RKG
ASSOCIATES INC

Briefing Memorandum

To: Fred Homan, Administrative Officer
Baltimore County Council
From: Russell Archambault, Vice President and Principal
RKG Associates, Inc.
Sarah Woodworth, Managing Member
W-ZHA LLC
Re: Tradepoint Atlantic Development Fiscal & Economic Analysis
Date: November 1, 2018

I. INTRODUCTION

The following briefing memorandum presents the results of an analysis completed by RKG Associates, Inc. of Alexandria, VA, in cooperation with W-ZHA LLC of Annapolis, MD. The analysis looks at the projected tax base, tax revenues, as well as fiscal and economic impacts associated with the on-going Tradepoint Atlantic development at Sparrow's Point in Baltimore County. At the instruction of the Baltimore County Administrative Officer and senior staff, the analysis examines the project from current year (2018) and projects forward 30 years to 2048. The 30-year projection period is tied to the repayment period on a future bond issuance to finance water and sewer improvements at TPA.

Accordingly, all buildings constructed as of 2018, including the tax base, revenues and employment associated with them, have been removed from the analysis. More accurately, they have become the project's base values, from which all future changes will be compared against. The implication is that the County's future investment in the project should be used to leverage future changes in tax base, tax revenues, employment and other economic benefits.

II. ANALYSIS BACKGROUND

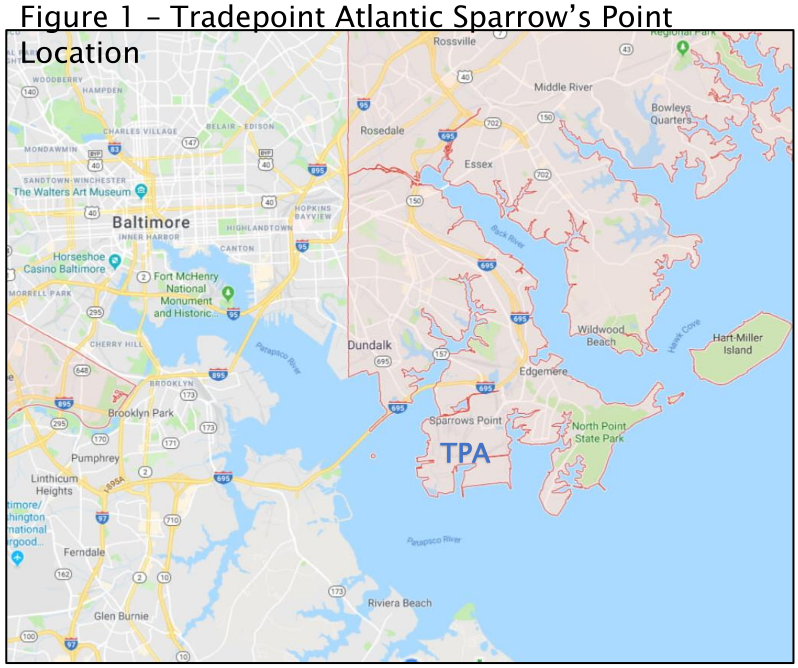
Baltimore County procured the services of RKG Associates, Inc. to conduct a peer review analysis of a Tax Increment Finance (TIF) study prepared by the firm, MuniCap, Inc. during 2017 and revised on April 27, 2018. The real property tax revenue projections contained in this memorandum were constructed in a way that would have allowed a side-by-side comparison of the two analyses. However, during the month of October 2018, a new deal emerged between Baltimore County and the TPA, which eliminated tax increment financing as a financing tool for this project. As an alternative to TIF, the County proposed to finance the construction of water and sewer infrastructure through Metro District funds and the TPA would fund all road improvements privately and get reimbursed through state Enterprise Zone Tax Credits. In addition, the County would borrow $18 million for the construction of a new fire station and other ancillary facilities to support the TPA development. TPA, LLC would receive 75% of the Enterprise Zone Tax Credit received by Baltimore County from the State of Maryland as reimbursement for building the public road network at TPA. The County would retain a 25% share of the tax credit money.

III. PROJECT DESCRIPTION AND APPROACH

A. Projection Description

The Tradepoint Atlantic development is located on roughly 3,111 acres at the former Bethlehem Steel site at Sparrow's Point in south eastern Baltimore County. The site is served by Interstate 695 and the property juts into the Patapsco River.

Figure 1 – Tradepoint Atlantic Sparrow's Point Location



The developer, Tradepoint Atlantic LLC, is currently developing the site as a warehouse distribution center and has renovated or constructed over 5 million square feet of industrial building space with an estimated full value assessment of approximately $517 million.

At build-out, TPA is projected to consist of roughly 14.1 million SF of industrial and commercial building space, with roughly 96.9% classified as warehouse distribution space. At full employment, the TPA development is projected to create over 10,000 direct new jobs with over 5,200 indirect and induced jobs elsewhere in the Baltimore regional economy. Once construction is completed in 2026, RKG Associates estimates that TPA will have a real property tax base more than $1.4 billion dollars. As a comparison, Baltimore County's 2018 commercial/industrial tax base is estimated at $9.6 billion for all properties.[1]

B. Project Approach

RKG Associates approach to this analysis includes two different scenarios. The first scenario includes many of TPA's original model assumptions for the development, with some modification to how certain revenues sources were estimated. The most significant assumptions in the model include:

- Annual Real Estate Absorption - the rate of land and building absorption, or the number of building square feet constructed and occupied in any given year determine how quickly the project reaches full build-out. Currently, the TPA development consists of 14.1 million square feet (SF) of new employment generating uses;
- Average Assessed Value per Square Foot - the average assessed value per square foot of future buildings and land determine the value of the future tax base, from which future tax revenues are derived, and
- Average Rate of Real Estate Appreciation - the average annual rate of real estate appreciation reflects the change in the underlying value of the Tradepoint site, independent of value changes resulting from new building construction. This is the natural rate of appreciation in the real estate.

The two scenarios presented in this analysis include the TPA Scenario and the RKG Scenario. The RKG Scenario adopts the developer's current building absorption schedule, which is partially based on existing and prospective leasing commitments. However, it makes more conservative assumptions about the average future value of land per square foot and the future rate of real estate appreciation over the next 30 years. While it's impossible to know future growth rates and assessed values, the purpose of the more conservative modeling exercise is the stress the model's assumptions to examine the potential impacts on the deal and the future benefit to be realized by Baltimore County residents. In addition, the RKG Scenario recognizes future revenues generated through Metro District user fees and identifies only those future municipal expenditures that exceed what the County would otherwise incur if the projected stopped tomorrow. In other words, based on the existing TPA development program, the County will incur certain costs to support the project in the future. The RKG Scenario examines those costs that exceed those base-line service costs.

IV. SUMMARY OF PARTNERSHIP AGREEMENT BETWEEN TPA, LLC AND BALTIMORE COUNTY, MARYLAND

[1] Employment and tax base projections are based on 100% of the project development.

Tradepoint Atlantic, LLC ("TPA") is developing approximately 3,111 acres of land in Sparrows Point, Maryland, and has requested certain assistance from Baltimore County, Maryland (the "County"), including:

- Obtaining and subgranting to TPA, or a wholly owned subsidiary, a $20,000,000 grant from the U.S. Department of Transportation (the "Tiger Grant"), pursuant to terms and conditions to be negotiated separately, with respect to the Tiger Grant;
- Entering into construction contracts for installation of public water and sewer and public roads;
- Construction by the County of a new fire station and police substation to benefit the site.

The parties intend to enter into a memorandum of understanding that will memorialize the parties' intentions with respect to the public participation in the overall project.

A. Infrastructure Funding

1.) Public Water & Sewer
The parties intend to enter into a construction contract for installation of public water and sewer, and a construction contract for installation of public roads (each a "Construction Contract" and collectively the "Construction Contracts"), in accordance with a scope of work to be prepared jointly by TPA and the County's Department of Public Works ("DPW").

The County will pay TPA, in accordance with the terms of the water and sewer Construction Contract from Metropolitan District funds. The County will pay for certain construction costs incurred up to a cap of $44,000,000, including:

- Construction hard costs;
- Costs of payment and performance bonds;
- Engineering consultant fees;
- Permit costs, and
- Material testing for quality assurance.

The permitted costs will be paid on a reimbursement basis in accordance with the draw schedule incorporated into the water and sewer construction contract, as work is completed and appropriate invoices and other documentation provided.

