community aesthetics and provide new exercise, social, and relaxation space (see Figure 2.2). Schuylkill Banks is an amenity for many who live and work in Philadelphia and the surrounding counties. Real estate developers and managers know this and promote Schuylkill Banks when trying to attract new residents and businesses (see Figure 2.3).

FIGURE 2.2 – A WARM, SUNNY, WINTER DAY ALONG SCHUYLKILL BANKS



Source: Econsult Solutions (February 18, 2017)

² Becker, Zach, "Schuylkill River Trail Wins USA Today's 'Best Urban Trail' Award," NBC Philadelphia, September 2, 2015, <http://www.nbcphiladelphia.com/news/local/Schuylkill-River-Trail-Wins-USA-Todays-Best-Urban-Trail-Award-323851961.html>

FIGURE 2.3 – EXAMPLES OF BUILDINGS' ADVERTISING THEIR PROXIMITY TO SCHUYLKILL BANKS

“All but a few homes come with balconies or terraces that overlook the gardens, the river and the city skyline. The views are dramatic- and endless - with sweeping panoramas to the North, South, East and West. Surrounded by public parks and the river these views will always remain.”

~ **One Riverside**

“Access everything the city has to offer and beyond with ease from FMC Tower at Cira Centre South at 2929 Walnut Street. From the burgeoning dining and shopping corridor in Rittenhouse Square, to the arts and culture along the Benjamin Franklin Parkway, to recreation on the 27-mile-long Schuylkill River Trail — it's all within reach via walkable streets, bike lanes and the neighboring Amtrak's 30th Street Station.” ~ **Cira Centre**

“The Schuylkill River Trail provides opportunity for a morning run or a Sunday afternoon spent kayaking. A scenic tour along tree-lined Benjamin Franklin Parkway brings residents through the heart of Logan Square and into Center City in minutes” ~ **Dalian on the Park**

“Landscaping for the entire site includes stormwater management techniques, increased connections between buildings, and access to Schuylkill River trails.” ~ **Pennovation Center**

Under amenities “Located on the Schuylkill River walking and bike trail”
~ **Edgewater Apartments**

“Westminster Arch Apartments is situated on the western side of Center City overlooking the banks of the Schuylkill River....If you're into the sporting life the beautiful Schuylkill River Trail is only a block away. From the trail you have access to the famous Fairmount Park and all it has to offer.”

~ **Westminster Arch Apartments**

3.0 ECONOMIC IMPACT DURING CONSTRUCTION OF THE SCHUYLKILL RIVER TRAIL

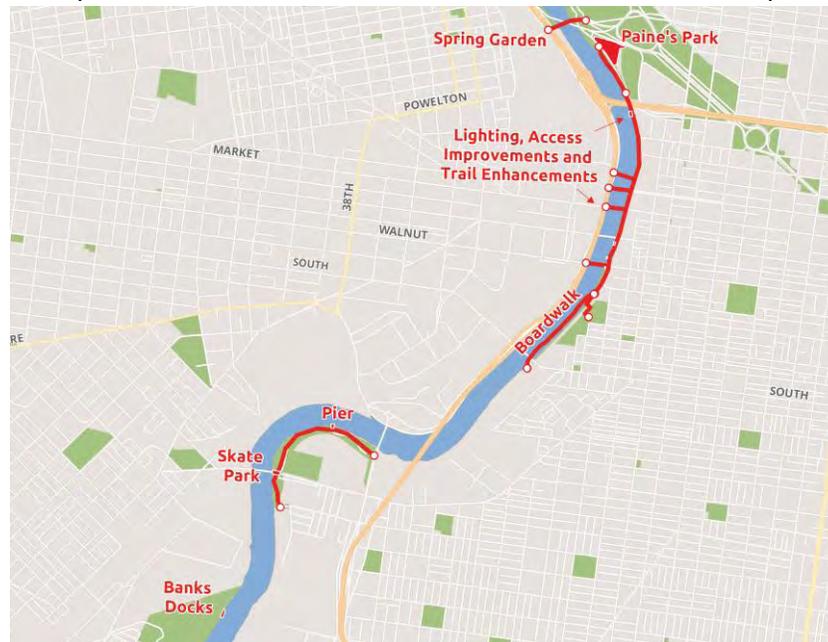
3.1 COMPLETED, NEAR-TERM, AND LONG-TERM IMPROVEMENTS AND TRAIL EXPANSIONS ALONG SCHUYLKILL BANKS

A significant amount of investment has been completed, is in process and is planned for Schuylkill Banks from the Fairmount Dam to the Delaware River eight miles south. SRDC manages, promotes, and coordinates development of Schuylkill Banks in partnership with the city. Development along Schuylkill Banks is funded by SRDC; and city, state, and federal infrastructure funds depending on the project. We have defined near-term development along Schuylkill Banks to be the capital investments with construction that began in 2016 and are anticipated to be completed by 2019 and long-term capital investments to be those projects with construction anticipated to begin in 2019 and be completed by 2024.

COMPLETED CAPITAL INVESTMENT IN SCHUYLKILL BANKS

There are over \$76 million in capital improvements for projects completed on Schuylkill Banks from 2000 to 2015 (see Figure 3.1 and Table 3.1). These projects included significant planning with community input, design, and bidding during this time.

**FIGURE 3.1 – COMPLETED SEGMENTS AND IMPROVEMENTS OF SCHUYLKILL BANKS
(CONSTRUCTION OCCURRING FROM 2000 AND COMPLETED BY 2015)**



Source: Schuylkill River Development Corporation (2017), Econsult Solutions (2017)

**TABLE 3.1 – COMPLETED SEGMENTS AND IMPROVEMENTS OF SCHUYLKILL BANKS
(CONSTRUCTION OCCURRING FROM 2000 AND COMPLETED BY 2015)**

Project Name	Project Type	Opened	Investment	Length (Feet)
Center City	Capital Projects	2000	\$8,800,000	5,343
Schuylkill Banks Docks	Trail Enhancements	2005	\$1,000,000	
JFK Boulevard	Access Improvements	2009	\$19,800,000	
Market St. Bridge	Access Improvements	2009	\$1,100,000	
Composting Restroom	Trail Enhancements	2010	\$200,000	
Grays Ferry Fishing Pier	Trail Enhancements	2012	\$400,000	
North End Lower Trail Rehabilitation	Trail Enhancements	2012	\$100,000	
9/11 Memorial	Trail Enhancements	2012	\$200,000	
Paine's Park	Trail Enhancements	2012	\$4,500,000	
Walnut St. Bridge Improv.	Access Improvements	2012	\$2,600,000	
Schuylkill River Parks Connector Bridge & At-Grade	Access Improvements	2012	\$6,400,000	
Grays Ferry Crescent	Capital Projects	2012	\$3,500,000	3,300
Grays Ferry Skate Park	Trail Enhancements	2013	\$75,000	
Schuylkill Banks Bridge Lighting	Access Improvements	2013	\$1,300,000	
Schuylkill Banks Boardwalk	Capital Projects	2014	\$18,900,000	2,030
'Air' Sculpture	Trail Enhancements	2015	\$56,300	
Spring Garden St (PennDOT)	Trail Enhancements	2015	\$7,400,000	
Total for Completed Projects			\$76,331,300	

Source: SRDC (2017)

NEAR-TERM CAPITAL INVESTMENT OF SCHUYLKILL BANKS (UNDER CONSTRUCTION FROM 2016 AND COMPLETING BY 2019)

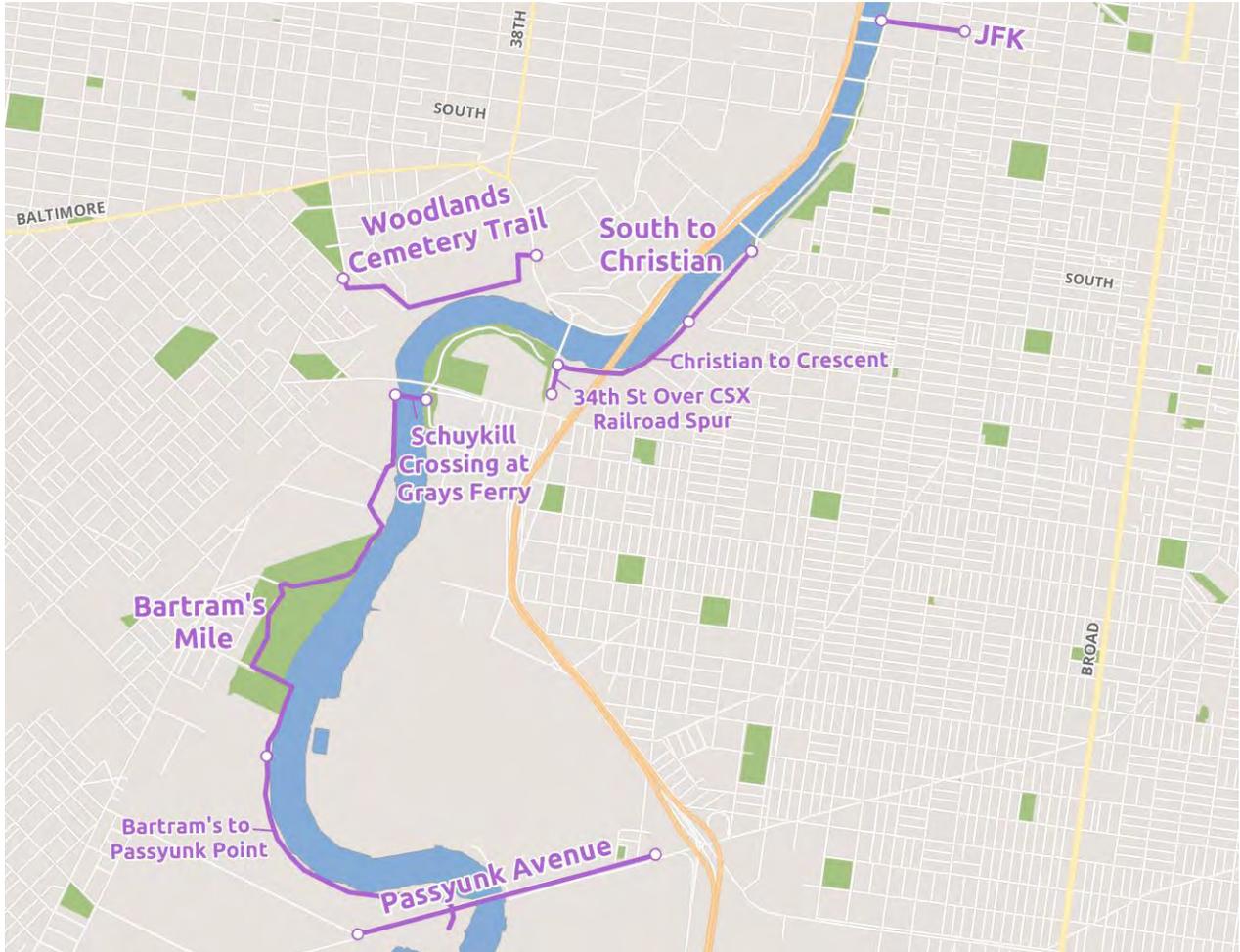
SRDC has several projects that are in process and will be completed in the near term, including projects led by PennDOT that will improve connections to Schuylkill Banks. Bartram's Mile recently opened and the South Street to Christian Street expansion will be completed this year as well (see Figure 3.2, Figure 3.3, and Table 3.2). The South Street to Christian Street connector was temporarily halted mid-construction due to lack of sufficient funding but is now proceeding again due to additional funding being obtained. This, coupled with the

FIGURE 3.2 – SOUTH TO CHRISTIAN SEGMENT

Source: Econsult Solutions (March 9, 2017)

recently opened Bartram’s Mile, will open up the southern sections of Schuylkill Banks to the possibility for the economic development impact that Schuylkill Banks has had on the completed sections.

