DATE: December 5, 2016
TO: Michael Mehaffy, DPZ
FROM: Mike Wilkerson
SUBJECT: VISTA FIELD VISION SCENARIO IMPACT ANALYSIS

Overview

The purpose of this memorandum is to compare the values of two development options at Vista Field in Kennewick, Washington: (1) **Baseline scenario**—with arterial retail and industrial uses, and (2) **Alternative (Vision) scenario**—represents the efforts of a three-year collaborative planning concept. Vista Field is a 103-acre former municipal airport owned by the Port of Kennewick. The Port is planning to enter into an agreement to transform the site into a walkable, mixed-use development with a variety of community amenities. These improvements will lead to increased tax revenues to all taxing districts including the City, Benton County, and Port of Kennewick.

Key findings:

- **There is a marked increase in the projected value of the Vision Scenario over the Baseline Scenario, leading to major differences in fiscal returns to the City.** We found that the difference in Net Present Value of a 20-year stream of property tax revenue to the City between the scenarios could range between **$18.4 million and $22.1 million,** based on our assumptions regarding the timing of development and depending on different discount and growth rates.
- **The Performing Arts Center (PAC) is part of a bundle of urban amenities that will help to support Vista Field, a new urban neighborhood of.** As part of the analysis on the Vision Scenario, DPZ asked ECONorthwest to render an opinion on the specific economic impact of a Performing Arts Center (PAC) on the City, particularly as it would affect the long-term returns on the project. Through our analysis, we found that inclusion of the PAC without the market-rate sale of land will be completely offset economically by the higher economic returns of the Vision Scenario compared to the Baseline Scenario.

This memorandum details our modeling approach, assumptions, and findings comparing the Baseline to the Vision Scenario. It also includes an appendix citing literature that addresses economic impacts related to performing arts centers, as well as the price impacts associated with new urbanism and walkable, amenity-rich communities.

Modeling

Overview

To compare the financial impact of the Baseline Scenario compared to the Vision Scenario, ECONorthwest constructed a fiscal revenue model using a range of assumptions. We tested the sensitivity of various indicators to determine how the results might change given a set of different market conditions. Our basic approach was to measure the value of the development, and ultimately the tax revenue, that would be generated in each of the scenarios over a period of 20 years.

Technical Approach

To estimate the tax revenues associated with each scenario, we assumed that the first phase of development would occur in the near term. After that initial phase, we assumed that the remaining development would be evenly distributed over the next 20-year period. To compare the fiscal revenues, a Net Present Value (NPV) of the future stream of tax revenue was calculated in 2016 dollars. The discount rate selected was an assumption that varied in the analysis—ranging from 3% to 4% in the results presented below.

After the initial phase of development, we assumed a growth rate for the property valuation as part of the analysis—the range of growth rates presented in the analysis below is between 2% and 4%. We assumed the value of the current stock of existing development would increase by the growth rate assumption indicated in the scenario. As a result, the value of the development and the tax revenues increases each year as new development occurs and existing stock value increases.

For each scenario, we applied consistent densities of each building typology (i.e. commercial, apartment, single family, etc.). We calculated density using floor area ratio (FAR), which measures the amount of vertical development relative to the amount of land area. We assumed that the density of each of the uses was higher in the Vision Scenario; however, we assumed the same value per square foot of development in each scenario. There is evidence to support higher land and development values for urban, dense development. For this analysis, we took a conservative approach to valuation and did not apply any value premiums for the Vision Scenario.

Assumptions

Figure 1 displays the standard set of assumptions used to conduct the analysis. The main variable of interest was the 1.8% tax rate that was applied to all development types based on the assessed value (AV). The AV was calculated based on a sample of properties in the Kennewick market obtained through CoStar in 2016; the AV was calculated based on gross square foot of vertical development.

The single-family home assumptions were obtained from Zillow, where we searched the inventory of recent sales in Kennewick to determine the average size and sales price of homes in the market in 2016.

Assumptions about the phasing and amount of development were provided to ECONorthwest by the Port of Kennewick.