2.) Public Roads
TPA shall pay the costs of road work and the County will reimburse TPA from a portion of the Enterprise Zone Tax Credit reimbursement payments received from the State of Maryland (in accordance with State law) that are directly attributable to TPA development, to the extent such funds are received.

The County will pay for certain construction costs incurred up to a cap of $34,000,000, including:

- Construction hard costs;
- Costs of payment and performance bonds;
- Engineering consultant fees;
- Permit costs, including:
- Material testing for quality assurance.

TPA shall provide invoices and other documentation required by the County to verify the costs incurred with respect to the road Construction Contract. The accepted final sum shall be paid from seventy five percent (75%) of the Enterprise Zone Tax Credit reimbursements, if any, received from the State of Maryland, and the County shall be entitled to retain the other twenty five percent (25%) of any and all such reimbursements received. The County agrees to submit annual requests to the State for such reimbursements. Any remaining enterprise reimbursements following payment in full shall belong to the County. In the event no reimbursements are received, or reimbursements are less than the total amount incurred by TPA, the County shall have no obligation to pay such sums from any other source.

TPA will give the County rights to install unlit fiber in its duct banks and/or along TPA's roadbeds, on terms to be negotiated

3.) <u>Land</u>
After completion of construction of the public roads and utilities, and acceptance of the same by the County, TPA will dedicate the land for roads and record any applicable easements for underground utilities on a timeline agreeable to both parties. Upon dedication and recordation, the County will own and maintain the improvements.

TPA acknowledges that the County entered a lease with Bethlehem Steel Corporation dated January 1, 2001, (as amended by a First Amendment dated October 6, 2008) (collectively, the "Lease") wherein, among other things, the County leased certain parcels of land identified therein including Parcel 3A South, containing approximately 8.129 acres. The lease is for a term of 25 years with the right of the County to extend the term for two successive terms of 25 years each. The Lease provides that the County shall pay no monetary rent. Parcel 3A South is used by the County for the construction, use, operation, repair and maintenance of (a) a fire academy, (b) facilities for the housing of fire vehicles (including the paramedic engine and cardox truck that serves the plant), (c) maintenance and storage facilities, including a salt barn, for use by the County's (i) Department of Recreation and Parks, and (ii) DPW, (d) necessary appurtenances, and (e) a public safety radio tower and associated equipment shelter for public safety purposes.

TPA agrees to enter into a second amendment to the Lease:

- Agreeing to be bound by the terms thereof, except as amended by the second amendment;

- Leasing to the County 5 acres of developable land contiguous to Parcel 3A South for use by the County to expand and replace its public safety and public works facilities;
- Amending, as necessary, the terms of the Lease to incorporate provisions applicable to the parties' obligations with respect to easements, maintenance, utilities and roads

TPA acknowledges that the County would not have a need to construct a new fire station or police substation, but for TPA's proposed improvements to the property, and that the County's agreement to construct such facilities constitutes good and valuable consideration for TPA to make such additional land available to the County for no rent. Baltimore County will bond for the fire station and substation improvements up to an amount of $18 million.

V. ECONOMIC IMPACT PROJECTIONS

Economic impacts typical relate to such things as new job creation, new wages and compensation, value added and changes in gross regional product. The TPA project will produce economic benefits to Baltimore County during two different project phases – construction and permanent operations.

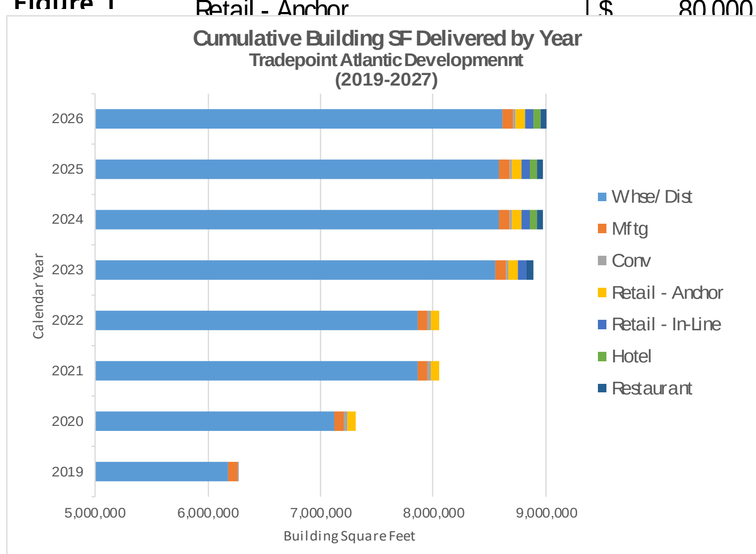
A. Construction Phase

The construction phase impacts are felt during the period when construction spending is taking place at TPA. Once that process is complete, construction-related impacts typically end. For purposes of this analysis, the construction phase is analyzed between 2019 to 2026. Under both the TPA and RKG Scenarios, roughly 9 million SF of new building space is projected to be built in the following categories by 2026 (Table 1/Figure 1). Approximately 300,000 SF of proposed commercial development fronting I-695 is proposed, which will include an 80,000 SF retail anchor; 75,000 SF of in-line retail space; a gas station/convenience store, several restaurants and a 115-room limited service hotel.

Table 1
Building Construction SF/AC by Year and Use

Building SF by Use by Year	Total
Warehouse/ Distribution	$ 8,618,950
Manufacturing	$ 90,000
Port [1]	$ -
Gas Station/ Convenience	$ 25,714
Retail - Anchor	$ 80,000

Figure 1



The port buildings are not included in the building program because they are ground lease facilities, but the construction spending and employment are included in impact analysis to remain consistent with the MuniCap analysis. In addition, roughly $44 million in water & sewer infrastructure and a new $18 million fire station will be constructed during this period.

The economic impacts presented in this section were prepared using the IMPLAN v 3.1 model, which is an econometric model that estimates local impacts utilizing local input/output multipliers for the Baltimore County economy. The model results presented in Table 2 show that roughly 5,487 direct construction jobs will be created as a result of $653 million in new building construction and over $95.7 million in water and sewer infrastructure ($43.8 million), public roads ($33.9 million), and a new fire station ($18 million). In total, over $749.2 million in new construction spending is projected during this period.

In addition to the direct construction jobs, another 2,527 new indirect and induced jobs are expected to be created in all other industry sectors in the greater Baltimore economy due to the "multiplier effect." The multiplier effect occurs due to multiple rounds of spending in the economy resulting from the initial construction spending. This spending comes in the form of spending by construction workers and their households in the local economy and additional business spending by establishments capturing this spending.

Based on RKG's estimates, total construction wages are estimated at over $282 million, which is a subset of the direct labor income shown in Table 2. Labor income includes all forms of employment income, including employee compensation (wages and benefits), as well as proprietor income.

Finally, TPA construction will contribute nearly $1.1 billion in new economic activity (a.k.a. output) to the Baltimore County economy due to new construction spending.

Table 2

Tradepoint Atlantic Project
Baltimore County Construction Impacts
Total Economic Impacts (in 2018 Dollars)

Impact Type	Totals
Employment	
Direct Effect	5,487
Indirect Effect	628
Induced Effect	1,899
Total Effect	8,014
Labor Income	
Direct Effect	$346,131,704
Indirect Effect	$39,419,223
Induced Effect	$86,179,600
Total Effect	$471,730,527
Value Added	
Direct Effect	$430,787,965
Indirect Effect	$64,605,961
Induced Effect	$157,504,069
Total Effect	$652,897,997
Output	
Direct Effect	$733,228,358
Indirect Effect	$106,786,054
Induced Effect	$249,208,933
Total Effect	$1,089,223,347

Source: RKG Associates, Inc. and IMPLAN V.3.1, 2018

B. Permanent Employment Phase

Permanent employment impacts are longer lasting than construction impacts and occur once new buildings are occupied and put to their productive use. Given that nearly 97% of the total TPA building space is categorized at warehouse/distribution space, the employment multiplier, expressed as the number of building square feet per employee, will be lower than other industries. Typically, warehouse/ distribution uses support one job per 1,500 SF of building space. While that can vary by company, RKG has used that national standard for deriving future warehouse/distribution employment. However, other land uses (e.g. hotels, retail, restaurants, etc.) have different space needs per employee and RKG employed those to produce employment estimates for those uses.