**FIGURE 3.3 – SCHUYLKILL BANKS SEGMENTS SCHEDULED TO BE COMPLETED IN THE NEAR TERM
(PROJECTS STARTING CONSTRUCTION IN 2016 AND COMPLETED BY 2019)**



Source: Schuylkill River Development Corporation (2016), Econsult Solutions (2017)

**TABLE 3.2 – SCHUYLKILL BANKS SEGMENTS SCHEDULED TO BE COMPLETED IN THE NEAR TERM
(PROJECTS STARTING CONSTRUCTION IN 2016 AND COMPLETED BY 2019)**

Project Name	Planned Opening	Investment	Length (Feet)
Bartram's Mile ³	Opened 4/22/17	\$6,600,000	6,000
South to Christian	2017	\$4,950,000	1,400
Passyunk Avenue (PennDOT)	2018	\$33,700,000	1,300
34th Street Over CSX Railroad Spur (PennDOT)	2018	\$5,000,000	
Bartram's to Passyunk Point	2019	\$7,700,000	6,200
Christian to Crescent	2019	\$24,200,000	2,700
JFK Boulevard (PennDOT)	2019	\$15,900,000	800
Schuylkill Crossing at Grays Ferry	2019	\$13,800,000	1,000
Woodlands Cemetery Trail	2019	\$2,750,000	2,500
Total Improvements		\$114,600,000	

Source: SRDC (2017)

LONG-TERM CAPITAL INVESTMENTS FOR SCHUYLKILL BANKS (UNDER CONSTRUCTION FROM 2019 AND COMPLETED BY 2024)

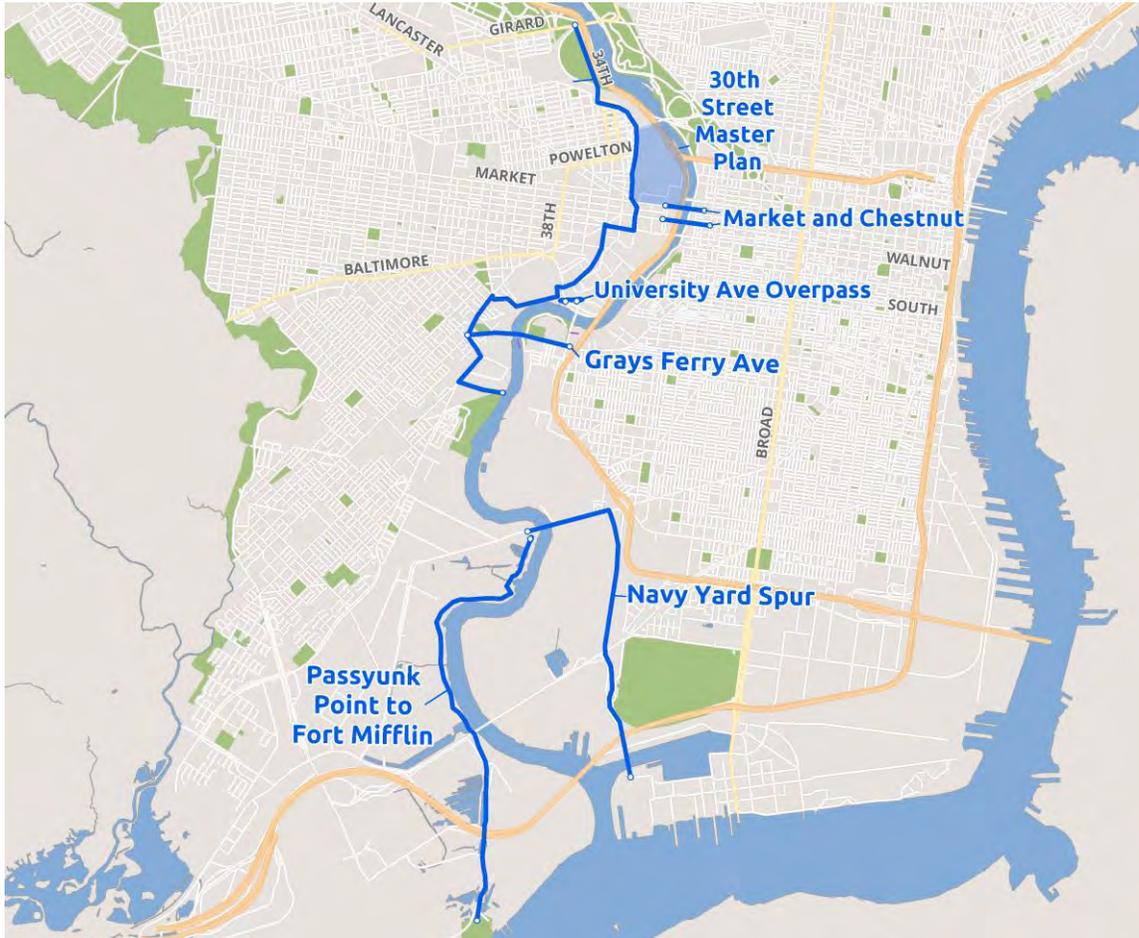
From 2019 through 2024, planned construction over the long-term along Schuylkill Banks includes connecting trails on either side of the river via the repurposing of an abandoned rail swing bridge, and eventually, allowing users to complete a loop around the river along a significant portion of Schuylkill Banks.

The long-term projects include the continuation of PennDOT led projects. One in particular, will be an important element of extending the trail along the Banks and connecting the east and west sides of Schuylkill Banks. The Grays Ferry Bridge project calls for an “Enhanced Bike Facility.” The project will create/re-allocate space on the Grays Ferry Bridge to provide for the city’s first “cycle track” (a separated two way bike lane) and improve bike facilities on Paschall Avenue, 49th Street, Grays Ferry Avenue and Lindbergh Avenue to connect the Gray’s Ferry Crescent section of Schuylkill Banks over to the entrance of Bartram’s Garden.⁴ Over \$200 million of infrastructure investment for Schuylkill Banks is proposed (see Figure 3.5 and Table 3.3).

³ Bartram’s Mile opened on April 22, 2017, during the development of this report. For analytical purposes, we kept the segment in the near-term projects group.

⁴ Delaware Valley Regional Planning Commission, FY 2017-2020 TIP for PA <http://www.dvrpc.org/TIP/pafinal/2017/phil17f.pdf>,

**FIGURE 3.5 – SCHUYLKILL BANKS SEGMENTS SCHEDULED TO BE COMPLETED IN THE LONG TERM
(PROJECTS STARTING CONSTRUCTION IN 2019 AND COMPLETED BY 2024)**



Source: Schuylkill River Development Corporation (2016), Econsult Solutions (2017)

TABLE 3.3 – SCHUYLKILL BANKS SEGMENTS SCHEDULED TO BE COMPLETED IN THE LONG TERM (PROJECTS STARTING CONSTRUCTION IN 2019 AND COMPLETED BY 2024)

Project Name	Planned Opening	Investment	Length (Feet)
Chestnut St (PennDOT)	2020	\$115,500,000	750
Grays Ferry Avenue (PennDOT)	2020	\$14,500,000	
Market St (PennDOT)	2021	\$44,000,000	
University Avenue Overpass	2022	\$6,000,000	1,000
Passyunk Point to Fort Mifflin	2023	\$13,200,000	24,000
West Bank Gateway	2023	\$5,900,000	8,000
Navy Yard Spur	2024	\$16,500,000	10,000
Total Improvements		\$215,600,000	

Source: Schuylkill River Development Corporation (2016)

30th Street Station Master Plan

One of the stated design objectives of the 2016 30th Street Station Master Plan is “Connections to the Schuylkill River: Bring District residents, workers, and visitors to riverside trails and public spaces.” The plan for developing the western banks of the Schuylkill mirror the greenway and trail on the eastern side of the Banks and includes the trail connecting to Penn Park and the creation of new parks and new trail connections (see Figure 3.5). Planning and design to carry out the 30th Street Station Master Plan are ongoing including estimating the total capital investment cost. This is a very important and large undertaking for the western side of the Schuylkill River, with costs estimated at over \$6 billion. However, given the early phases of this complex, multi-use project, we excluded it from the economic impact analysis.

FIGURE 3.5 – REFERENCE TO ONE ITEM THAT HAS INCREASED MOMENTUM AROUND UNIVERSITY CITY IN THE 30TH STREET MASTER PLAN



Source: 30th Street Master Plan (2016)

3.2 ECONOMIC IMPACT METHODOLOGY

The economic impact estimates in this analysis are generated using IMPLAN, an input output modeling software. IMPLAN is an industry standard tool to assess the economic and job creation impacts of economic development projects, the creation of new businesses, and public policy changes. IMPLAN is used to translate an initial amount of direct economic activity into the total

amount of economic activity that it supports, which includes multiple waves of spillover impacts generated by spending on goods and services and by spending of labor income by employees. Direct economic activity generated by the improvement and expansion of Schuylkill Banks translates into additional economic activity:

- First, some portion of the direct expenditures goes to the purchase of materials and services which gets circulated back into the economy when these materials and services are purchased from local vendors. This represents what is called the “indirect effect,” and reflects the fact that local purchases of goods and services support local vendors, who in turn require additional purchasing with their own set of vendors.
- Second, wages are paid to the construction workers. That labor income gets circulated back into an economy when those employees spend some of their earnings on various goods and services. This represents what is called the “induced effect,” and reflects the fact that some of those goods and services will be purchased from local vendors, further stimulating a local economy.

The total economic impact is the sum of its own direct economic footprint and the indirect and induced effects generated by that direct footprint. Capital investments generate one-time economic benefits during their investment period.



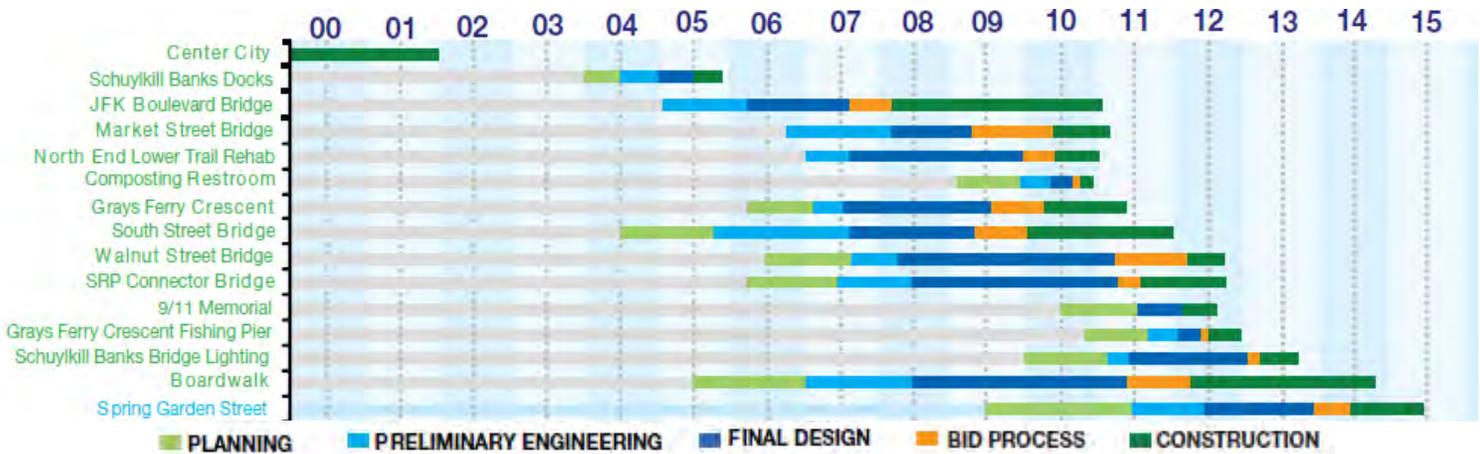
People outside enjoying Schuylkill Banks, south of the Chestnut Street Bridge

EMPLOYMENT IMPACTS

Schuylkill Banks capital investments take place over several decades, partially due to the important, and sometimes-lengthy, stages of community input, planning, design, and bidding. Most of the economic benefit however, is conferred during the actual construction of Schuylkill Banks segments. Therefore, when analyzing the employment impacts of Schuylkill Banks investments, we present them in terms of occurring during years of actual construction.

For instance, the Center City segment of Schuylkill Banks was completed at the end of 2001. However, project planning for next segment, Schuylkill Banks Docks, did not begin until 2004 and construction occurred only in the latter half of 2005; there were three and a half years with no construction activity (see Figure 3.6). After the Schuylkill Banks Dock was completed, there was no construction activity until 2008, another two years of no construction activity, and construction activity concluded in the first half of 2015, so a half year with no construction activity. Therefore, during the period from 2000 to 2015, there were six years when no construction activity occurred, or ten years of active construction. Since employment impacts from IMPLAN are annualized and we know the years when capital investments were made, we present the employment impacts as occurring during the years with construction activity only.

FIGURE 3.6 – SCHUYLKILL BANKS COMPLETED PROJECTS’ SCHEDULES



Source: SRDC Strategic Plan 2016 – 2020

For the three periods of Schuylkill Banks improvements and projects, we categorized the employment impacts as the following:

- Completed projects: projects under construction by 2000 and completed by 2015 include hard construction occurring in ten years during this period. Jobs are annual jobs for each year of the ten years construction activity.