Figure 1. Standard Set of Assumptions Used in all Permutations

All	
Tax Rate	1.8%
Commercial AV/SF	$ 196.00
Flex Industrial AV/SF	$ 74.42
Baseline	
Commercial Phase 1 Completion (%)	50%
Flex Industrial Phase 1 Completion (%)	50%
Commercial FAR	0.30
Flex Industrial FAR	0.30
Commercial Vertical GSF	620,730
Flex Industrial Vertical GSF	620,730
Vision	
Commercial Phase 1 Completion (%)	41%
Single Family Phase 1 Completion (%)	23%
Multi-Family Phase 1 Completion (%)	33%
Commercial Vertical GSF	600,000
Commercial FAR	1.0
Single Family Units	583
Multi-Family Units	600
SF AV % new construction	0.80
Single Family Average GSF	1,500
Single Family $/GSF	$ 144
Single Family Price	$ 216,000
Multi-Family AV/Unit	$ 115,500

Findings

Appendix A provides a detailed annual NPV summary by use type using a discount rate of 4% and growth rate of 4%. The summary for each scenario is presented below in Figure 2—all the permutations used the standard set of assumptions presented in Figure 1.

Figure 2 shows that the NPV of the Vision Scenario is $19.2 million dollars greater than the Baseline Scenario. The present value of the tax revenue in the baseline scenario over a 20-year period is $45.8 million, compared to $65 million for the Vision Scenario over the same duration. Using the assumptions listed in Figure 1, the tax revenue after the completed initial development phase is greater in the Vision Scenario than the Baseline Scenario. The revenue also grows more quickly in the Vision Scenario. Therefore, in any given year, the tax revenues—and implicitly the value of the land—are greater in the Vision Scenario.

Figure 2. Summary Findings by Scenario Using a 4% Discount Rate and a 4% Growth Rate

Baseline	
Commercial NPV	$ 33,164,888
Flex Industrial NPV	$ 12,592,505
Total	$ 45,757,392

Alternative	
Commercial NPV	$ 30,138,134
Single Family NPV	$ 18,063,887
Multi-Family NPV	$ 16,791,923
Total	$ 64,993,944

Difference	$ 19,236,552

Figure 3 shows a sensitivity matrix that varies the discount rate on the vertical axis and the growth rate on the horizontal axis. The values listed in each cell display the NPV difference between the baseline and Vision Scenario. For example, the permutation listed in Figure 2 shows an NPV difference of $19.2 million—that same figure is displayed in the bottom row on the far right column (4% discount rate and 4% growth rate).

The range of values varies based on different discount and growth rates. We found a range between $18.4 million (4% discount rate and 2% growth rate) and $22.1 million (3% discount rate and 4% growth rate). As the discount rate assumption increases, the NPV of the Vision Scenario decreases relative to the Baseline Scenario. As the growth rate of the AV assumption increases, the NPV of the Vision Scenario increases relative to the Baseline Scenario.

Figure 3. Sensitivity Analysis Comparing the Baseline to Vision Scenario

NPV Difference		Growth Rate		
		2%	3%	4%
Discount Rate	3%	$ 21,064,876	$ 21,556,190	$ 22,099,849
	3.5%	$ 19,654,971	$ 20,107,996	$ 20,608,890
	4%	$ 18,356,706	$ 18,774,729	$ 19,236,552

Impact of Performing Arts Center

As part of the analysis on the Vision Scenario, ECONorthwest was asked to render an opinion on the specific economic impact of a Performing Arts Center (PAC), particularly as it would affect the long-term return on the project. The question is whether the inclusion of the Center without market-rate sale of the land would be economically beneficial, over and above the current market value of the land. That is, would the investment of the land value be in the public interest, economically speaking?

While there are not specific comparable performing arts centers that we can use in an analysis of the Vista Field project, there is existing literature identifying the positive economic value (including increases to property values) of performing arts facilities in other regions. We have summarized this literature in Appendix B.

Based on the assumptions and methodology detailed below, the economic benefits of the Vision Scenario do exceed the economic value of the Baseline Scenario, which would include straightforward market-rate land sales of the PAC site and others. The Vision Scenario assumes that a developer will build an integrated set of amenities that includes the PAC. The precise economic contribution of the PAC was not identified in the analysis, as it was part of a bundle of urban amenities. Inclusion of the PAC without the market-rate sale of land will be completely offset economically by the higher economic returns of the Vision Scenario compared to the Baseline Scenario.