Table 3

Tradepoint Atlantic Development
Total Permanent Employment Estimates at Project Build-out

Projected Employment Levels	SF/ AC per Emp	Total Emp. At Build-out
Warehouse/ Distribution	1500	5,746
Manufacturing	1187	76
Port [1]	1.25	310
Gas Station/ Convenience	1285	20
Retail - Anchor	487	164
Retail - In-Line	483	155
Restaurants	163	364
Hotel	2069	29
Total - Annual Permanent Employment		6,864

Source: RKG Associates, Inc. 2018
[1] - Port employment based on number of employees per acre

RKG estimates that approximately 6,864 direct permanent jobs will be created at TPA at build-out (Table 3). Most of these jobs will be classified as warehouse/distribution uses. Based on the IMPLAN model results, these 6,864 direct permanent jobs will spin off 3,634 indirect and induced jobs, bringing the total new employment to 10,498. It should be noted that the actual number of jobs could be greater than shown in Tables 3 and 4, once you consider full-time equivalent jobs. This is because the average number of hours in the manufacturing sector is 47 per week. Applying that to the number of warehouse/distribution jobs results in additional jobs if you assume a standard 40-hour work week. The number of FTEs is estimated at 8,053 jobs.

Table 4
Tradepoint Atlantic Development
Permanent Employment Phase Impacts
Total Economic Impacts (in 2018 Dollars)

Impact Type	Totals at Project Buiild-out
Employment	
Direct Effect	6864
Indirect Effect	1891
Induced Effect	1743
Total Effect	10498
Labor Income	
Direct Effect	$266,119,513
Indirect Effect	$87,567,114
Induced Effect	$79,140,596
Total Effect	$432,827,223
Value Added	
Direct Effect	$345,705,777
Indirect Effect	$176,052,849
Induced Effect	$144,620,401
Total Effect	$666,379,028
Output	
Direct Effect	$757,622,562
Indirect Effect	$278,749,840
Induced Effect	$228,836,525
Total Effect	$1,265,208,927

Source: RKG Associates, Inc. and IMPLAN V.3.1, 2018

In addition, RKG estimates that these permanent jobs will generate roughly $266 million in direct labor income and approximately $432.8 million with indirect and induced employment.

In terms of total economic output, the TPA development could generate close to $1.3 billion annually in new economic activity in the Greater Baltimore economy. Again, the model results in Table 4, only account for development and employment activity occurring after 2018. The actual impacts of the total TPA project are greater than included in this analysis.

VI. FISCAL IMPACT PROJECTIONS

Fiscal impact analysis is a method of comparing the municipal revenues and expenditures generated by a given project or development. The analysis involves the estimation of project-specific revenue sources, such as real estate taxes, local income taxes, personal property taxes and other sources of revenue against the cost of providing municipal services. To understand the municipal service demand related to the TPA project, RKG Associates consulted with several Baltimore County department directors to obtain their perspectives on the need for future services at the TPA development.

Based on RKG's interviews, it was determined that three County departments would be required to provide municipal services at levels much greater than in recent years since the end of industrial activities at the former Bethlehem Steel site. The County Fire/EMT, Police and Public Works Departments were identified as requiring significant changes in their service delivery approach and the financial investment required to support those expanded operations. RKG worked with each department to arrive at annual estimates for the next ten-year period in terms of: (1) capital improvements, (2) new equipment purchases, (3) operations & maintenance and (4) new staffing and overhead. To project beyond 10-years, RKG assumed a similar cost schedule over 30 years and inflated these costs by 2.2% annually. While it is difficult to project these expenses beyond 5 to 10 years, RKG wanted to compare these municipal expenses over the 30-year bond repayment period for the water and sewer improvements envisioned for TPA.

A. Municipal Revenues

The municipal revenues projected by RKG Associates and W-ZHA are presented in Table 5 and include the major sources generated by the proposed development. The results for the TPA and RKG Scenarios are presented for comparison purposes. As stated previously, the RKG Scenario took a more conservative approach to growth by assuming a real estate appreciation rate of 2.6% annually until the project reaches build-out in 2026. At that point, a 2% annual growth rate was assumed for the remainder of the projection period. A new development like TPA, which is attracting national tenants, will experience strong growth initially but will eventually stabilize and perform similarly to the rest of the market. While there is market evidence indicating that warehouse/distribution properties have been trading at prices per square foot greater than 2.6% annually, RKG's forecast assumes a lower growth trajectory that's less volatile than over the past 10-15 years. The TPA Scenario assumes 2.6% annual appreciation for the entire 30-year period. In addition, the RKG Scenario assumes a lower assessed value per square foot ($68/SF) for future TPA land and buildings than the TPA ($72/SF) projections. This has the effect of lowering the value of the real estate and that is reflected in lower assessed values and real property tax revenues.

The largest revenue source projected by the consultants is the real estate tax revenues in excess of debt service payments. Under the two scenarios, the project generates different real estate tax revenues because of the reasons stated above. The TPA Scenario generates approximately $165.5 million in real estate taxes in excess of debt service payments and the RKG Scenario generates $123.9 million. During the first decade, revenues are insufficient to cover the borrowing costs associated with the water and sewer and fire station bonds. However, between 2032 and 2034 (depending on the scenario), the projected tax revenues exceed debt payments by a significant amount until the end of the projection period. In addition to real property taxes, RKG estimates that TPA will generate another $134 million in other taxes (e.g., income taxes, personal property taxes, utility fees, etc.) and fees over the projection period. It should also be noted that the RKG Scenario reflects annual revenues from Metro District water user fees equal to $36.3 million over the projection period.

B. Municipal Expenditures

The municipal expenditures presented in Table 5 were largely provided by the County's department heads and senior staff for fire, police and public works. RKG has assisted in projecting these costs over the 30-year period but cannot confirm their accuracy. Given the low level of municipal services currently provided to the TPA property, the County will be required to invest in new facilities, equipment and staffing to support this 3,111-acre, 14.1 million SF development. However, once those initial public investments are made, industrial developments like TPA do not typically require a high level of services. After conducting interviews with various department heads, RKG believes that much of project's municipal service demand will be directed to these departments.

Based on RKG's analysis, the TPA Scenario produces a cumulative positive cash flow of $64.6 million over 30 years, while the RKG Scenario produces a cumulative positive cash flow of $55.7 million over the same period (Table 5). According to W-ZHA, real estate tax revenues in excess of debt service payments do not turn positive until 2032-2034, depending the scenario. The RKG Scenario produces lower real estate tax revenues because of its slightly lower average assessed values and real property appreciation rate. Consequently, tax revenues are not sufficient to cover annual bond payments and a negative cash balance is created each year until 2034. After that year, real estate taxes grow to a level sufficient to pay down the negative cash balance and start to accrue a positive balance of between $9.9 million (RKG) and $12.5 million (TPA) annually by the year 2048.

It is worth noting that both scenarios also include a calculation of net expenditures for the County's fire department. Based on the recommendation of the County Department of Budget & Finance, roughly $80.1 million in expenditures over 30 years are deducted from the original expenditures totaling $263.9 million. The $80.1 million is considered the base service level provided by the County based on the current level of development at TPA. The resulting figure of $183.9 million effectively represents the additional cost of municipal services above the base level if the project reaches build-out as proposed.

Regarding the municipal expenditure projections provided by the County's police, fire and public works departments, it is RKG's professional opinion that these estimates are much higher than will be incurred by the County in providing services to TPA, but they have been shown for comparison.

C. Capital Improvements and Municipal Borrowing

In support of TPA, it is projected that over $95 million in capital investments will be made to improve the site's water and sewer infrastructure; construct a public road network and construct a new fire station. The costs associated with these capital investments will be financed in several ways. The water and sewer improvements will be financed through the Metro District Enterprise Fund and are estimated by Baltimore County's Public Works Department at roughly $44 million. The bonds will be paid off over 30 years with Metro District user fees. However, RKG Associates has analyzed the TPA development's ability to generate enough property tax revenues to cover the future debt service payments for the water and sewer and fire station improvements. As illustrated later in this memorandum, property tax revenues alone are not sufficient during the first 12-13 years to create a positive cash flow balance to cover all borrowed costs, but they eventually exceed that level in later years.

The cost of the fire station was estimated at $18 million by the County's Fire Department. The new station will be financed through a general obligation bond with a 20-year term. The fire station will be necessary in the future to serve the TPA site once it reaches build-out. The current station is not equipped properly in terms of equipment or staffing to meet future needs.