- Projects scheduled to be completed in the near-term: projects starting construction in 2016 and completed by 2019 include four years of construction activity. Jobs are annual jobs for each year.
- Projects scheduled to be completed in the long-term: projects starting construction in 2019 and completed by 2024 include six years of construction activity. Jobs are annual jobs for each year.

When referencing the total economic impacts from all three groups over the period from 2000 to 2024, we therefore have 19 years of active construction.

3.3 ECONOMIC IMPACT FROM COMPLETED CONSTRUCTION PROJECTS

Direct expenditures attributed to the completed construction of Schuylkill Banks through 2015 were \$73 million. These segments were under construction from 2000 through 2015 with projects requiring varying lengths of construction from a couple of months to a few years. Significant pre-development work of planning, design and bidding were part of these projects. Construction on these projects took place over approximately ten years between 2000 and 2015.

The investments occurred in various years and are inflated to all be in 2015\$ for modeling purposes, which is \$83 million. Within the City of Philadelphia, these direct expenditures generated an estimated \$139 million in total economic impact, supporting 85 jobs each year for the nine years of active construction⁵ and \$64 million in total earnings. Within the Commonwealth of Pennsylvania, these direct expenditures generated an estimated \$155 million in total expenditures, supporting 95 jobs every year of construction, and \$67 million in earnings (see Table 3.4).

⁵ The job figures calculated by IMPLAN represent total job-years, both full- and part-time jobs that would be supported by the direct spending for each year of construction. IMPLAN calculates jobs assuming the direct spending is representative of annual income. While the economic impact analysis includes construction projects that were completed over a 16-year period, there was not construction activity over all of those years, including planning, permitting, and design. For the purposes of this analysis, we focused on the years of active, on the ground, construction, since that is where most of the employment impact is generated during construction projects. Therefore, for our annual jobs estimates, using SRDC's strategic plan, we counted ten years of active construction for the completed projects, and therefore, the jobs estimate is the number of all jobs supported each year over those ten years, most of which are direct construction jobs.

TABLE 3.4 – ESTIMATED ONE-TIME ECONOMIC IMPACT FROM UPFRONT CONSTRUCTION FOR COMPLETED PROJECTS OF SCHUYLKILL BANKS (2000 – 2015)

Economic Impact Category	Commonwealth of	
	City of Philadelphia	Pennsylvania
Direct Output (\$M)	\$83	\$83
Indirect & Induced Output (\$M)	\$56	\$72
Total Output (\$M)	\$139	\$155
Annual Employment Supported (FTE over Ten Years of Construction)	85	95
Employee Compensation (\$M)⁶	\$64	\$67

Source: Schuylkill River Development Corporation (2016), Econsult Solutions (2017), IMPLAN (2015)

Upfront construction from previously completed projects funded by SRDC resulted in tax revenues to the city and commonwealth through the temporary expansion of various local and state tax bases. Within the City of Philadelphia, it is estimated that completed projects generated \$2.4 million in one-time tax revenues. Within the Commonwealth of Pennsylvania, it is estimated that completed projects generated \$2.9 million in one-time tax revenues (see Table 3.5).

TABLE 3.5 – ESTIMATED ONE-TIME TOTAL FISCAL IMPACT FROM UPFRONT CONSTRUCTION FOR COMPLETED SEGMENTS OF SCHUYLKILL BANKS FROM 2000-2015 (\$MILLIONS)

Tax Type	Commonwealth of	
	City of Philadelphia	Pennsylvania
Wage/Income Tax Revenue	\$1.7	\$1.4
Sales & Use Tax Revenue	\$0.3	\$1.1
Business Tax Revenue	\$0.4	\$0.4
Total Tax Revenue	\$2.4	\$2.9

Source: Econsult Solutions (2017), IMPLAN (2015)

3.4 ECONOMIC IMPACT FROM NEAR-TERM CONSTRUCTION PROJECTS

Direct expenditures attributed to construction from projects in progress and to be completed in the near-term are estimated to require \$115 million. Construction for these projects will take place over four years from 2016 through 2019. Within the City of Philadelphia, these direct expenditures will generate an estimated \$193 million in total expenditures, supporting about 295 jobs annually

⁶ Employee compensation is the total payroll cost of the employee paid by the employer. This includes wage and salary, all benefits (e.g., health, retirement) and payroll taxes (both sides of social security, unemployment taxes, etc.). This does not include proprietor income.

over the four years of construction and \$88 million in total earnings. Within the Commonwealth of Pennsylvania, direct expenditures will generate an estimated \$214 million in total expenditures, supporting 325 jobs annually over the construction period and \$93 million in earnings (see Table 3.6).

TABLE 3.6 – ESTIMATED ONE-TIME ECONOMIC IMPACT FROM UPFRONT CONSTRUCTION FOR NEAR-TERM SEGMENTS OF SCHUYLKILL BANKS (PROJECTS STARTING CONSTRUCTION IN 2016 AND COMPLETED BY 2019)

Economic Impact Category	Commonwealth of	
	City of Philadelphia	Pennsylvania
Direct Output (\$M)	\$115	\$115
Indirect & Induced Output (\$M)	\$78	\$100
Total Output (\$M)	\$193	\$214
Annual Employment Supported (FTE)	295	325
Total Employee Compensation (\$M)	\$88	\$93

Source: Schuylkill River Development Corporation (2016), Econsult Solutions (2017), IMPLAN (2015)

Construction projects that will be completed in the near term will result in tax revenues to the city and commonwealth. Within the City of Philadelphia, it is estimated that the near-term projects will generate \$3.3 million in one-time tax revenues over the four years. Within the Commonwealth of Pennsylvania, it is estimated that completed projects will generate \$3.9 million in one-time tax revenues (see Table 3.7).

TABLE 3.7 – ESTIMATED ONE-TIME FISCAL IMPACT FROM UPFRONT CONSTRUCTION FOR NEAR-TERM SEGMENTS OF SCHUYLKILL BANKS (\$MILLIONS) (PROJECTS STARTING CONSTRUCTION IN 2016 AND COMPLETED BY 2019)

Tax Type	Commonwealth of	
	City of Philadelphia	Pennsylvania
Wage/Income Tax Revenue	\$2.3	\$1.9
Sales & Use Tax Revenue	\$0.4	\$1.5
Business Tax Revenue	\$0.6	\$0.5
Total Tax Revenue	\$3.3	\$3.9

Source: Econsult Solutions (2017), IMPLAN (2015)

3.5 ECONOMIC IMPACT FROM LONG-TERM CONSTRUCTION PROJECTS

Direct expenditures attributed to long-term construction projects proposed by SRDC are estimated to be about \$216 million. Within the City of Philadelphia, these direct expenditures will generate about \$362 million in total expenditures, supporting about 370 jobs each year of construction and \$165 million in earnings. Within the Commonwealth of Pennsylvania, future direct expenditures will generate approximately \$403 million in total expenditures, supporting about 400 jobs and \$175 million in earnings (see Table 3.8).

TABLE 3.8 – POTENTIAL ONE-TIME ECONOMIC IMPACT FROM UPFRONT CONSTRUCTION FOR LONG-TERM SEGMENTS OF SCHUYLKILL BANKS (PROJECTS STARTING CONSTRUCTION IN 2019 AND COMPLETED BY 2024)

Economic Impact Category	City of Philadelphia	Commonwealth of Pennsylvania
Direct Output (\$M)	\$216	\$216
Indirect & Induced Output (\$M)	\$146	\$187
Total Output (\$M)	\$362	\$403
Annual Employment Supported (FTE)	370	400
Total Employee Compensation (\$M)	\$165	\$175

Source: Schuylkill River Development Corporation (2016), Econsult Solutions (2017), IMPLAN (2015)

Upfront construction from projects to be completed in the long-term projects will result in tax revenues to the city and commonwealth. Within the City of Philadelphia, it is estimated that future projects will generate \$6.2 million in one-time tax revenues. Within the Commonwealth of Pennsylvania, it is estimated that future projects will generate \$7.3 million in one-time tax revenues (see Table 3.9).

TABLE 3.9 – POTENTIAL ONE-TIME FISCAL IMPACT FROM UPFRONT CONSTRUCTION FOR LONG-TERM SEGMENTS OF SCHUYLKILL BANKS (\$MILLIONS) (PROJECTS STARTING CONSTRUCTION IN 2019 AND COMPLETED BY 2024)

Tax Type	City of Philadelphia	Commonwealth of Pennsylvania
Wage/Income Tax Revenue	\$4.3	\$3.6
Sales & Use Tax Revenue	\$0.7	\$2.8
Business Tax Revenue	\$1.2	\$0.9
Total Tax Revenue	\$6.2	\$7.3

Source: Econsult Solutions (2017), IMPLAN (2015)

30TH STREET STATION MASTER PLAN

SRDC is a member of the Coordinating Committee for the 30th Street Station Master Plan. Initially, the plan expected to make \$4 billion investment to provide efficient access for the transportation users, connect the Station to the neighborhoods and to make the Station a destination for non-transportation users. The anticipated required investment amount has since increased. Early preliminary concepts for the Master Plan include one or two pedestrian bridges crossing the river that would link the newly developed area to the Banks. This would not only bring new users to the trail but also provide a dramatic visual addition to the Banks. Development will be informed by SRDC's West Banks Greenway study; however, development on this side of the river near the highway and train station will be difficult and require significant planning with several large institutional, transportation and governmental stakeholders.

The scope and scale of this project, when completed, will be tremendous and the economic and fiscal benefits conveyed will by far eclipse those estimated for the other Schuylkill Banks segments in this report. Given the early phases of this project, potential variability of design, the complexity of entities and funding sources involved, and therefore the imprecise timing of investment, the \$4 billion was not modeled. However, using the prior estimates as proxies, the estimated economic benefit to the commonwealth of the \$4 billion will be at least \$7 billion over the length of construction, and could very well likely be higher, especially if the required capital investment is higher.

3.6 TOTAL ECONOMIC IMPACT OF ALL PROJECTS WHEN COMPLETED

Direct expenditures attributed to the aggregate of completed, near-term, and long-term construction associated with SRDC are estimated to be \$414 million. Within the City of Philadelphia, these direct expenditures will generate an estimated \$695 million in total expenditures, supporting about 190 jobs annually over 19 years of active construction and \$317 million in total earnings. Within the Commonwealth of Pennsylvania, those expenditures will generate a potential \$772 million in total expenditures, supporting 210 jobs annually over 22 years of active construction and \$336 million in earnings (see Table 3.10).

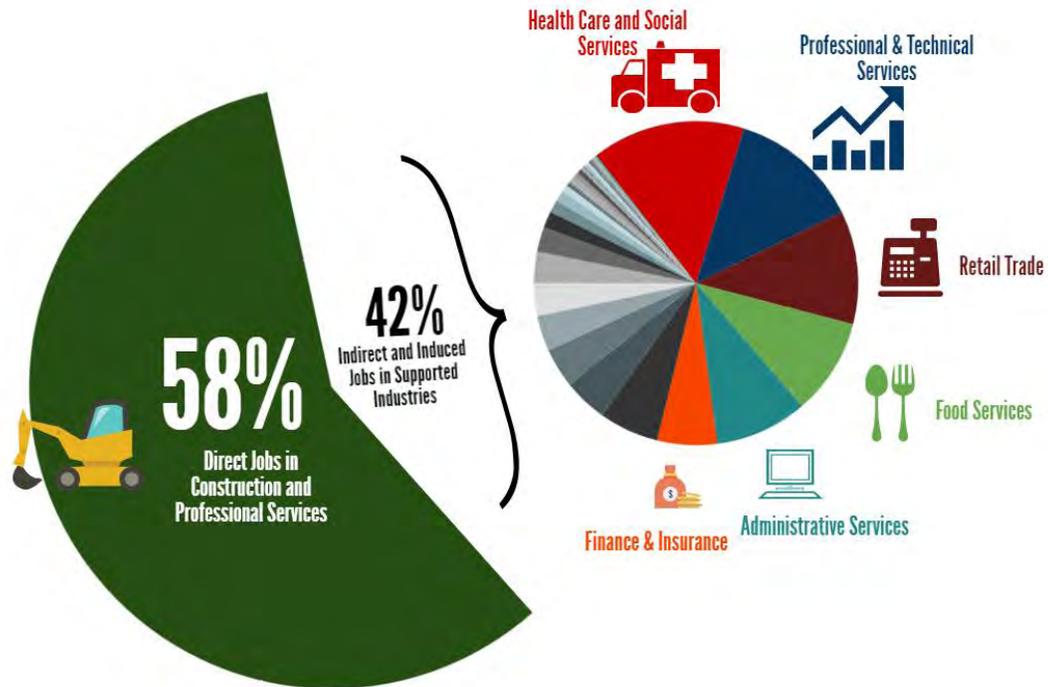
TABLE 3.10 – POTENTIAL ONE-TIME ECONOMIC IMPACT FROM UPFRONT CONSTRUCTION FOR ALL SEGMENTS OF SCHUYLKILL BANKS (OVER 19 YEARS OF ACTIVE CONSTRUCTION BETWEEN 2000 – 2024)

Economic Impact Category	City of Philadelphia	Commonwealth of Pennsylvania
Direct Output (\$M)	\$414	\$414
Indirect & Induced Output (\$M)	\$281	\$358
Total Output (\$M)	\$695	\$772
Annual Employment Supported (FTE) (FTE over 19 Years of Construction)	225	245
Total Employee Compensation (\$M)	\$317	\$336

Source: Schuylkill River Development Corporation (2016), Econsult Solutions (2017), IMPLAN (2015)

Capital investment in Schuylkill Banks supports jobs in many industries. Direct employment in construction of Schuylkill Banks accounts for 58 percent of all jobs supported. Forty two percent of the jobs supported are indirect and induced jobs, the majority of which are in healthcare and social services, professional and technical services, retail sector, food services, administrative services, and finance and insurance sector (see Figure 3.7).