Appendix A: Net Present Value Calculations

Baseline

			Year						
Commercial		Phase 1	1	2	3	4	5	6	7
	Area	310,365	325,883	341,402	356,920	372,438	387,956	403,475	418,993
	AV/SF	$ 196	$ 204	$ 212	$ 220	$ 229	$ 238	$ 248	$ 258
	Value	$ 60,831,540	$ 66,428,042	$ 72,374,933	$ 78,691,291	$ 85,397,157	$ 92,513,587	$100,062,696	$108,067,711
	Tax Revenue	$ 1,094,968	$ 1,195,705	$ 1,302,749	$ 1,416,443	$ 1,537,149	$ 1,665,245	$ 1,801,129	$ 1,945,219
Flex Industrial									
	Area	310,365	325,883	341,402	356,920	372,438	387,956	403,475	418,993
	AV/SF	$ 74	$ 77	$ 80	$ 84	$ 87	$ 91	$ 94	$ 98
	Value	$ 23,097,363	$ 25,222,321	$ 27,480,319	$ 29,878,601	$ 32,424,778	$ 35,126,843	$ 37,993,193	$ 41,032,648
	Tax Revenue	$ 415,753	$ 454,002	$ 494,646	$ 537,815	$ 583,646	$ 632,283	$ 683,877	$ 738,588
	Total Revenue	$1,510,720	$1,649,707	$1,797,395	$1,954,258	$2,120,795	$2,297,528	$2,485,006	$2,683,806

Alternative (Vision) Scenario

			Year						
Commercial		Phase 1	1	2	3	4	5	6	7
	Area	246,120	263,814	281,508	299,202	316,896	334,590	352,284	369,978
	AV/SF	$ 196	$ 204	$ 212	$ 220	$ 229	$ 238	$ 248	$ 258
	Value	$ 48,239,468	$ 53,775,794	$ 59,677,844	$ 65,966,016	$ 72,661,757	$ 79,787,612	$ 87,367,276	$ 95,425,654
	Tax Revenue	$ 868,310	$ 967,964	$ 1,074,201	$ 1,187,388	$ 1,307,912	$ 1,436,177	$ 1,572,611	$ 1,717,662
Single Family									
	Units	109	127	145	162	180	198	216	234
	AV/Unit	$ 216,000	$ 224,640	$ 233,626	$ 242,971	$ 252,689	$ 262,797	$ 273,309	$ 284,241
	Value	$ 18,805,248	$ 22,770,469	$ 27,022,819	$ 31,578,924	$ 36,456,282	$ 41,673,301	$ 47,249,352	$ 53,204,810
	Tax Revenue	$ 338,494	$ 409,868.44	$ 486,411	$ 568,421	$ 656,213	$ 750,119	$ 850,488	$ 957,687
Multi-Family									
	Units	200	220	240	260	280	300	320	340
	AV/Unit	$ 115,500	$ 120,120	$ 124,925	$ 129,922	$ 135,119	$ 140,523	$ 146,144	$ 151,990
	Value	$ 23,100,000	$ 26,426,400	$ 29,981,952	$ 33,779,666	$ 37,833,226	$ 42,157,023	$ 46,766,191	$ 51,676,641
	Tax Revenue	$ 415,800	$ 475,675	$ 539,675	$ 608,034	$ 680,998	$ 758,826	$ 841,791	$ 930,180
	Total Revenue	1,622,605	1,853,508	2,100,287	2,363,843	2,645,123	2,945,123	3,264,891	3,605,528