The public roadway network, which is estimated to cost approximately $34 million, will be constructed by the developer and will designed to meet the County's public road construction standards. Upon completion, Baltimore County will take ownership of the roads and assume the annual maintenance costs. The County will reimburse the developer for eligible construction costs up to a not-to-exceed limit of $34 million. These funds will be paid from the County's share of the EZ Tax Credit reimbursement received from the State of Maryland. The sharing of 75% of the County's EZ Tax Credit reimbursement is considered a cost to the County. However, should the state not appropriate EZ Tax Credit money in the future, TPA, LLC agrees to incur those costs privately.

Table 5
Tradepont Atlantic Development
Projected Annual Revenues and Expendisures
TPA and RKG Scenarios (2017-2048)

	TPA Scenario	RKG Scenario
Muncipal Revenues	Totals (2017-2048)	Totals (2017-2048)
Real Estate Tax Revenues		
Real Estate Taxes on Increment (In Excess of Debt Serv	$ 165,585,612	$ 123,913,171
Metro District User Fee Revenue	$ -	$ 36,343,711
Other Project Revenues		
Construction Employment Income Taxes	$ 2,643,329	$ 2,643,329
Permanent Employment Income Taxes	$ 87,942,577	$ 87,942,577
Personal Property Taxes	$ 18,763,766	$ 16,298,779
Hotel Occupancy Taxes	$ 7,800,220	$ 7,800,220
Recordation Taxes	$ 3,035,033	$ 2,752,849
Tranfer Taxes	$ 9,105,099	$ 8,258,546
Utility Taxes	$ 8,258,448	$ 8,258,448
Total - Annual Revenues	**$ 303,134,084**	**$ 294,211,629**
Municipal Expenditures	Totals (2017-2048)	Totals (2017-2048)
Police Department		
Capital Budget Items	$ 86,013	$ 86,013
Equipment	$ 165,076	$ 165,076
Operations & Maintenance	$ 2,547,387	$ 2,547,387
Administrative & Staffing	$ 33,721,706	$ 33,721,706
Fire Department		
Capital Budget Items	$ 7,089,033	$ 7,089,033
Equipment	$ 824,235	$ 824,235
Operations & Maintenance	$ 4,567,367	$ 4,567,367
Administrative & Staffing	$ 171,398,533	$ 171,398,533
Public Works Department		
Roads Maintenance	$ 3,697,551	$ 3,697,551
Water Operations & Maintenance	$ 6,350,013	$ 6,350,013
Sewer Operations & Maintenance	$ 8,022,870	$ 8,022,870
Total - Annual Municipal Expenditures	**$ 238,469,783**	**$ 238,469,783**
Annual Balance - Surplus/ (Defecit)		
Cumulative Annual Balance - Surplus/ (Deficit)	**$ 64,664,301**	**$ 55,741,846**

Source: Baltimore County Polce, Fire & Public Works Dept. and RKG Associates, Inc., 2018

VII. REAL ESTATE TAX REVENUE PROJECTIONS

A. Building Development Program

The Tradepoint Atlantic project is projected to total approximately 14.1 million square feet of new development. Nearly 97% of the development planned is warehouse and/or distribution space. There are approximately 5.15 million square feet built at Tradepoint Atlantic today and there are leases pending for another 3.45 million square feet of development. It is unknown whether the pending leases are contingent on future commitments to construct roads and water and sewer infrastructure (Table 6).

Table 6
Development Program (Square Feet)
Tradepoint Atlantic Project

	Sq Ft
Warehouse/ Distribution	13,722,724
Manufacturing	134,000
Gas Station/ Convenience	25,714
Retail - Anchor	80,000
Retail - In-Line	75,000
Hotel	60,000
Restaurant	59,286
Total	14,156,724

Source: Tradepoint Associates; W-ZHA

B. Building Absorption

The following projections indicate the Fiscal Year when the building is complete and taxed by the tax assessor's office. These projections are based on TPA's most current lease obligations and TPA's best estimate of future absorption. The absorption assumptions are the same for the TPA and RKG Scenario The following table summarizes projected development by land use (Table 7).

Table 7
Absorption Projections
Tradepoint Atlantic Project

	Building Square Feet											
Tax Year Beginning	7/1/2018	7/1/2019	7/1/2020	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026	7/1/2027	Total	
Existing Properties with Buildings	2,960,074	2,187,700	0	0	0	0	0	0	0	0	5,147,774	36%
Properties with Leases Pending, No Building Yet	na	891,250	2,456,050	0	0	0	0	0	0	0	3,347,300	24%
Planned Buildings	na	5,371	2,917,700	1,045,343	742,450	0	827,286	91,000	0	32,500	5,661,650	40%
Total	2,960,074	3,084,321	5,373,750	1,045,343	742,450	0	827,286	91,000	0	32,500	14,156,724	100%
Total New Buildings	*na*	*896,621*	*5,373,750*	*1,045,343*	*742,450*	*0*	*827,286*	*91,000*	*0*	*32,500*	*9,008,950*	

C. Water and Sewer Infrastructure Bond and Fire Station Bond Debt Service

Public Resources Advisory Group, and public finance advisory to the County, has developed the debt service projections for the water and sewer infrastructure bond through Metro District and the fire station bond. Projected debt service obligations are summarized in Table 8.

Table 8
Bond Debt Service
Tradepoint Atlantic Project

Tax Year Beginning	Bond Year Ending	$42 M Bond Debt Service	$18 M Bond Debt Service	Total Annual Debt Service
1-Jul-18	1-Jul-19	$0	$0	$0
1-Jul-19	1-Jul-20	$1,658,901	$1,262,809	$2,921,710
1-Jul-20	1-Jul-21	$1,821,050	$1,264,200	$3,085,250
1-Jul-21	1-Jul-22	$2,431,050	$1,262,950	$3,694,000
1-Jul-22	1-Jul-23	$2,430,300	$1,265,450	$3,695,750
1-Jul-23	1-Jul-24	$2,432,800	$1,261,450	$3,694,250
1-Jul-24	1-Jul-25	$2,433,300	$1,261,200	$3,694,500
1-Jul-25	1-Jul-26	$2,431,800	$1,264,450	$3,696,250
1-Jul-26	1-Jul-27	$2,433,300	$1,265,950	$3,699,250
1-Jul-27	1-Jul-28	$2,432,550	$1,265,700	$3,698,250
1-Jul-28	1-Jul-29	$2,434,550	$1,263,700	$3,698,250
1-Jul-29	1-Jul-30	$2,434,050	$1,264,950	$3,699,000
1-Jul-30	1-Jul-31	$2,431,050	$1,264,200	$3,695,250
1-Jul-31	1-Jul-32	$2,430,550	$1,261,450	$3,692,000
1-Jul-32	1-Jul-33	$2,432,300	$1,261,700	$3,694,000
1-Jul-33	1-Jul-34	$2,431,050	$1,264,700	$3,695,750
1-Jul-34	1-Jul-35	$2,431,800	$1,265,200	$3,697,000
1-Jul-35	1-Jul-36	$2,432,800	$1,263,600	$3,696,400
1-Jul-36	1-Jul-37	$2,431,600	$1,265,400	$3,697,000
1-Jul-37	1-Jul-38	$2,433,200	$1,265,400	$3,698,600
1-Jul-38	1-Jul-39	$2,432,400	$1,263,600	$3,696,000
1-Jul-39	1-Jul-40	$2,434,200	$0	$2,434,200
1-Jul-40	1-Jul-41	$2,433,400	$0	$2,433,400
1-Jul-41	1-Jul-42	$2,430,000	$0	$2,430,000
1-Jul-42	1-Jul-43	$2,434,000	$0	$2,434,000
1-Jul-43	1-Jul-44	$2,430,000	$0	$2,430,000
1-Jul-44	1-Jul-45	$2,433,200	$0	$2,433,200
1-Jul-45	1-Jul-46	$2,433,200	$0	$2,433,200
1-Jul-46	1-Jul-47	$2,430,000	$0	$2,430,000
1-Jul-47	1-Jul-48	$2,433,600	$0	$2,433,600
1-Jul-48	1-Jul-49	$2,433,600	$0	$2,433,600
Total		$71,585,601	$25,278,059	$96,863,660

Source: Baltimore County - Public Resources Advisory Group; W-ZHA

D. Methodology for Making Tax Revenue Projections

Tax revenues for the project are projected based on projected development activity. The analysis projects when a building will be complete and applies an assessed value to the building given its land use. Assessed values escalate at the assumed real estate appreciation rate. In both the TPA and the RKG Scenarios, a "ramp-up" occurs in the first three years of tax billing in accordance with Maryland state assessing practices as follows:

- Year 1: 80%
- Year 2: 87%
- Year 3: 97%
- Year 4: 100%

As instructed by the Baltimore County administration, the existing 2018 assessed value is deducted from the projected tax revenues to determine net new County tax revenue or "incremental revenue". Net new County tax revenue is the projected revenue from development that has not yet occurred at the Tradepoint Atlantic project.