FIGURE 3.7 – DISTRIBUTION OF THE POTENTIAL ONE-TIME TOTAL JOBS IMPACT FROM THE CONSTRUCTION OF ALL SEGMENTS OF SCHUYLKILL BANKS



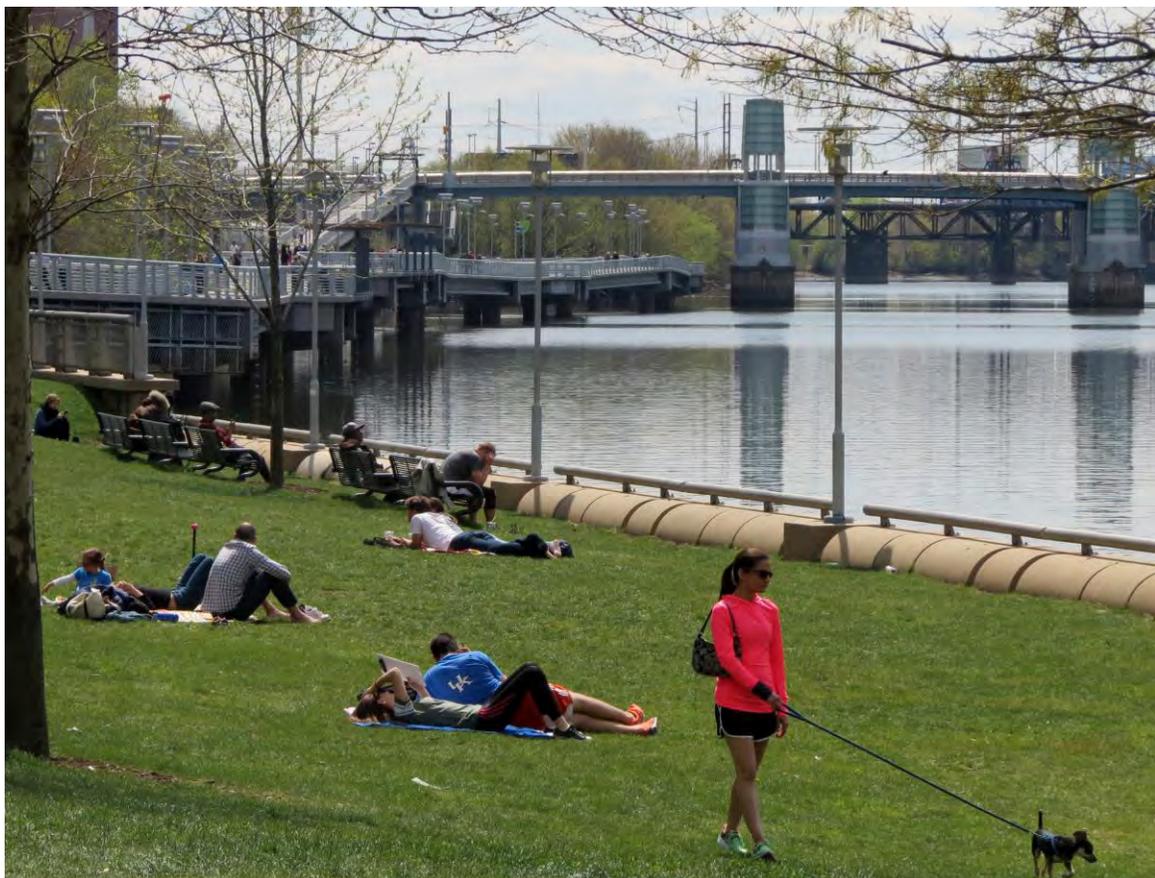
Source: Piktochart (2017), IMPLAN (2015)

Upfront construction from all projects advanced or funded by SRDC will result in sizeable aggregate tax revenues. Within the City of Philadelphia, it is estimated that all projects advanced or funded by SRDC will generate \$11.8 million in one-time tax revenues. Within the Commonwealth of Pennsylvania, it is estimated that all projects advanced or funded by SRDC will generate \$14.2 million in one-time tax revenues (see Table 3.11).

TABLE 3.11 – POTENTIAL ONE-TIME FISCAL IMPACT FROM UPFRONT CONSTRUCTION FOR ALL SEGMENTS OF SCHUYLKILL BANKS (FROM 2000 - 2024) (\$MILLIONS)

Tax Types	City of Philadelphia	Commonwealth of Pennsylvania
Wage/Income Tax Revenue	\$8.30	\$7.00
Sales & Use Tax Revenue	\$1.30	\$5.40
Business Tax Revenue	\$2.20	\$1.80
Total Tax Revenue	\$11.80	\$14.20

Source: Econsult Solutions (2017), IMPLAN (2015)



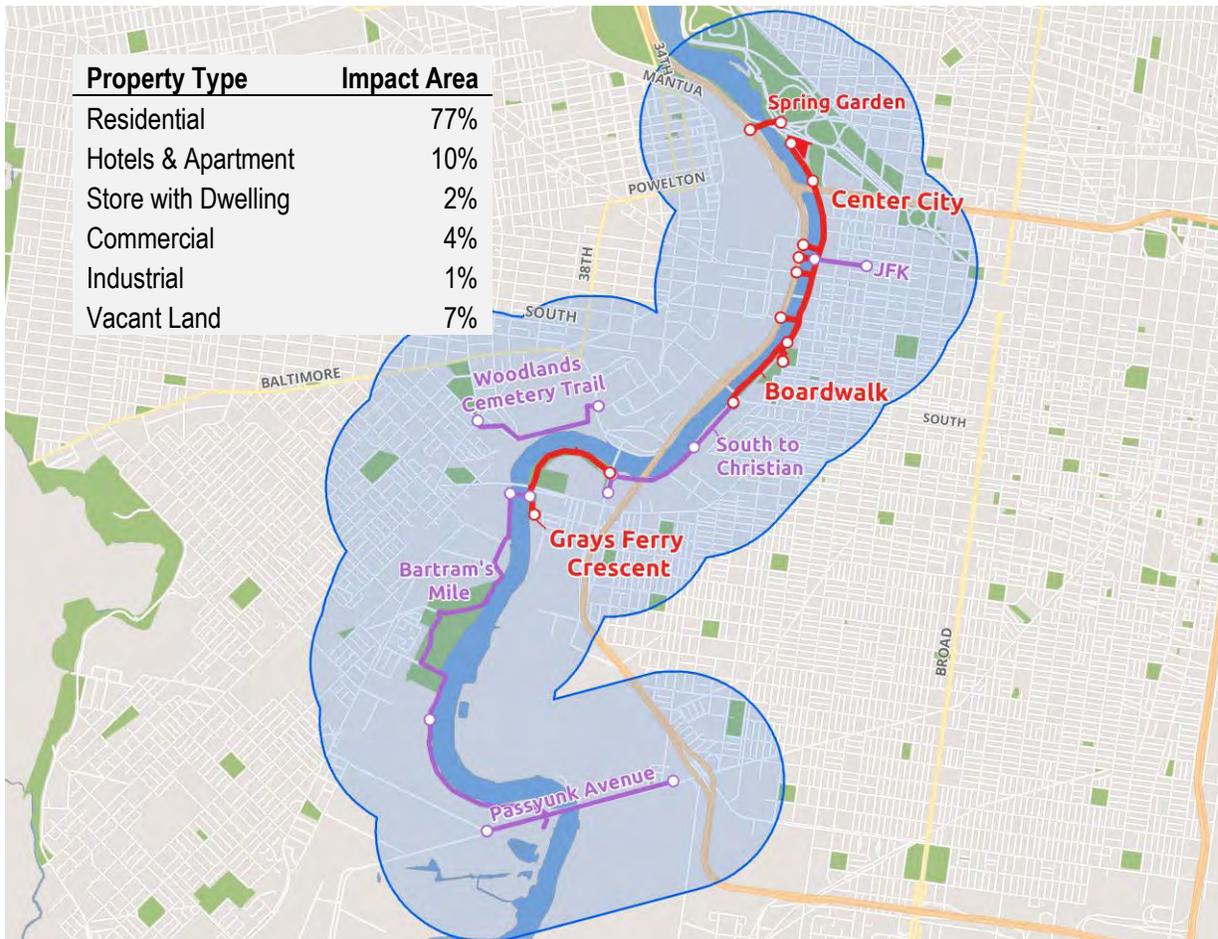
People outside enjoying Schuylkill Banks, near Locust Street

4.0 PRIVATE AND INSTITUTIONAL DEVELOPMENT ALONG SCHUYLKILL BANKS

4.1 ECONOMIC AND DEMOGRAPHIC CHANGES ALONG THE TRAIL

Areas around the portions of Schuylkill Banks from the Fairmount Waterworks Dam to the Schuylkill Banks Boardwalk are highly desirable places to live, especially east of the Schuylkill River, with one of the attractions being Schuylkill Banks. Within a half-mile of Schuylkill Banks, the area is mostly residential including apartments (see Figure 4.1).

FIGURE 4.1 – ONE-HALF MILE RADIUS FROM COMPLETED AND IN-PROCESS SEGMENTS OF SCHUYLKILL BANKS



Source: Econsult Solutions (2017), City of Philadelphia, Office of Property Assessment (2017)

As compared to the rest of the city, the area within a half mile of the completed and in-process sections of Schuylkill Banks, from 2016 to 2021, is forecasted to see significant gains in median household income of more than ten percent, whereas across the city, the median household income is forecasted to decrease (see Table 4.1). Housing and property assessment values near Schuylkill Banks are also significantly higher than the city wide average and median. The population and number of housing units are also forecasted to increase at a slightly higher rate than the city as a whole during this period. In addition, the percent of commuters by bike and walking are each approximately triple the citywide rate.