New development at TPA is eligible for the Enterprise Zone Tax Credit (EZTC). The EZTC is calculated on a parcel's increased value from a base year. The base year is typically the year that the parcel is established and, as such, represents the land value of that parcel.

Over a 10-year term, the tax credit is applied to the difference between the assessed value in a given year and the base value. The tax credit is 80% of this difference for 5 years with a 10% reduction each year thereafter until year 11 when the tax credit expires and full taxes are paid.

The EZTC reduces the amount of County real estate tax revenues. The net new property tax revenues remaining after the EZTC reduction are available to fund the debt service on the water and sewer infrastructure bond and the Fire Station bond.

The State of Maryland reimburses the County for 50% of the Enterprise Zone Tax Credit, but in accordance with the agreement between TPA and Baltimore County, the two parties have agreed to split the tax credit 75% (TPA) and 25% (Baltimore County). The State of Maryland provides a reimbursement to the local jurisdiction granting an EZTC. While these annual reimbursements are subject to state budget appropriations, there has only been two instances in the past where the reimbursements were not appropriated.

E. TPA Scenario

1.) Assessed Value Per Square Foot

The assessed values used in the TPA Scenario are based on research conducted by MuniCap, Inc. on behalf of TPA, LLC and are in excess of $72/SF for the warehouse/distribution buildings and land. These assessed values have been evaluated by RKG and are considered reasonable, but the RKG Scenario applies slightly different assessed values/SF by land use based on research conducted by RKG Associates.

2.) Average Annual Real Estate Appreciation Rate
The TPA Scenario assumes an average annual rate of real estate appreciation of 2.6% per annum. This inflation rate is assumed during the build-out stage of development and through the term of the bonds. In the TPA assessment the assessed value is not phased-in but simply appreciates each year. This approach is more aggressive than the RKG approach which phases in value appreciation consistent with County assessment practices.

3.) Tax Revenues Projections and Debt Coverage
Table 9 on the following page calculates the tax revenues from new development at Tradepoint Atlantic. Theses incremental tax revenues include both County property tax revenues and the County's share (25%) of the State EZTC reimbursement. For projected development, the County's share of the State EZTC reimbursement amounts to $6.2 million over the projection period after 2018.

Table 10 applies the revenues generated by new development to the debt service associated with both the water and sewer Metro District bond and the fire station bond. The table demonstrates that tax revenues from new development will not cover the annual debt service until the 8th year (tax year beginning July 1, 2026). The County is fully reimbursed for gap funding in the 12th year (tax year beginning July 1, 2030). However, in later years, there is enough tax revenues generated by TPA to easily cover annual debt service payments.

Table 9

ı Future Development Only

Tradepoint Atlantic Project

Tax Year Beginning	Bond Year Ending	Total Assessed Value	Base Value	Estimated Incremental Value	County Tax Rate per $100 AV	County Incremental Tax Revenues	Less: Tax Credits on New Development	Total Incremental Tax Revenues	County Tax Credit Reimbursement by State @ Split 25%	Total Incremental Revenues Available for Debt Service
1-Jul-18	1-Jul-19	$479,355,300	($479,355,300)	$0	1.1	$0	$0	$0	$0	$0
1-Jul-19	1-Jul-20	$539,947,417	($498,360,200)	$41,587,217	1.1	$457,459	($403,104)	$54,356	$50,388	$104,744
1-Jul-20	1-Jul-21	$854,236,137	($517,365,100)	$336,871,037	1.1	$3,705,581	($2,785,527)	$920,054	$348,191	$1,268,245
1-Jul-21	1-Jul-22	$1,005,138,639	($530,816,593)	$474,322,046	1.1	$5,217,543	($3,722,501)	$1,495,042	$465,313	$1,960,354
1-Jul-22	1-Jul-23	$1,100,525,968	($544,617,824)	$555,908,144	1.1	$6,114,990	($4,503,365)	$1,611,624	$562,921	$2,174,545
1-Jul-23	1-Jul-24	$1,168,483,111	($558,777,887)	$609,705,223	1.1	$6,706,757	($5,000,185)	$1,706,573	$625,023	$2,331,596
1-Jul-24	1-Jul-25	$1,290,745,656	($573,306,113)	$717,439,543	1.1	$7,891,835	($5,819,392)	$2,072,443	$727,424	$2,799,867
1-Jul-25	1-Jul-26	$1,345,782,341	($588,212,071)	$757,570,269	1.1	$8,333,273	($5,667,697)	$2,665,576	$708,462	$3,374,038
1-Jul-26	1-Jul-27	$1,388,216,619	($603,505,585)	$784,711,034	1.1	$8,631,821	($5,270,365)	$3,361,456	$658,796	$4,020,252
1-Jul-27	1-Jul-28	$1,435,428,158	($619,196,731)	$816,231,427	1.1	$8,978,546	($4,806,327)	$4,172,218	$600,791	$4,773,009
1-Jul-28	1-Jul-29	$1,473,539,144	($635,295,845)	$838,243,299	1.1	$9,220,676	($4,218,630)	$5,002,046	$527,329	$5,529,375
1-Jul-29	1-Jul-30	$1,511,191,813	($651,813,537)	$859,378,276	1.1	$9,453,161	($3,283,385)	$6,169,776	$410,423	$6,580,199
1-Jul-30	1-Jul-31	$1,549,550,829	($668,760,689)	$880,790,139	1.1	$9,688,692	($1,520,875)	$8,167,817	$190,109	$8,357,926
1-Jul-31	1-Jul-32	$1,588,449,561	($686,148,467)	$902,301,094	1.1	$9,925,312	($986,297)	$8,939,015	$123,287	$9,062,302
1-Jul-32	1-Jul-33	$1,628,122,691	($703,988,328)	$924,134,364	1.1	$10,165,478	($641,584)	$9,523,894	$80,198	$9,604,092
1-Jul-33	1-Jul-34	$1,669,231,697	($722,292,024)	$946,939,673	1.1	$10,416,336	($502,339)	$9,913,997	$62,792	$9,976,789
1-Jul-34	1-Jul-35	$1,711,157,028	($741,071,617)	$970,085,411	1.1	$10,670,940	($72,023)	$10,598,916	$9,003	$10,607,919
1-Jul-35	1-Jul-36	$1,753,917,989	($760,339,479)	$993,578,510	1.1	$10,929,364	($14,215)	$10,915,149	$1,777	$10,916,926
1-Jul-36	1-Jul-37	$1,798,226,000	($780,108,305)	$1,018,117,695	1.1	$11,199,295	($10,971)	$11,188,324	$1,371	$11,189,695
1-Jul-37	1-Jul-38	$1,843,414,866	($800,391,121)	$1,043,023,745	1.1	$11,473,261	$0	$11,473,261	$0	$11,473,261
1-Jul-38	1-Jul-39	$1,889,505,449	($821,201,290)	$1,068,304,159	1.1	$11,751,346	$0	$11,751,346	$0	$11,751,346
1-Jul-39	1-Jul-40	$1,937,262,928	($842,552,524)	$1,094,710,404	1.1	$12,041,814	$0	$12,041,814	$0	$12,041,814
1-Jul-40	1-Jul-41	$1,985,970,903	($864,458,889)	$1,121,512,013	1.1	$12,336,632	$0	$12,336,632	$0	$12,336,632
1-Jul-41	1-Jul-42	$2,035,651,926	($886,934,821)	$1,148,717,105	1.1	$12,635,888	$0	$12,635,888	$0	$12,635,888
1-Jul-42	1-Jul-43	$2,087,129,036	($909,995,126)	$1,177,133,910	1.1	$12,948,473	$0	$12,948,473	$0	$12,948,473
1-Jul-43	1-Jul-44	$2,139,631,808	($933,654,999)	$1,205,976,809	1.1	$13,265,745	$0	$13,265,745	$0	$13,265,745
1-Jul-44	1-Jul-45	$2,193,184,616	($957,930,029)	$1,235,254,586	1.1	$13,587,800	$0	$13,587,800	$0	$13,587,800
1-Jul-45	1-Jul-46	$2,248,672,785	($982,836,210)	$1,265,836,575	1.1	$13,924,202	$0	$13,924,202	$0	$13,924,202
1-Jul-46	1-Jul-47	$2,305,267,742	($1,008,389,951)	$1,296,877,791	1.1	$14,265,656	$0	$14,265,656	$0	$14,265,656
1-Jul-47	1-Jul-48	$2,362,995,828	($1,034,608,090)	$1,328,387,738	1.1	$14,612,265	$0	$14,612,265	$0	$14,612,265
1-Jul-48	1-Jul-49	$2,422,809,424	($1,061,507,900)	$1,361,301,524	1.1	$14,974,317	$0	$14,974,317	$0	$14,974,317
Total		$50,742,743,408		$27,774,950,761		$305,524,458	($49,228,782)	$256,295,676	$6,153,598	$262,449,274

Source: Tradepoint Associates; W-ZHA

Table 10

TPA Assumptions
Projected Payment of Debt Service - With 25% of State Rebate - $42M Bond + $18M Bond
Tradepoint Atlantic Project

Tax Year Beginning	Bond Year Ending	Incremental Revenues Available for Debt Service	Total Annual Debt Service	Surplus/ (Deficit)	Debt Service Coverage: Beginning	Debt Service Coverage: Deposit	Debt Service Coverage: Withdrawal	Debt Service Coverage: Ending	DCR w/ Accrued $	2018 Base Value Tax Revenues	County Share of EZTC Reimbursement for 2018 Value	County Tax Revenue from 2018 Base	Cumulative Tax Revenue from 2018 Base
1-Jul-18	1-Jul-19	$0	$0	$0	$0	$0	$0	$0	na	$5,272,908	$109,813	$5,382,721	$5,382,721
1-Jul-19	1-Jul-20	$104,744	$2,921,710	($2,816,966)	$0	$0	($2,816,966)	($2,816,966)	0.0	$5,481,962	$273,142	$5,755,104	$11,137,825
1-Jul-20	1-Jul-21	$1,268,245	$3,085,250	($1,817,005)	($2,816,966)	$0	($1,817,005)	($4,633,971)	(0.5)	$5,691,016	$280,227	$5,971,243	$17,109,068
1-Jul-21	1-Jul-22	$1,960,354	$3,694,000	($1,733,646)	($4,633,971)	$0	($1,733,646)	($6,367,616)	(0.7)	$5,838,983	$318,904	$6,157,887	$23,266,955
1-Jul-22	1-Jul-23	$2,174,545	$3,695,750	($1,521,205)	($6,367,616)	$0	($1,521,205)	($7,888,822)	(1.1)	$5,990,796	$321,041	$6,311,837	$29,578,792
1-Jul-23	1-Jul-24	$2,331,596	$3,694,250	($1,362,654)	($7,888,822)	$0	($1,362,654)	($9,251,476)	(1.5)	$6,146,557	$313,746	$6,460,303	$36,039,095
1-Jul-24	1-Jul-25	$2,799,867	$3,694,500	($894,633)	($9,251,476)	$0	($894,633)	($10,146,109)	(1.7)	$6,306,367	$279,701	$6,586,068	$42,625,163
1-Jul-25	1-Jul-26	$3,374,038	$3,696,250	($322,212)	($10,146,109)	$0	($322,212)	($10,468,321)	(1.8)	$6,470,333	$244,458	$6,714,791	$49,339,955
1-Jul-26	1-Jul-27	$4,020,252	$3,699,250	$321,002	($10,468,321)	$321,002	$0	($10,147,319)	(1.7)	$6,638,561	$206,767	$6,845,329	$56,185,284
1-Jul-27	1-Jul-28	$4,773,009	$3,698,250	$1,074,759	($10,147,319)	$1,074,759	$0	($9,072,559)	(1.5)	$6,811,164	$166,785	$6,977,949	$63,163,233
1-Jul-28	1-Jul-29	$5,529,375	$3,698,250	$1,831,125	($9,072,559)	$1,831,125	$0	($7,241,435)	(1.0)	$6,988,254	$88,034	$7,076,288	$70,239,521
1-Jul-29	1-Jul-30	$6,580,199	$3,699,000	$2,881,199	($7,241,435)	$2,881,199	$0	($4,360,236)	(0.2)	$7,169,949	$0	$7,169,949	$77,409,470
1-Jul-30	1-Jul-31	$8,357,926	$3,695,250	$4,662,676	($4,360,236)	$4,662,676	$0	$302,440	1.1	$7,356,368	$0	$7,356,368	$84,765,838
1-Jul-31	1-Jul-32	$9,062,302	$3,692,000	$5,370,302	$302,440	$5,370,302	$0	$5,672,743	2.5	$7,547,633	$0	$7,547,633	$92,313,471
1-Jul-32	1-Jul-33	$9,604,092	$3,694,000	$5,910,092	$5,672,743	$5,910,092	$0	$11,582,835	4.1	$7,743,872	$0	$7,743,872	$100,057,342
1-Jul-33	1-Jul-34	$9,976,789	$3,695,750	$6,281,039	$11,582,835	$6,281,039	$0	$17,863,874	5.8	$7,945,212	$0	$7,945,212	$108,002,555
1-Jul-34	1-Jul-35	$10,607,919	$3,697,000	$6,910,919	$17,863,874	$6,910,919	$0	$24,774,793	7.7	$8,151,788	$0	$8,151,788	$116,154,342
1-Jul-35	1-Jul-36	$10,916,926	$3,696,400	$7,220,526	$24,774,793	$7,220,526	$0	$31,995,319	9.7	$8,363,734	$0	$8,363,734	$124,518,077
1-Jul-36	1-Jul-37	$11,189,695	$3,697,000	$7,492,695	$31,995,319	$7,492,695	$0	$39,488,014	11.7	$8,581,191	$0	$8,581,191	$133,099,268
1-Jul-37	1-Jul-38	$11,473,261	$3,698,600	$7,774,661	$39,488,014	$7,774,661	$0	$47,262,675	13.8	$8,804,302	$0	$8,804,302	$141,903,570
1-Jul-38	1-Jul-39	$11,751,346	$3,696,000	$8,055,346	$47,262,675	$8,055,346	$0	$55,318,021	16.0	$9,033,214	$0	$9,033,214	$150,936,785
1-Jul-39	1-Jul-40	$12,041,814	$2,434,200	$9,607,614	$55,318,021	$9,607,614	$0	$64,925,635	27.7	$9,268,078	$0	$9,268,078	$160,204,862
1-Jul-40	1-Jul-41	$12,336,632	$2,433,400	$9,903,232	$64,925,635	$9,903,232	$0	$74,828,868	31.8	$9,509,048	$0	$9,509,048	$169,713,910
1-Jul-41	1-Jul-42	$12,635,888	$2,430,000	$10,205,888	$74,828,868	$10,205,888	$0	$85,034,756	36.0	$9,756,283	$0	$9,756,283	$179,470,193
1-Jul-42	1-Jul-43	$12,948,473	$2,434,000	$10,514,473	$85,034,756	$10,514,473	$0	$95,549,229	40.3	$10,009,946	$0	$10,009,946	$189,480,140
1-Jul-43	1-Jul-44	$13,265,745	$2,430,000	$10,835,745	$95,549,229	$10,835,745	$0	$106,384,974	44.8	$10,270,205	$0	$10,270,205	$199,750,344
1-Jul-44	1-Jul-45	$13,587,800	$2,433,200	$11,154,600	$106,384,974	$11,154,600	$0	$117,539,574	49.3	$10,537,230	$0	$10,537,230	$210,287,575
1-Jul-45	1-Jul-46	$13,924,202	$2,433,200	$11,491,002	$117,539,574	$11,491,002	$0	$129,030,576	54.0	$10,811,198	$0	$10,811,198	$221,098,773
1-Jul-46	1-Jul-47	$14,265,656	$2,430,000	$11,835,656	$129,030,576	$11,835,656	$0	$140,866,232	59.0	$11,092,289	$0	$11,092,289	$232,191,063
1-Jul-47	1-Jul-48	$14,612,265	$2,433,600	$12,178,665	$140,866,232	$12,178,665	$0	$153,044,897	63.9	$11,380,689	$0	$11,380,689	$243,571,752
1-Jul-48	1-Jul-49	$14,974,317	$2,433,600	$12,540,717	$153,044,897	$12,540,717	$0	$165,585,614	69.0	$11,676,587	$0	$11,676,587	$255,248,338
Total		$262,449,274	$96,863,660	$165,585,614									

Source: W-ZHA

F. RKG Scenario

1.) Assessed Value Per Square Foot

The RKG Scenario assumes the following assessed values by land use. These assessed values are based on research conducted by RKG. The RKG assessed value assumptions are slightly lower ($68.27/SF) than the assessed values assumed by TPA (Table 11).