TABLE 4.1 – DEMOGRAPHIC CHARACTERISTICS IN 2016 AND 2021 WITHIN ONE HALF MILE OF THE COMPLETED AND NEAR-TERM SEGMENTS OF SCHUYLKILL BANKS AND PHILADELPHIA

Demographic Categories	One Half Mile Radius			Philadelphia		
	2016	2021	Change	2016	2021	Change
Total Population	88,000	91,590	+4.1%	1,571,860	1,610,367	+2.4%
Housing Units	45,370	46,973	+3.5%	685,088	699,714	+2.1%
Percent Occupied	90.8%	91.5%	+0.8%	89.9%	90.1%	+0.2%
Percent of Occupied by Owner	31.7%	31.5%	-0.6%	46.9%	46.7%	-0.4%
Percent of Occupied by Renter	59.1%	60.0%	+1.5%	43.0%	43.4%	+0.9%
Percent Commuting by Bicycle ⁷	5.9%	NA	NA	2.0%	NA	NA
Percent Commuting by Walking	30.3%	NA	NA	8.5%	NA	NA
Median Household Income	\$47,243	\$52,288	+10.7%	38,145	36,987	-3.0%
Average Home Value	\$362,762	\$376,546	+3.8%	\$193,119	\$212,987	+10.3%
Median Assessment Value	\$227,300			\$110,300		
Average Assessment Value	\$285,767			\$231,564		

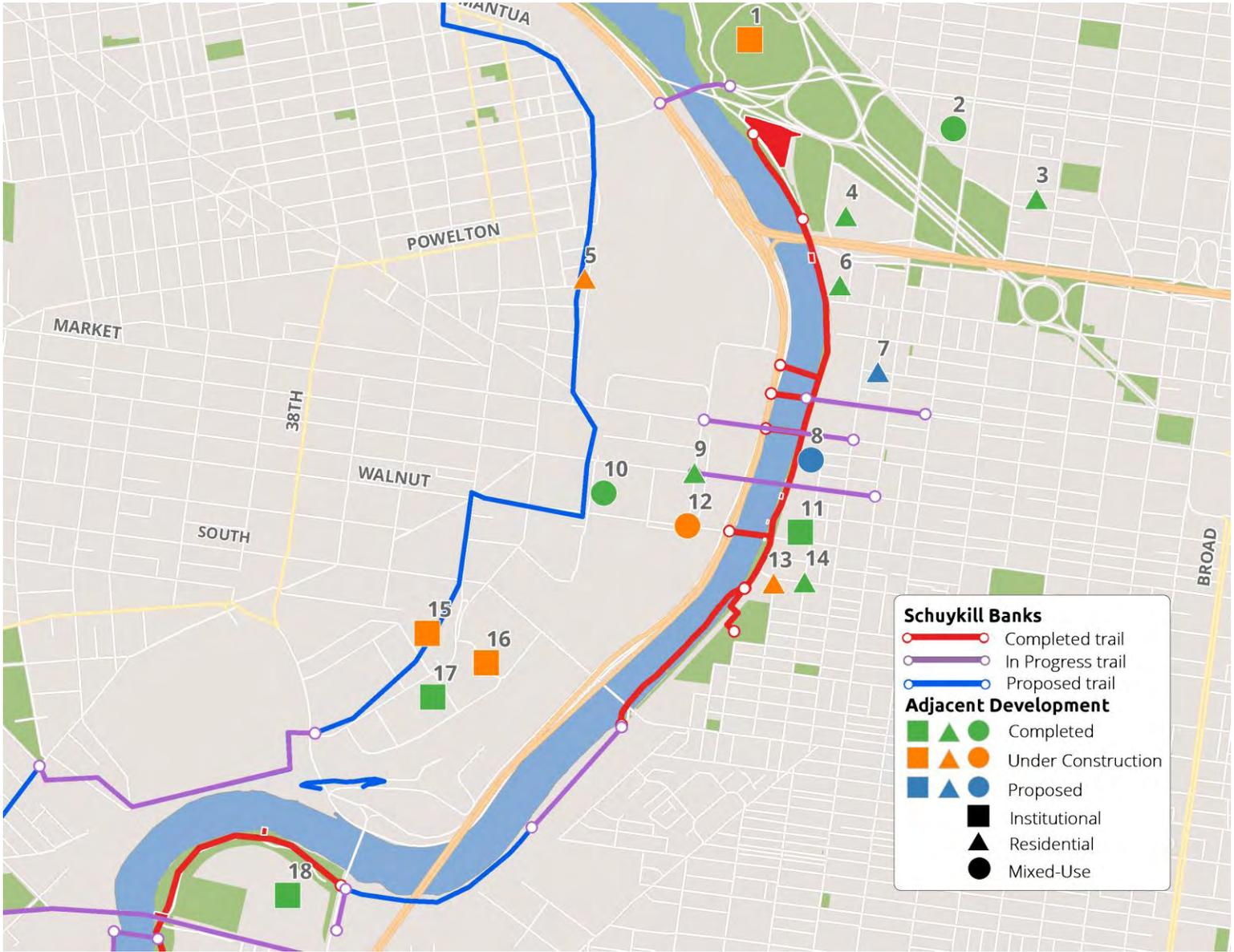
Source: ESRI Business Analyst (2017), last two rows from City of Philadelphia Office of Property Assessment (2017)

4.2 RECENT DEVELOPMENT ALONG SCHUYLKILL BANKS

Trails and waterfronts are important assets that can spur job attraction and economic development. Philadelphia has seen significant economic development along Schuylkill Banks over the past twenty years and with plans for construction spanning another decade. There are many construction projects just completed or in process (near-term) along Schuylkill Banks (see Figure 4.2 and Table 4.2).

⁷ ESRI Business Analyst, the software used to conduct this analysis, does not offer projections of commuting patterns, and therefore an estimate for 2021 cannot be provided.

FIGURE 4.2 – MAP OF THE COMPLETED (RED), NEAR-TERM (PURPLE) AND LONG-TERM SEGMENTS (BLUE) OF SCHUYLKILL BANKS AND SELECT DEVELOPMENTS



Source: Econsult Solutions (2017)

The developments are referenced by number in Table 4.2

TABLE 4.2 – SELECT UNDER CONSTRUCTION, COMPLETED, OR RENOVATED PROPERTIES IN PROXIMITY TO COMPLETED SEGMENTS OF SCHUYLKILL BANKS

Map Number	Name	Address	Residential Units	Total Square Feet	Status	Construction Cost	Year Open	Use
1	Philadelphia Museum of Art Expansion	2600 Benjamin Franklin Parkway		169,000	Under Construction	\$150,000,000		Institutional
2	Dalian on the Park	501 N 22 nd St	293		Completed		2016	Residential Mixed Use
3	The Granary	1901 Callowhill St	229	310,000	Completed	\$66,000,000	2013	Residential
4	Park Towne Place Apartment Homes	2200 Benjamin Franklin Pkwy	474		Completed	\$200,000,000	1959; renovated 2016	Residential
5	Vue 32	3201 Race St	176		Under Construction	\$56,000,000	2017	Residential
6	Edgewater Apartments	2323 Race St	290		Completed		2005	Residential
7	River Walk	2300 Arch St	600		Proposed	\$300,000,000	2018	Residential
8	2400 Market	2400 Market St.		600,000	Under Construction	\$250,000,000	2018	Residential Mixed Use
9	The Evo at Cira Centre South	30th and Chestnut St.	430	480,000	Completed	\$158,500,000	2014	Residential
10	The Leftbank	3131 Walnut St	282	673,000	Completed	\$55,000,000	1929; renovated 2001	Residential Mixed Use
11	2401 Walnut St	2401 Walnut St		160,000	Completed	\$10,500,000	Renovated 2011	Office
12	FMC Tower	30th and Walnut St.	258	625,000 (Office portion)	Completed	\$385,000,000	2016	Residential Mixed Use
13	One Riverside	225 S. 25th St.	68		Under Construction	\$130,000,000	2017	Residential
14	Locust on the Park	201 S 25th St.	152	200,000	Completed	\$24,000,000	2000	Residential
15	CHOP Roberts Center for Pediatric Research	700 Schuylkill Ave		735,656	Under Construction	\$270,000,000	2017	Institutional
16	New Patient Pavilion	33rd St and Convention Avenue		1,500,000	Under Construction	\$1,500,000,000	2021	Institutional
17	CHOP Buerger Center for Advanced Pediatric Care	3500 Civic Center Blvd		700,000	Completed	\$96,000,000	2015	Institutional
18	Pennovation Center	3401 Grays Ferry Avenue		58,000 SF completed so far	One building completed, several in planning	\$37,500,000 invested so far		Institutional

Source: Respective Properties Websites and Newspaper Articles (2017)



There has been an infusion of private capital in new multi-family properties in Philadelphia, apartments and condominiums. As new properties are coming online, older properties are being renovated to remain competitive. Many of the new developments are immediately adjacent to Schuylkill Banks. This includes the almost complete luxury condominium One Riverside, next to Schuylkill River Park with immediate access to the Schuylkill Trail and Boardwalk. Its condo prices range from \$924 per square foot to \$1,000 per square foot⁸ as compared to the Center City average of \$455 per square foot for condominiums⁹ (see Table 4.2). On the west side of Schuylkill Banks, construction has started on Vue32, apartments targeted to Drexel staff and graduate students ranging from \$2.81 to \$3.77 per square foot¹⁰, higher than the Center City average of \$2.49 per square foot.¹¹ Recently proposed, are two multifamily towers River Walk, next to Schuylkill Banks with 600 new units that will replace surface parking lots.

New Trophy Class A office space is being added as well. The FMC Tower is bringing 625,000 square feet of Trophy Class A market space that is reportedly leasing for \$50 per square foot¹², well above the Center City Trophy Class A average asking price of \$36.09 per square foot.¹³ It will also have 258 luxury long-term stay hotel residences. The headquarters for Aramark are moving to 2400 Market Street. Five stories are being added to the current structure, doubling the building's size to 600,000 square feet including new outdoor plazas, which will overlook Schuylkill Banks.¹⁴ 2401 Walnut Street, the location of SRDC's offices, was renovated in 2011. One firm that located there after the renovations stated that a reason they chose 2401 Walnut was for the direct access to the Schuylkill River Trail because their employees run during their lunch.¹⁵

TABLE 4.3 – RENTS AT SELECTED PROPERTIES AS COMPARED TO CENTER CITY AVERAGE RENTS / SALES PRICES PER SQUARE FOOT

Name	Rent / Asking Price Shown For	Asking Rent/ Sales Price	Average Center City Rent / Sales Price
FMC Tower	Office Lease	\$50 psf	\$36.09 psf
One Riverside	Condominiums	\$924 psf - \$1,000 psf	\$455 psf
Vue 32	Apartments	\$2.81 psf - \$3.77 psf	\$2.49 psf

The city's eds and meds sector is also expanding with capital investment directly along Schuylkill Banks. University of Pennsylvania's Pennovation Works is a 23-acre unique blend of offices, labs, and production space to bridge the intellectual and entrepreneurial initiatives for advancing knowledge and generating economic development. Pennovation Works is adjacent to the Grays

⁸ CenterCityCondos.com, One Riverside Condos, Accessed March 2017, http://www.centercitycondos.com/new_construction/one_riverside.html

⁹ Survey of Center City condominiums using Trulia Real Estate, trulia.com

¹⁰ Radnor Property Group, Bozzuto, Vue 32 Floorplans, www.livevue32.com, Accessed March 2017,

¹¹ Center City District, 2017 Housing Report: Building on Optimism

¹² Kostelni, Natalie, "Center City Office Market Seeing Record Rents," Philadelphia Business Journal, August 3, 2016, <http://www.bizjournals.com/philadelphia/news/2016/08/03/center-city-office-market-record-rentscre-2016.html>

¹³ Newmark Grubb Knight Frank, 2015, "2016 Center City Philadelphia Office Market Forecast"

¹⁴ Philadelphia City Planning Commission, Civic Design Review, 2400%Market%CDR%Submission_Oct%2016_reduced.pdf

¹⁵ Kostelni, Natalie, "2401 Walnut St. Completely Transformed," Philadelphia Business Journal, October 7, 2011, <http://www.bizjournals.com/philadelphia/print-edition/2011/10/07/2401-walnut-st-completely-transformed.html>

Ferry Crescent segment of Schuylkill Banks. Farther north, the Children's Hospital of Philadelphia is developing on both sides of the Schuylkill River as it expands with new research centers. Figure 4.2 and Table 4.3 include a select list of these developments in relation to Schuylkill Banks.

PARKS

Having parks align with trails allows for easy and safe park access and provides for a variety of uses along a trail. Along Schuylkill Banks, Schuylkill River Park is owned by the City of Philadelphia, and managed by the Friends of Schuylkill River Park in partnership with Philadelphia Parks and Recreation since 1988. Continual investment have been made in the park, including a new playground, two dog parks, and in the 2012, the pedestrian bridge over the rail lines was completed, which sits at the juncture of the trail on Schuylkill Banks and the Schuylkill Banks Boardwalk.

Across the river is the \$46.5 million Penn Park completed in 2011. The 24 acre park is owned and operated by the University of Pennsylvania and is used for University affiliated athletics, recreation programs and general public recreational use.

After nearly 11 years from its first conceptualization, Paine's Park, the \$4.5 million skateboard park along Schuylkill Banks opened in 2013 (see Figure 4.3). A skate park in Grays Ferry also opened in 2013 and is adjacent to the Grays Ferry Crescent. A year earlier, the Grays Ferry Fishing Pier opened, a unique recreational asset along the Schuylkill. Additional parks are included in future capital investments along Schuylkill Banks. Multiple parks along the Schuylkill Banks provide equitable access for all residents of Philadelphia.

**FIGURE 4.3 – CLOCKWISE FROM TOP LEFT – FMC TOWER AND EVO; ONE RIVERSIDE;
CHOP'S ROBERTS CENTER FOR PEDIATRIC RESEARCH; AND PAINE'S PARK**



Source: Econsult Solutions (February 2017)

5.0 POTENTIAL PROPERTY VALUE IMPACTS ALONG FUTURE SEGMENTS OF SCHUYLKILL BANKS

5.1 COMPONENTS OF PROPERTY VALUE IMPACT

In addition to catalyzing a significant amount of upfront construction activity, the continued capital investment into Schuylkill Banks directly and indirectly increases the aggregate property value in the city, with attendant wealth gains for property owners, and annual property tax revenue gains for the city as well as for the School District of Philadelphia.