Table 11
RKG Assumptions
Assessed Value Per Square Foot Upon Building Completion
Tradepoint Atlantic Project
2018 Dollars

Land Use		/ Sq Ft
Warehouse/ Distribution/ Manuf		$68.27
Gas Station/ Convenience		$440.00
Retail - Anchor		$142.00
Retail - In-Line		$236.64
Restaurant		$380.00
Hotel	$90,783 / Room	$158.87
Annual Value Appreciation Through FY 26		2.6%
Annual Value Appreciation After FY 26		2.0%
Annual Undeveloped Land Appreciation		2.0%

Source: RKG; W-ZHA

2.) Average Rate of Real Estate Appreciation

The RKG Scenario assumes an average annual rate of real estate appreciation of 2.6% during TPA's development stage (from FY 2018 to FY 2026). After this period the real estate appreciation rate is assumed to be 2% per annum. In the RKG Scenario appreciation is phased-in as is the practice at the County. Phasing-in market value over a three-year period results slows appreciation.

3.) Tax Revenues Projections and Debt Coverage

Table 12 on the following page calculates the tax revenues from new development at Tradepoint Atlantic under the RKG Scenario. Theses incremental tax revenues include both County property tax revenues and the County's share (25%) of the State EZTC reimbursement. For projected development, the County's share of the State EZTC reimbursement amounts to $5.4 million over the projection period after 2018.

Table 13 applies the revenues generated by new development to the debt service associated with both the water and sewer Metro District bond and the fire station bond. The table demonstrates that tax revenues from new development will not cover the annual debt service until the 9th year (tax year beginning July 1, 2027). The County is fully reimbursed for gap funding in the 14th year (tax year beginning July 1, 2032). In subsequent years there are enough revenues from the new development at TPA to cover annual debt service payments.

Table 12
RKG Assumptions
Projected Revenues Available for Debt Service Based On Future Development Only
Tradepoint Atlantic Project

Tax Year Beginning	Bond Year Ending	Total Assessed Value	Base Value	Estimated Incremental Value	County Tax Rate per $100 AV	County Incremental Tax Revenues	Less: Tax Credits on New Development	Total Incremental Tax Revenues	County Tax Credit Reimbursement by State @ Split 25%	Total Incremental Revenues Available for Debt Service
1-Jul-18	1-Jul-19	$479,355,300	($479,355,300)	$0	1.1	$0	$0	$0	$0	$0
1-Jul-19	1-Jul-20	$536,257,492	($498,360,200)	$37,897,292	1.1	$416,870	($375,909)	$40,961	$46,989	$87,950
1-Jul-20	1-Jul-21	$822,529,494	($517,365,100)	$305,164,394	1.1	$3,356,808	($2,549,942)	$806,866	$318,743	$1,125,609
1-Jul-21	1-Jul-22	$943,820,519	($530,816,593)	$413,003,926	1.1	$4,543,043	($3,358,296)	$1,184,747	$419,787	$1,604,534
1-Jul-22	1-Jul-23	$1,026,377,012	($544,617,824)	$481,759,188	1.1	$5,299,351	($3,996,488)	$1,302,863	$499,561	$1,802,424
1-Jul-23	1-Jul-24	$1,078,377,339	($558,777,887)	$519,599,452	1.1	$5,715,594	($4,366,571)	$1,349,023	$545,821	$1,894,844
1-Jul-24	1-Jul-25	$1,184,461,085	($573,306,113)	$611,154,972	1.1	$6,722,705	($5,072,072)	$1,650,633	$634,009	$2,284,642
1-Jul-25	1-Jul-26	$1,233,615,031	($588,212,071)	$645,402,960	1.1	$7,099,433	($4,938,609)	$2,160,824	$617,326	$2,778,150
1-Jul-26	1-Jul-27	$1,271,416,901	($603,505,585)	$667,911,315	1.1	$7,347,024	($4,586,779)	$2,760,245	$573,347	$3,333,593
1-Jul-27	1-Jul-28	$1,314,527,422	($615,575,697)	$698,951,725	1.1	$7,688,469	($4,183,468)	$3,505,001	$522,934	$4,027,934
1-Jul-28	1-Jul-29	$1,349,302,569	($627,887,211)	$721,415,358	1.1	$7,935,569	($3,669,670)	$4,265,899	$458,709	$4,724,608
1-Jul-29	1-Jul-30	$1,383,064,856	($640,444,955)	$742,619,901	1.1	$8,168,819	($2,852,482)	$5,316,337	$356,560	$5,672,897
1-Jul-30	1-Jul-31	$1,412,918,845	($653,253,854)	$759,664,990	1.1	$8,356,315	($1,307,362)	$7,048,953	$163,420	$7,212,373
1-Jul-31	1-Jul-32	$1,442,574,415	($666,318,931)	$776,255,483	1.1	$8,538,810	($835,601)	$7,703,210	$104,450	$7,807,660
1-Jul-32	1-Jul-33	$1,472,264,578	($679,645,310)	$792,619,268	1.1	$8,718,812	($537,878)	$8,180,934	$67,235	$8,248,169
1-Jul-33	1-Jul-34	$1,503,772,600	($693,238,216)	$810,534,383	1.1	$8,915,878	($418,739)	$8,497,139	$52,342	$8,549,481
1-Jul-34	1-Jul-35	$1,535,356,945	($707,102,980)	$828,253,964	1.1	$9,110,794	($61,084)	$9,049,710	$7,635	$9,057,345
1-Jul-35	1-Jul-36	$1,566,978,000	($721,245,040)	$845,732,960	1.1	$9,303,063	($12,019)	$9,291,044	$1,502	$9,292,546
1-Jul-36	1-Jul-37	$1,600,537,276	($735,669,941)	$864,867,335	1.1	$9,513,541	($9,221)	$9,504,320	$1,153	$9,505,473
1-Jul-37	1-Jul-38	$1,634,177,547	($750,383,340)	$883,794,207	1.1	$9,721,736	$0	$9,721,736	$0	$9,721,736
1-Jul-38	1-Jul-39	$1,667,856,775	($765,391,007)	$902,465,769	1.1	$9,927,123	$0	$9,927,123	$0	$9,927,123
1-Jul-39	1-Jul-40	$1,703,602,681	($780,698,827)	$922,903,854	1.1	$10,151,942	$0	$10,151,942	$0	$10,151,942
1-Jul-40	1-Jul-41	$1,739,434,539	($796,312,803)	$943,121,736	1.1	$10,374,339	$0	$10,374,339	$0	$10,374,339
1-Jul-41	1-Jul-42	$1,775,307,740	($812,239,059)	$963,068,680	1.1	$10,593,755	$0	$10,593,755	$0	$10,593,755
1-Jul-42	1-Jul-43	$1,813,384,723	($828,483,840)	$984,900,883	1.1	$10,833,910	$0	$10,833,910	$0	$10,833,910
1-Jul-43	1-Jul-44	$1,851,552,921	($845,053,517)	$1,006,499,403	1.1	$11,071,493	$0	$11,071,493	$0	$11,071,493
1-Jul-44	1-Jul-45	$1,889,764,990	($861,954,588)	$1,027,810,402	1.1	$11,305,914	$0	$11,305,914	$0	$11,305,914
1-Jul-45	1-Jul-46	$1,930,327,190	($879,193,679)	$1,051,133,511	1.1	$11,562,469	$0	$11,562,469	$0	$11,562,469
1-Jul-46	1-Jul-47	$1,970,986,187	($896,777,553)	$1,074,208,634	1.1	$11,816,295	$0	$11,816,295	$0	$11,816,295
1-Jul-47	1-Jul-48	$2,011,691,741	($914,713,104)	$1,096,978,637	1.1	$12,066,765	$0	$12,066,765	$0	$12,066,765
1-Jul-48	1-Jul-49	$2,054,903,648	($933,007,366)	$1,121,896,282	1.1	$12,340,859	$0	$12,340,859	$0	$12,340,859
Total		$45,200,498,361		$23,501,590,869		$258,517,500	($43,132,191)	$215,385,309	$5,391,524	$220,776,833

Source: Tradepoint Associates; W-ZHA

Table 13
RKG Assumptions
Projected Payment of Debt Service - With 25% of State Rebate - $42M Bond + $18M Bond
Tradepoint Atlantic Project

					Debt Service Coverage								
Tax Year Beginning	Bond Year Ending	**Incremental** Revenues Available for Debt Service	Total Annual Debt Service	Surplus/ (Deficit)	Beginning	Deposit	Withdrawal	Ending	DCR w/ Accrued $	2018 Base Value Tax Revenues	County Share of EZTC Reimbursement for 2018 Value	County Tax Revenue from 2018 Base	Cumulative Tax Revenue from 2018 Base
1-Jul-18	1-Jul-19	$0	$0	$0	$0	$0	$0	$0	na	$5,272,908	$109,813	$5,382,721	$5,382,721
1-Jul-19	1-Jul-20	$87,950	$2,921,710	($2,833,760)	$0	$0	($2,833,760)	($2,833,760)	0.0	$5,481,962	$273,823	$5,755,786	$11,138,506
1-Jul-20	1-Jul-21	$1,125,609	$3,085,250	($1,959,641)	($2,833,760)	$0	($1,959,641)	($4,793,401)	(0.6)	$5,691,016	$280,909	$5,971,925	$17,110,431
1-Jul-21	1-Jul-22	$1,604,534	$3,694,000	($2,089,466)	($4,793,401)	$0	($2,089,466)	($6,882,867)	(0.9)	$5,838,983	$304,344	$6,143,326	$23,253,758
1-Jul-22	1-Jul-23	$1,802,424	$3,695,750	($1,893,326)	($6,882,867)	$0	($1,893,326)	($8,776,193)	(1.4)	$5,990,796	$311,099	$6,301,895	$29,555,653
1-Jul-23	1-Jul-24	$1,894,844	$3,694,250	($1,799,406)	($8,776,193)	$0	($1,799,406)	($10,575,599)	(1.9)	$6,146,557	$302,225	$6,448,782	$36,004,434
1-Jul-24	1-Jul-25	$2,284,642	$3,694,500	($1,409,858)	($10,575,599)	$0	($1,409,858)	($11,985,457)	(2.2)	$6,306,367	$269,400	$6,575,768	$42,580,202
1-Jul-25	1-Jul-26	$2,778,150	$3,696,250	($918,100)	($11,985,457)	$0	($918,100)	($12,903,557)	(2.5)	$6,470,333	$235,386	$6,705,719	$49,285,921
1-Jul-26	1-Jul-27	$3,333,593	$3,699,250	($365,657)	($12,903,557)	$0	($365,657)	($13,269,215)	(2.6)	$6,638,561	$198,956	$6,837,518	$56,123,439
1-Jul-27	1-Jul-28	$4,027,934	$3,698,250	$329,684	($13,269,215)	$329,684	$0	($12,939,531)	(2.5)	$6,771,333	$160,393	$6,931,726	$63,055,165
1-Jul-28	1-Jul-29	$4,724,608	$3,698,250	$1,026,358	($12,939,531)	$1,026,358	$0	($11,913,173)	(2.2)	$6,906,759	$83,097	$6,989,856	$70,045,021
1-Jul-29	1-Jul-30	$5,672,897	$3,699,000	$1,973,897	($11,913,173)	$1,973,897	$0	($9,939,276)	(1.7)	$7,044,895	$0	$7,044,895	$77,089,915
1-Jul-30	1-Jul-31	$7,212,373	$3,695,250	$3,517,123	($9,939,276)	$3,517,123	$0	($6,422,153)	(0.7)	$7,185,792	$0	$7,185,792	$84,275,708
1-Jul-31	1-Jul-32	$7,807,660	$3,692,000	$4,115,660	($6,422,153)	$4,115,660	$0	($2,306,493)	0.4	$7,329,508	$0	$7,329,508	$91,605,216
1-Jul-32	1-Jul-33	$8,248,169	$3,694,000	$4,554,169	($2,306,493)	$4,554,169	$0	$2,247,676	1.6	$7,476,098	$0	$7,476,098	$99,081,314
1-Jul-33	1-Jul-34	$8,549,481	$3,695,750	$4,853,731	$2,247,676	$4,853,731	$0	$7,101,407	2.9	$7,625,620	$0	$7,625,620	$106,706,935
1-Jul-34	1-Jul-35	$9,057,345	$3,697,000	$5,360,345	$7,101,407	$5,360,345	$0	$12,461,752	4.4	$7,778,133	$0	$7,778,133	$114,485,067
1-Jul-35	1-Jul-36	$9,292,546	$3,696,400	$5,596,146	$12,461,752	$5,596,146	$0	$18,057,898	5.9	$7,933,695	$0	$7,933,695	$122,418,763
1-Jul-36	1-Jul-37	$9,505,473	$3,697,000	$5,808,473	$18,057,898	$5,808,473	$0	$23,866,371	7.5	$8,092,369	$0	$8,092,369	$130,511,132
1-Jul-37	1-Jul-38	$9,721,736	$3,698,600	$6,023,136	$23,866,371	$6,023,136	$0	$29,889,507	9.1	$8,254,217	$0	$8,254,217	$138,765,349
1-Jul-38	1-Jul-39	$9,927,123	$3,696,000	$6,231,123	$29,889,507	$6,231,123	$0	$36,120,631	10.8	$8,419,301	$0	$8,419,301	$147,184,650
1-Jul-39	1-Jul-40	$10,151,942	$2,434,200	$7,717,742	$36,120,631	$7,717,742	$0	$43,838,373	19.0	$8,587,687	$0	$8,587,687	$155,772,337
1-Jul-40	1-Jul-41	$10,374,339	$2,433,400	$7,940,939	$43,838,373	$7,940,939	$0	$51,779,312	22.3	$8,759,441	$0	$8,759,441	$164,531,778
1-Jul-41	1-Jul-42	$10,593,755	$2,430,000	$8,163,755	$51,779,312	$8,163,755	$0	$59,943,068	25.7	$8,934,630	$0	$8,934,630	$173,466,408
1-Jul-42	1-Jul-43	$10,833,910	$2,434,000	$8,399,910	$59,943,068	$8,399,910	$0	$68,342,977	29.1	$9,113,322	$0	$9,113,322	$182,579,730
1-Jul-43	1-Jul-44	$11,071,493	$2,430,000	$8,641,493	$68,342,977	$8,641,493	$0	$76,984,471	32.7	$9,295,589	$0	$9,295,589	$191,875,318
1-Jul-44	1-Jul-45	$11,305,914	$2,433,200	$8,872,714	$76,984,471	$8,872,714	$0	$85,857,185	36.3	$9,481,500	$0	$9,481,500	$201,356,819
1-Jul-45	1-Jul-46	$11,562,469	$2,433,200	$9,129,269	$85,857,185	$9,129,269	$0	$94,986,454	40.0	$9,671,130	$0	$9,671,130	$211,027,949
1-Jul-46	1-Jul-47	$11,816,295	$2,430,000	$9,386,295	$94,986,454	$9,386,295	$0	$104,372,749	44.0	$9,864,553	$0	$9,864,553	$220,892,502
1-Jul-47	1-Jul-48	$12,066,765	$2,433,600	$9,633,165	$104,372,749	$9,633,165	$0	$114,005,914	47.8	$10,061,844	$0	$10,061,844	$230,954,347
1-Jul-48	1-Jul-49	$12,340,859	$2,433,600	$9,907,259	$114,005,914	$9,907,259	$0	$123,913,173	51.9	$10,263,081	$0	$10,263,081	$241,217,428
Total		$220,776,833	$96,863,660	$123,913,173									

Source: W-ZHA

VIII. FINDINGS AND CONCLUSIONS

The results of RKG's analysis indicates that the TPA project will generate very positive economic and fiscal impacts for Baltimore County over the next 30 years and beyond. While tax revenues alone are not sufficient to support the public borrowing required to pay for infrastructure and cover municipal expenditures, once other sources of revenue are included (e.g., local income taxes, personal property taxes, utility fees, etc.), the project generates positive cash flow balances. During the first 12-13 years, the County may experience negative cash flows, but the project eventually generates enough revenue to eliminate the any deficits and eventually generates a positive cash flow balance. By 2048, RKG projects a net positive cash balance of between $55 million and $64 million.

These revenue projections are based on expenditure projections prepared by the County's police, fire and public works departments, which include considerable expenses for facilities, equipment, capital purchase and staffing costs. While an initial ramp-up in spending is anticipated, in RKG's experience, municipal service costs in future years should be less than presented in this memorandum. In addition, when real estate tax revenues from the TPA's base valuation of $517 million, the project produces very large revenue surpluses over 30 years.