Redevelopment and amenity investment generate positive impacts on properties that are within short walking distances. The expansion of Schuylkill Banks will continue to generate property value gains within the city, both by increasing the value of existing properties (their proximity to the revitalized waterfront makes them more attractive in the real estate market) and by catalyzing new investment in nearby areas.

5.2 PROPERTY VALUE IMPACT OF A WATERFRONT TRAIL

Trails and waterfront development typically have positive impacts on property values proximate to them. Basic real estate economics states that when positive features are added to a place, such as green storm water infrastructure, demand for that place as a residential location increases, which produces an increase in housing values. This is especially true when the features connect neighborhoods to other growing neighborhoods. This improves the health of individual neighborhoods and the vitality of the city as a whole: an increase in housing values means more wealth for property owners and more tax revenues for the city. These impacts contribute to the city's tax base through real estate taxes and real estate transfer taxes.

A number of studies have found a significant increase in real estate values associated with trails, landscaping, parks and green spaces.^{16,17,18} Econsult Solutions and Econsult Corporation have performed significant research on the economic impact of trail networks. In a study for GreenSpace Alliance and DVRPC, properties in close proximity to open space saw an added value of \$9,760 per house and generated just under \$60 million in tax revenue. The regional effect of open space generated about \$16.2 billion in economic value, or \$10,000 per household. An economic analysis on the effect of a rail-to-trail project in North Carolina increased the value of homes within a quarter mile of the development by 4 percent (see Table 5.1).

¹⁶ Wachter, Susan. "The Determinants of Neighborhood Transformations in Philadelphia, Identification and Analysis: The New Kensington Pilot Study," 2005.

¹⁷ See Wachter, *supra* note 22.

¹⁸ Wachter, Susan M., and Grace Wong Bucchianeri. "What Is a Tree Worth? Green-City Strategies, Signaling and Housing Prices." May 2008.

A study of property value impacts in Philadelphia conducted by ESI found that green infrastructure investments have a positive impact on local communities.¹⁹ The variables that described the impact of storm water infrastructure were statistically significant and positive. Being located within a quarter mile of a public amenity had positive impacts on nearby residential property values ranging from 11.5 percent to 12.7 percent.

Wharton economist Susan Wachter's findings relate to another point, which is that the payoff of green infrastructure investment depends on where it is carried out. The greening of spaces is not necessarily the factor that changes property values. Usually it is the fact that a space that was previously depressing property values has been greened.²⁰ The best areas a city can target for greening are the more distressed neighborhoods.

Green infrastructure has impacts beyond residential neighborhoods. Two studies have found that green infrastructure related landscaping can increase commercial office rents by 7 percent²¹ and apartment rents by approximately 5 percent.²² Retailers can also benefit from green infrastructure investments. Research has shown that people are willing to spend more, visit more frequently, or travel farther to shop in areas with attractive landscaping, tree cover, or green streets.²³ Customers indicated that they are willing to pay 8 to 12 percent more on products within areas with a mature tree cover.²⁴

¹⁹ ESI "The Economic Impact of Green City, Clean Waters: The First Five Years." 2016.

²⁰ Popp, Trey. "The Park of a Thousand Pieces."

²¹ Laverne, R.J., and K. Winson-Geideman.. "Influence of Trees and Landscaping on Rental Rates at Office Buildings", *Journal of Arboriculture*. 29(5): 281–289. 2003.

²² Wolf, K.L. "City Trees and Property Values." *Arborist News* 16(4): 34–36. 2007.

²³ Wolf, K.L. "Business District Streetscapes, Trees, and Consumer Response." *Journal of Forestry* 103(8): 396-400. 2005.

²⁴ Natural Resource Defense Council. "The Green Edge: How Commercial Property Investment in Green Infrastructure Creates Value." 2013.

TABLE 5.1 – PROPERTY VALUE IMPACTS OF GREEN SPACE FROM SELECT STUDIES

Source	Estimated Property Value Impact (%)
“A Dynamic Approach to Estimating Hedonic Prices for Environmental Goods: An Application to Open Space Purchase,” Riddel (2001)	3.75%
“Influence of Trees and Landscaping on Rental Rates at Office Buildings,” Laverne, R.J., and K. Winson-Geideman (2003)	7%
“The Economic Impact of the Catawba Regional Trail,” Campbell and Monroe (2004)	4%
“The Determinants of Neighborhood Transformations in Philadelphia, Identification and Analysis: The New Kensington Pilot Study,” Wachter, Susan (2005)	30%
“The Potential Economic Impacts of the Proposed Carolina Thread Trail,” Econsult Corporation (2007)	4%
“City Trees and Property Values,” Wolf, K.L. (2007)	5%
The Potential Economic, Environmental, Health, and Quality of Life Benefits of a Fully Connected Waterfront Greenway in Philadelphia,” Econsult Corporation (2010)	6%
“Quantifying the Economic Value of Protected Open Space in Southeastern Pennsylvania,” Econsult Corporation (2010)	3.75%
“Valuing the Conversion of Urban Green Space,” Econsult Corporation (2010)	7.20%
“Ecusta Rail-to-Trail Economic Impact Analysis”, Econsult Corporation (2011)	4%
“New York City Property Values: What Is the Impact of Green Roofs on Rental Pricing?” Ichihara, K., and J.P. Cohen (2011)	16%
“The Green Edge: How Commercial Property Investment in Green Infrastructure Creates Value,” Clements, Janet, Alexis Juliana, and Paul Davis (2013)	+2% to +5%
“The Economic Impact of Green City, Clean Waters: The First Five Years,” Econsult Solutions, Inc. (2016)	+11.5% to +12.7%

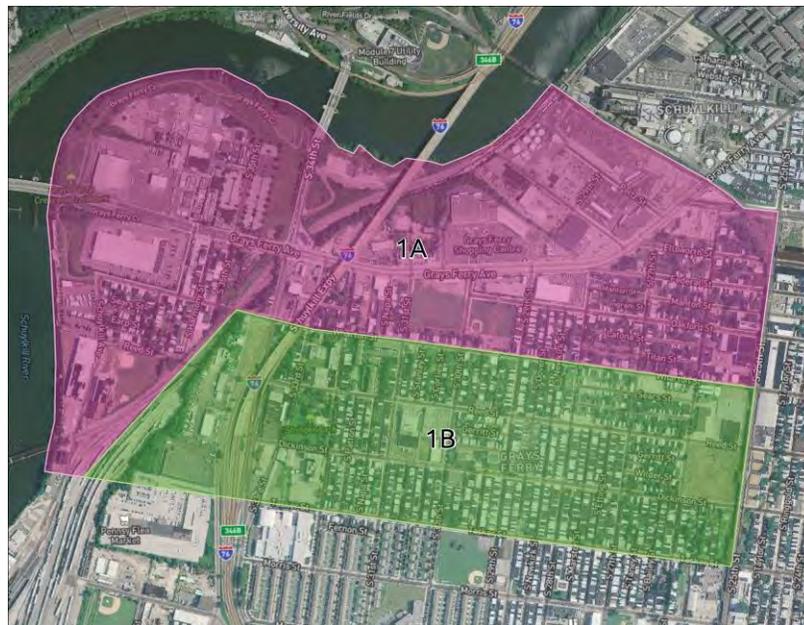
5.3 THE NEXT AREA TO SEE SIGNIFICANT GAINS IN PROPERTY VALUE IMPACTS FROM SCHUYLKILL BANKS' EXPANSION

We have documented the positive property value impacts of Schuylkill Banks north of South Street in our 2012 report. By improving the attractiveness of the adjacent neighborhoods, as has occurred at sections along Schuylkill Banks north of South Street, there is potential for significant increases in private investment in the commercial corridors and housing stock along and near sections of Schuylkill Banks further south. We forecast that some of the most significant impacts will be found in Grays Ferry and its immediate surrounding neighborhoods. We expect the expansion of Schuylkill Banks could have a significant property value impact that will lead to new investment in the housing stock and attraction of new neighborhood businesses and amenities in addition to Schuylkill Banks.

We looked specifically at the eastern side of the Schuylkill River next to the completed Grays Ferry Crescent, north of it near the planned Christian to Crescent connection and south of it at the planned Schuylkill Crossing at Grays Ferry.²⁵ Our area of focus includes a good portion of the Grays Ferry neighborhood bounded by the river to the west, Washington Avenue to the north, 25th Street to the east and Tasker Street to the south (see Figure 5.1). We divided the area along Wharton Street. We refer to the land north of Wharton Street and west of the railroad tracks as Impact Area 1A and the; section south of Wharton Street and east of the railroad tracks is Impact Area 1B.

Impact Area 1A is closer to the future segments of the trail, specifically the Christian to Crescent connection, which will connect residents of southern Center City to the rest of the completed Schuylkill Banks and the Schuylkill River Trail and will receive a greater property value benefit. We also anticipate the area south of Wharton Street to receive a property value benefit, especially from the connection to western side of Schuylkill Banks. However this area is not so close to Schuylkill Banks and will therefore not receive as much of a benefit as areas closer to it.

FIGURE 5.1 – FOCUS AREAS OF POTENTIAL PROPERTY VALUE BENEFITS DUE TO CONNECTION OF SCHUYLKILL BANKS TO GRAYS FERRY CRESCENT AND EXPANSION ACROSS THE RIVER, REFERRED TO AS IMPACT AREAS 1A AND 1B



Source: Econsult Solutions (2017)

²⁵ Other areas along future segments of Schuylkill Banks were examined as part of this report for potential future property value impacts, however we felt the chosen area will 1) benefit significantly from Schuylkill Banks, and 2) will happen in the relatively near term along as construction stays on schedule. Another area we examined is the area immediately south of Bartram's Garden, which is zoned commercial and industrial with mostly auto salvage lots, with residential zoning west of Lindbergh Ave. When those southern segments of Schuylkill Banks are completed, Bartram's to Passyunk Point and Passyunk Point to Fort Mifflin, the homes west of Lindbergh Ave will benefit. However, it is likely that the magnitude of that benefit will be impacted mostly by the potential future changes in the land use adjacent to Schuylkill Banks, east of Lindbergh Ave because of Schuylkill Banks expansion. Potential changes could include new strategic industry attraction, development of attractive access routes to Schuylkill Banks from the homes west of Lindbergh through the current section of commercial and industrial uses, and maybe even zoning changes to more mixed-use developments.

Impact Area 1A, north of Wharton Street includes the Grays Ferry Crescent, has the Pennovation Works site, is less residential and has a considerable amount of vacant land at 36 percent, as compared to the city average of 7.8 percent. Impact Area 1B, south of Wharton Street, is mostly residential two and three story rowhomes. This area also has a lot of vacant land at 17 percent (see Table 5.2).

TABLE 5.2 – PERCENTAGE MIX OF PROPERTY TYPES IN IMPACT AREAS 1A AND 1B

Land Use	Impact Area 1A	Impact Area 1B
Residential	55%	78%
Hotels & Apartment	2%	1%
Store with Dwelling	1%	2%
Commercial	2%	1%
Industrial	4%	1%
Vacant Land	36%	17%

Source: City of Philadelphia, Office of Property Assessment (2017)

Growth in the construction sector is a good indicator of future economic growth. Publicly available data, provided by the city's Office of Licenses and Inspections show an increase in permits pulled within both Impact Areas 1A and 1B (see Table 5.3). These permits include all new residential construction or major renovation permits approved each year. The Grays Ferry neighborhood is beginning to see new capital investment, much higher than previous years as the number of construction permits pulled in previous years has been zero at times. There are already more permits pulled for 2017 through April 18, 2017 than the number of permits pulled for each area in 2016 and 2015 combined.

TABLE 5.3 – RESIDENTIAL NEW CONSTRUCTION AND MAJOR RENOVATION PERMITS ISSUED SINCE 2007²⁶

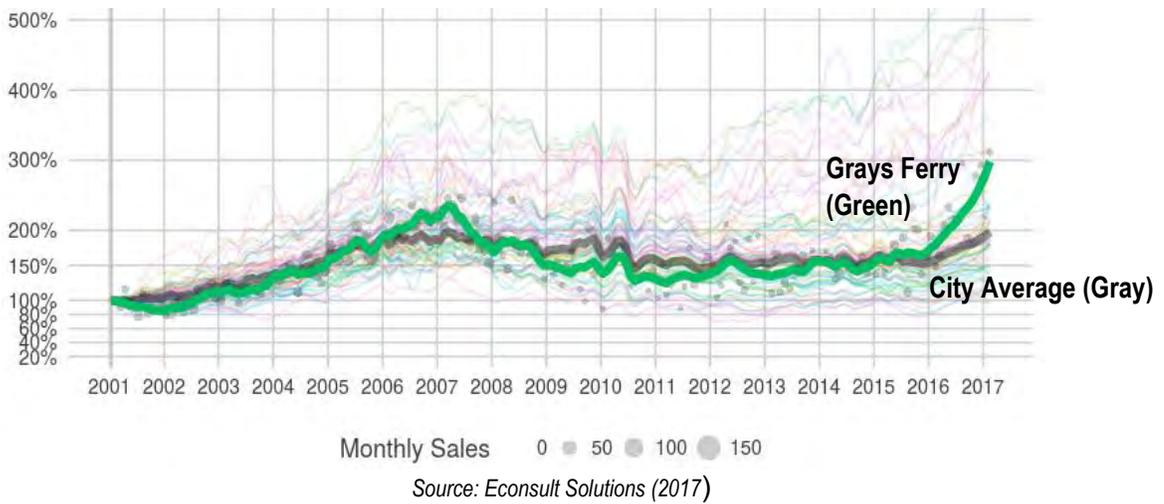
Year	Impact Area 1A	Impact Area 1B
2007	1	-
2009	1	-
2010	4	-
2013	1	-
2014	4	-
2015	3	4
2016	8	4
2017 ²⁷	14	5
Total	36	13

Source: City of Philadelphia Office of Licenses and Inspections (2017), PlanPhilly (2017)

Many are bullish on Grays Ferry as the next hot neighborhood as many move to it for its affordability and proximity to Center City. Grays Ferry housing prices have increased by 200 percent since 2001, albeit from very low levels (see Figure 5.2). Carl Dranoff, developer of One Riverside, stated that part of that attraction to the area is because of Schuylkill Banks. “I look at Grays Ferry and say that it’s the new bullseye...because the boardwalk is being extended. People will be able to easily walk, bike, jog, dog sled, whatever, between Center City and Grays Ferry.”²⁸

²⁸ Romero, Melissa, “5 Philly Neighborhoods Everyone is Watching,” Curbed Philadelphia, October 26, 2016
<http://philly.curbed.com/2016/10/26/13322180/philadelphia-neighborhoods-to-watch>

FIGURE 5.2 – GRAYS FERRY PERCENT CHANGE IN RESIDENTIAL SALES PRICE COMPARED TO PHILADELPHIA AVERAGE FROM 2001 TO 2017



Schuylkill Banks’ expansion will provide the community with a valuable amenity, and with the completed Grays Ferry segment, new development is already taking place. For instance, Pennovation Works is repurposing and bringing life to the old DuPont site, next to the Grays Ferry Crescent of Schuylkill Banks. East of Pennovation Works, there is a proposal for 2501 Washington, 64 multi-family units and 19 townhomes with new neighborhood retail.

Looking at forecasts for the two impact areas, both are expected to see population increases, an increase in renters, and most significantly, increases in home values, as assumed from Figure 5.2 (see Table 5.4). Part of this increase in home values is due to development and pricing pressures pushing south from Center City. However, we believe there will be additional property value gain from the completion of the Christian to Crescent segment and the Schuylkill Crossing at Grays Ferry specifically, opening up new connections to the northern sections of Schuylkill Banks and Bartram’s Garden.

TABLE 5.4 – AREA CHARACTERISTICS – FOR THE IMPACT AREAS

Demographic Category	Impact Area 1A			Impact Area 1B		
	2016	2021	Change	2016	2021	Change
Total Population	1,749	1,842	5.3%	5,367	5,576	3.9%
Housing Units	897	929	3.6%	2,258	2,283	1.1%
Percent Occupied	83.80%	85.40%	1.9%	84.10%	86.20%	2.5%
Percent of Occupied by Owner	44.30%	44.20%	-0.2%	38.40%	38.70%	0.8%
Percent of Occupied by Renter	39.60%	41.10%	3.8%	45.70%	47.60%	4.2%
Percent Commuting by Bicycle	6.80%	NA	NA	2%	NA	NA
Percent Commuting by Walking	14.50%	NA	NA	8.50%	NA	NA
Median Household Income	\$27,928	\$27,142	-2.8%	\$19,393	\$20,230	4.3%
Average Home Value	\$89,384	\$115,352	29.1%	\$70,213	\$80,782	15.1%
Median Assessment Value	\$72,541	\$86,111	18.7%	\$63,258	\$72,036	13.9%

Source: ESRI Business Analyst (2017)

5.4 PROPERTY VALUE INCREASE ON NEW AND EXISTING PROPERTIES

RESIDENTIAL PROPERTIES

We analyzed two different types of property value increases: the increase in existing properties' values from being near Schuylkill Banks and investment in new housing stock. To estimate the potential property value impact on existing properties in each impact area, we considered proximity to the future Schuylkill Banks segments and referred to the findings from our literature search in Section 5.2, including studies by ESI. The literature search provided a range of potential property value appreciations of two to 30 percent depending on types of improvements, land conditions prior to improvements, and proximity to trail, greenway and water resource improvements. Due to the transformative nature of Schuylkill Banks, we estimate that Impact Area 1A could see a property value appreciation of up to 30 percent from the expansion of Schuylkill Banks for residential properties. We estimate that Impact Area 1B could realize a property value increase as well, but not as high, and is estimated at 15 percent. Combined, this is an increase in residential property values of \$37 million.

It is important to note, that as the market values in Impact Areas 1A and 1B increase once the segments of Schuylkill Banks proximate to these areas are completed, we also expect property values to increase from new capital investment in the area. This includes improvements to the existing housing stock and adding new housing stock. As the expansion of Schuylkill Banks will lead to additional capital investment, the number of construction permits pulled in each impact area over the next three to five years could be double the current 2017 pace. Given the high amounts of vacant space in each impact area, and that only 14 houses in these areas were built since 2000, we estimate that over the next three to five years, Impact Area 1A could see 200 new

residential properties and Impact Area 1B could see 150 new residential properties attributed to Schuylkill Banks.

New construction in Point Breeze, the neighborhood immediately to the east of Grays Ferry, which is undergoing its own revitalization, is seeing new construction prices of \$300,000 up to \$899,000 with many between \$400,000 and \$500,000.²⁹ For our analysis, we chose the low end of the range, \$300,000, as the potential assessed market value for new residential units. This yields a potential new market value of \$105 million. Combined with the increase in market value of existing properties of \$37 million, the potential increase in total residential market value is \$142 million in Impact Areas 1A and 1B (see Table 5.5).

**TABLE 5.5 – POTENTIAL MARKET VALUE INCREASES IN IMPACT AREAS 1A AND 1B
DUE TO EXPANSION OF SCHUYLKILL BANKS (RESIDENTIAL PROPERTIES)**

Area	Existing Residential Properties			New Residential Properties		Total New Taxable Value
	Number of Properties	Market Value (\$M)	Increase in Market Value	Number of Units	Total Value (@ \$300k each)	
Impact Area 1A (30% impact)	864	\$61	\$18	200	\$60	\$74
Impact Area 1B (15% impact)	2,073	\$125	\$19	150	\$45	\$64
Total	2,937	\$186	\$37	400	\$105	\$142

Source: City of Philadelphia, Office of Property Assessment. (2017), Econsult Solutions (2017)

If the residential property value increases are properly accounted for in property assessments, which they should be since Philadelphia's Actual Value Initiative was successfully implemented, then the city and the School District of Philadelphia should see an increase in their annual real estate tax revenues. When property values increase in Impact Areas 1A and 1B due to expansion of Schuylkill Banks, the city and school district will realize those revenues the following tax year. The city and school district will realize a combined \$520,000 every year in increased real estate taxes due to expansion of Schuylkill Banks (see Table 5.6).

The city has a ten-year tax abatement where real estate taxes to the city and school district are abated for new construction and major renovations for ten years. Therefore, while the city will receive the taxes owed on the properties pre-construction for those ten years and the benefits of new residents moving to the city, it will not realize the increased taxes due to the parcels post-construction new market value for ten years. Once the abatements expire, the city and school

²⁹ Redfin.com, Point Breeze Real Estate, New Construction, Accessed April 2017

district will realize nearly \$1.5 million in increased tax revenues from new residential properties. In total, from the existing and new residential properties in Impact Areas 1A and 1B, the city and school district could potentially receive nearly \$2 million in real estate taxes each year.

**TABLE 5.6– POTENTIAL ANNUAL REAL ESTATE TAX INCREASES IN IMPACT AREAS 1A AND 1B
DUE TO EXPANSION OF SCHUYLKILL BANKS (RESIDENTIAL PROPERTIES)**

	Impact Area 1A– North of Wharton St., west of train tracks (30% impact)	Impact Area 1B– South of Wharton St., east of train tracks (15% impact)	Total
Existing Properties Values	\$18,000,000	\$19,000,000	\$37,000,000
Annual Increase in Real Estate Tax Revenues to the City	\$110,000	\$120,000	\$230,000
Annual Increase in Real Estate Tax Revenues to the School District	\$140,000	\$150,000	\$290,000
Annual Increase in Property Tax Revenues	\$250,000	\$270,000	\$520,000
New Property Values	\$60,000,000	\$45,000,000	\$105,000,000
Annual Increase in Real Estate Tax Revenues to the City	\$380,000	\$280,000	\$660,000
Annual Increase in Real Estate Tax Revenues to the School District	\$460,000	\$350,000	\$810,000
Annual Increase in Property Tax Revenues	\$840,000	\$630,000	\$1,470,000
Aggregate Increase in Property Values	\$78,000,000	\$64,000,000	\$142,000,000
Annual Increase in Real Estate Tax Revenues to the City	\$490,000	\$400,000	\$890,000
Annual Increase in Real Estate Tax Revenues to the School District	\$600,000	\$490,000	\$1,090,000
Annual Increase in Property Tax Revenues	\$1,090,000	\$890,000	\$1,980,000

Source: City of Philadelphia Office of Property Assessment (2017), Econsult Solutions, Inc. (2017)

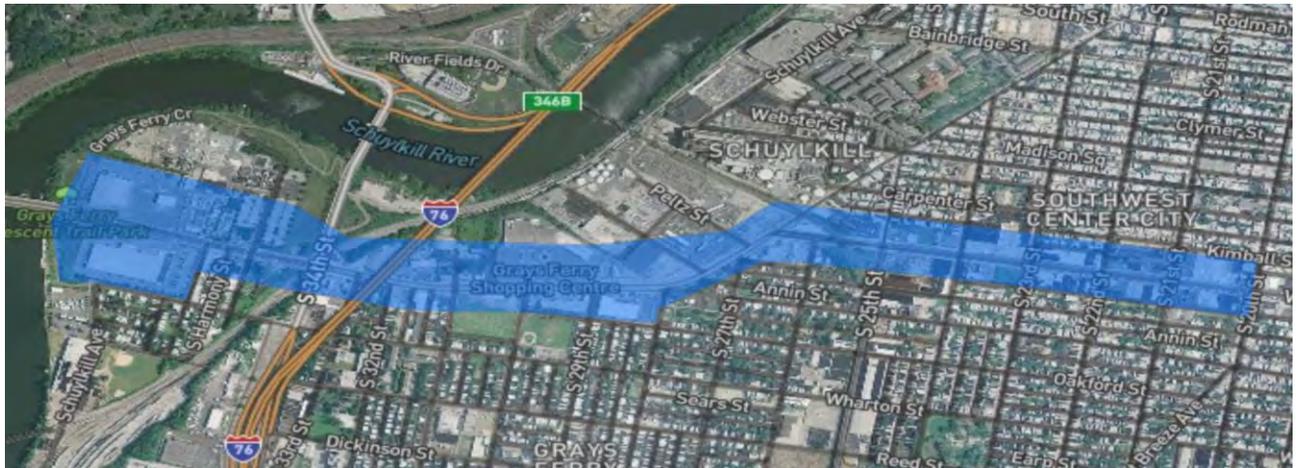
COMMERCIAL PROPERTIES

Washington Avenue and Grays Ferry Avenue, the northern boundaries of Impact Area 1A, are a commercial/industrial corridor. For our analysis, we inventoried the parcels that bordered the two



avenues from 20th street to the Schuylkill River (see Figure 5.3). More than half of the properties are for industrial uses and about a third is vacant land (see Table 5.7). The remaining properties are for commercial uses including restaurants, supermarkets specializing in East Asian foods, and building supply stores. The properties have a combined market value of approximately \$75 million with 1.4 million square feet of building space.

FIGURE 5.3 – PORTION OF WASHINGTON AVE AND GRAYS FERRY AVE COMMERCIAL/INDUSTRIAL CORRIDOR FROM 20TH STREET TO THE SCHUYLKILL RIVER



Source: Google Maps (2017)

TABLE 5.7 – SUMMARY OF CURRENT PROPERTIES ALONG WASHINGTON AVE FROM 20TH STREET TO GRAYS FERRY AVE

Land Use	Number	Percentage	Market Value (\$M)	Taxable Value (\$M)	Total Square Feet
Commercial	9	14%	\$17.3	\$13.8	169,031
Industrial	35	55%	\$50.0	\$46.9	1,267,159
Vacant Land	20	31%	\$7.3	\$5.8	0
Total	64		\$74.6	\$66.5	1,436,190

Source: City of Philadelphia Office of Property Assessment (2017)

The expansion of Schuylkill Banks will connect Grays Ferry to the northern sections of the city, and eventually to Bartram’s Garden. We expect the commercial corridor along Washington Avenue and Grays Ferry Avenue to see increased demand for industrial and commercial space, including renovating current space and adding newer, more technologically advanced capital stock to the aging commercial infrastructure. Most of the area is zoned industrial with some mixed commercial zoning.

We anticipate that proximity to Schuylkill Banks will increase the property values along this corridor by 25 percent. Given, the amount of vacant land and the possibility to add-on to some existing structures, there is potential for ten percent or 140,000 square feet of new capital stock to be added along this portion of the commercial corridor because of proximity to Schuylkill Banks.

To estimate the market value of the potential new capital stock, we calculated the weighted average of the market value per square foot of the combined commercial and industrial stock in our study area, which is \$47 per square foot. If we apply that to the 140,000 square feet of new capital investment, there will potentially be \$6.6 million in new market value. Together, the increase in market values of commercial/industrial existing properties and new capital investment could result in \$25.2 million in new market value.

TABLE 5.8 – POTENTIAL INCREASE IN MARKET VALUE FOR PROPERTIES ALONG WASHINGTON AVE FROM 20TH STREET TO GRAYS FERRY AVE TO THE SCHUYLKILL RIVER DUE TO EXPANSION OF SCHUYLKILL BANKS

Current Commercial & Industrial Properties		New Commercial & Industrial Properties		Total New Market Value (\$M)
Current Market Value (\$M)	Potential Future Market Value (25% increase, \$M)	New SF of Capital Investment	New Market Value (@ \$47 PSF, \$M)	
\$74.60	\$18.6	140,000	\$6.6	\$25.2

Source: City of Philadelphia Office of Property Assessment (2017), Econsult Solutions (2017)

New commercial and industrial buildings are also subject to the ten-year tax abatement. Therefore, the city and school district will realize the increase in real estate taxes from these new properties ten years after occupancy.³⁰ When accounting for both increases in existing properties values and the market value of new capital investment, the city and school district will potentially realize \$350,000 annually in property taxes.

TABLE 5.9– POTENTIAL ANNUAL REAL ESTATE TAX INCREASES ALONG WASHINGTON AVE FROM 20TH STREET TO GRAYS FERRY AVE TO THE SCHUYLKILL RIVER DUE TO EXPANSION OF SCHUYLKILL BANKS

Total New Market Value	\$25,200,000
Annual Increase in Real Estate Tax Revenues to the City	\$160,000
Annual Increase in Real Estate Tax Revenues to the School District	\$190,000
Annual Increase in Property Tax Revenues	\$350,000

Source: City of Philadelphia Office of Property Assessment (2017), City of Philadelphia Tax Rates (2017), Econsult Solutions (2017)

³⁰³⁰ The ten-year tax abatement does not abate the real estate tax on the current value of the property, only the additional value from the new construction.

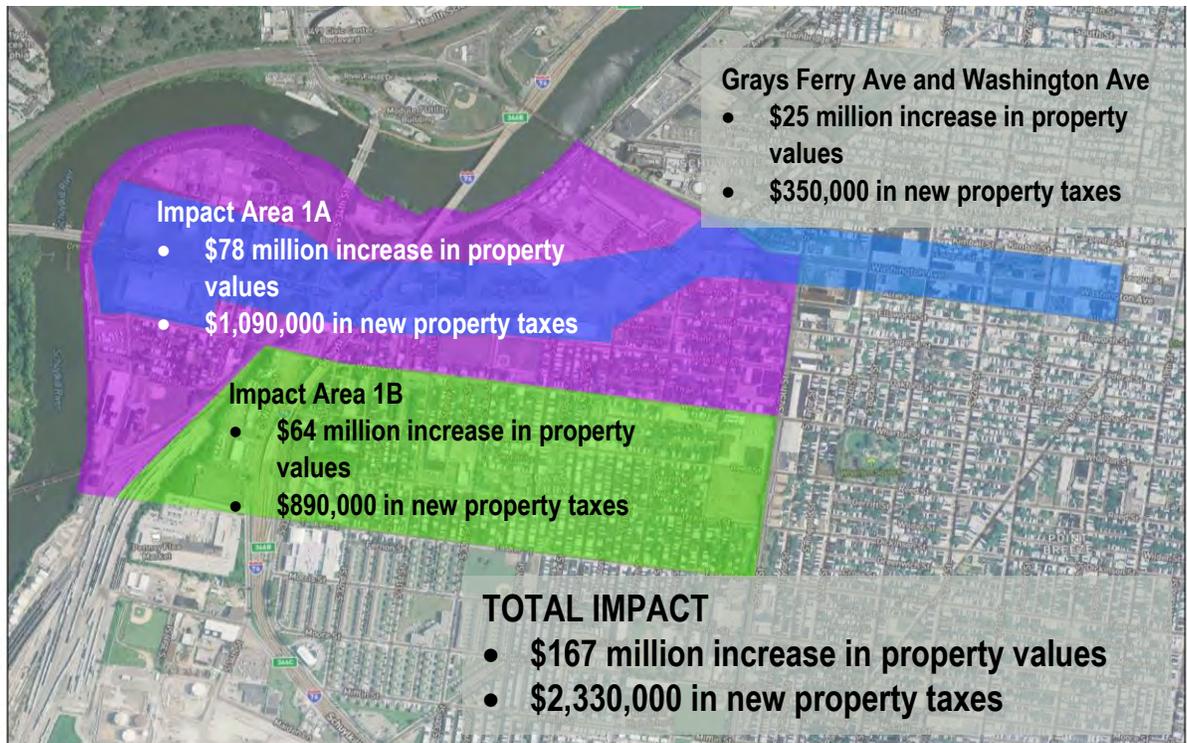
Aggregating these property value impacts, we estimate an increased market value for commercial and residential of \$167 million. For our purposes, we estimate a range of potential property value increase from \$150 million to \$200 million. When calculating the estimated real estate taxes from this increase in property values, using the \$167 million, the city and school district will potentially receive \$2.3 million total in additional annual real estate taxes from existing and new property investment due to the expansion of Schuylkill Banks.

TABLE 5.10 – POTENTIAL ANNUAL REAL ESTATE TAX INCREASES FOR RESIDENTIAL PROPERTIES IN IMPACT AREAS 1A AND 1B AND COMMERCIAL AND INDUSTRIAL PROPERTIES ALONG WASHINGTON AVE FROM 20TH STREET TO GRAYS FERRY AVE TO THE SCHUYLKILL RIVER DUE TO EXPANSION OF SCHUYLKILL BANKS

Total New Market Value	\$167,000,000
Annual Increase in Real Estate Tax Revenues to the City	\$1,050,000
Annual Increase in Real Estate Tax Revenues to the School District	\$1,280,000
Annual Increase in Property Tax Revenues	\$2,330,000

Source: City of Philadelphia Office of Property Assessment (2017), City of Philadelphia Tax Rates (2017), Econsult Solutions (2017)

FIGURE 5.4 – POTENTIAL MARKET VALUE AND ANNUAL REAL ESTATE TAX INCREASES FOR RESIDENTIAL PROPERTIES IN IMPACT AREAS 1A AND 1B AND COMMERCIAL AND INDUSTRIAL PROPERTIES ALONG WASHINGTON AVE FROM 20TH STREET TO GRAYS FERRY AVE TO THE SCHUYLKILL RIVER DUE TO EXPANSION OF SCHUYLKILL BANKS



Source: City of Philadelphia Office of Property Assessment (2017), City of Philadelphia Tax Rates (2017), Google Maps (2017), Econsult Solutions (2017)

APPENDIX A – INPUT-OUTPUT METHODOLOGY

A.1 OVERVIEW

Economic impact estimates are generated by utilizing **input-output models** to translate an initial amount of direct economic activity into the total amount of economic activity that it supports, which includes multiple waves of spillover impacts generated by spending on goods and services and by spending of labor income by employees. This section summarizes the methodologies and tools used to construct, use, and interpret the input-output models needed to estimate this project's economic impact.

A.2 INPUT-OUTPUT MODEL THEORY

In an inter-connected economy, every dollar spent generates two spillover impacts:

- First, some amount of the proportion of that expenditure that goes to the purchase of goods and services gets circulated back into an economy when those goods and services are purchased from local vendors. This represents what is called the “**indirect effect**,” and reflects the fact that local purchases of goods and services support local vendors, who in turn require additional purchasing with their own set of vendors.
- Second, some amount of the proportion of that expenditure that goes to labor income gets circulated back into an economy when those employees spend some of their earnings on various goods and services. This represents what is called the “**induced effect**,” and reflects the fact that some of those goods and services will be purchased from local vendors, further stimulating a local economy.

The role of input-output models is to determine the linkages across industries in order to model out the magnitude and composition of spillover impact to all industries of a dollar spent in any one industry. Thus, the total economic impact is the sum of its own direct economic footprint plus the indirect and induced effects generated by that direct footprint.

A.3 INPUT-OUTPUT MODEL MECHANICS

To model the impacts resulting from the direct expenditures Econsult Solutions, Inc. developed a customized economic impact model using the **IMPLAN** input/output modeling system. IMPLAN represents an industry standard approach to assess the economic and job creation impacts of economic development projects, the creation of new businesses, and public policy changes within a county its surrounding area



IMPLAN has developed a social accounting matrix (SAM) that accounts for the flow of commodities through economics. From this matrix, IMPLAN also determines the regional purchase coefficient (RPC), the proportion of local supply that satisfies local demand. These values not only establish the types of goods and services supported by an industry or institution, but also the level in which they are acquired locally. This assessment determines the multiplier basis for the local and regional models created in the IMPLAN modeling system. IMPLAN takes the multipliers and divides them into 440 industry categories in accordance to the North American Industrial Classification System (NAICS) codes.

The IMPLAN modeling system also allows for customization of its inputs which alters multiplier outputs. Where necessary, certain institutions may have different levels of demand for commodities. When this occurs, an “analysis-by-parts” (ABP) approach is taken. This allows the user to model the impacts of direct economic activity related to and institution or industry with greater accuracy. Where inputs are unknown, IMPLAN is able to estimate other inputs based on the level of employment, earnings, or output by an industry or institution.

A.4 EMPLOYMENT AND WAGES SUPPORTED

IMPLAN generates job estimates based on the term “job-years”, or how many jobs will be supported each year. For instance, if a construction project takes two years, and IMPLAN estimates there are 100 employees, or more correctly “job-years” supported, over two years, that represents 50 annual jobs. Additionally, these can be a mix of a full and part-time employment. Consequently, job creation could feature more part-time jobs than fulltime jobs. To account for this, IMPLAN has a multiplier to covert annual jobs to full-time equivalent jobs.

Income to direct, indirect, and induced jobs is calculated as employee compensation. This includes wage and salary, all benefits (e.g., health, retirement) and payroll taxes (both sides of social security, unemployment taxes, etc.). Therefore, IMPLAN’s measure of income estimates gross pay opposed to just strictly wages.

A.5 TAX REVENUE IMPACT

The economic impacts in turn produce one-time or ongoing increases in various tax bases, which yield temporary or permanent increases in various tax revenues. To estimate these increases, Econsult Solutions, Inc. created a **tax revenue impact model** that uses the outputs from the economic impact model to translate total economic impacts into their commensurate tax revenue gains. These tax revenue gains only account for a subset of the total tax revenue generation that an institution or industry may have on the economy. Furthermore, where institutions are tax exempt, only the tax revenue generation from supported indirect and induced industries is accounted for.