8	9	10	11	12	13	14	15	16	17	18	19	20
434,511	450,029	465,548	481,066	496,584	512,102	527,621	543,139	558,657	574,175	589,694	605,212	620,730
$ 268	$ 279	$ 290	$ 302	$ 314	$ 326	$ 339	$ 353	$ 367	$ 382	$ 397	$ 413	$ 429
$116,553,028	$125,544,262	$135,068,309	$145,153,410	$155,829,209	$167,126,826	$179,078,927	$191,719,792	$205,085,400	$219,213,506	$234,143,723	$249,917,616	$266,578,790
$ 2,097,955	$ 2,259,797	$ 2,431,230	$ 2,612,761	$ 2,804,926	$ 3,008,283	$ 3,223,421	$ 3,450,956	$ 3,691,537	$ 3,945,843	$ 4,214,587	$ 4,498,517	$ 4,798,418
434,511	450,029	465,548	481,066	496,584	512,102	527,621	543,139	558,657	574,175	589,694	605,212	620,730
$ 102	$ 106	$ 110	$ 115	$ 119	$ 124	$ 129	$ 134	$ 139	$ 145	$ 151	$ 157	$ 163
$ 44,254,471	$ 47,668,388	$ 51,284,610	$ 55,113,861	$ 59,167,396	$ 63,457,033	$ 67,995,172	$ 72,794,831	$ 77,869,671	$ 83,234,026	$ 88,902,938	$ 94,892,189	$101,218,335
$ 796,580	$ 858,031	$ 923,123	$ 992,049	$ 1,065,013	$ 1,142,227	$ 1,223,913	$ 1,310,307	$ 1,401,654	$ 1,498,212	$ 1,600,253	$ 1,708,059	$ 1,821,930
$2,894,535	$3,117,828	$3,354,353	$3,604,811	$3,869,939	$4,150,509	$4,447,334	$4,761,263	$5,093,191	$5,444,056	$5,814,840	$6,206,576	$6,620,348

8	9	10	11	12	13	14	15	16	17	18	19	20
387,672	405,366	423,060	440,754	458,448	476,142	493,836	511,530	529,224	546,918	564,612	582,306	600,000
$ 268	$ 279	$ 290	$ 302	$ 314	$ 326	$ 339	$ 353	$ 367	$ 382	$ 397	$ 413	$ 429
$103,988,914	$113,084,554	$122,741,462	$132,989,988	$143,862,010	$155,391,010	$167,612,150	$180,562,356	$194,280,399	$208,806,986	$224,184,851	$240,458,854	$257,676,082
$ 1,871,800	$ 2,035,522	$ 2,209,346	$ 2,393,820	$ 2,589,516	$ 2,797,038	$ 3,017,019	$ 3,250,122	$ 3,497,047	$ 3,758,526	$ 4,035,327	$ 4,328,259	$ 4,638,169
252	270	288	305	323	341	359	377	395	413	431	449	466
$ 295,611	$ 307,435	$ 319,733	$ 332,522	$ 345,823	$ 359,656	$ 374,042	$ 389,004	$ 404,564	$ 420,747	$ 437,576	$ 455,079	$ 473,283
$ 59,561,106	$ 66,340,778	$ 73,567,525	$ 81,266,267	$ 89,463,201	$ 98,185,863	$107,463,197	$117,325,620	$127,805,096	$138,935,209	$150,751,243	$163,290,263	$176,591,203
$ 1,072,100	$ 1,194,134	$ 1,324,215	$ 1,462,793	$ 1,610,338	$ 1,767,346	$ 1,934,338	$ 2,111,861	$ 2,300,492	$ 2,500,834	$ 2,713,522	$ 2,939,225	$ 3,178,642
360	380	400	420	440	460	480	500	520	540	560	580	600
$ 158,070	$ 164,393	$ 170,968	$ 177,807	$ 184,919	$ 192,316	$ 200,009	$ 208,009	$ 216,329	$ 224,983	$ 233,982	$ 243,341	$ 253,075
$ 56,905,101	$ 62,469,155	$ 68,387,286	$ 74,678,916	$ 81,364,457	$ 88,465,355	$ 96,004,142	$104,004,487	$112,491,254	$121,490,554	$131,029,812	$141,137,826	$151,844,834
$ 1,024,292	$ 1,124,445	$ 1,230,971	$ 1,344,220	$ 1,464,560	$ 1,592,376	$ 1,728,075	$ 1,872,081	$ 2,024,843	$ 2,186,830	$ 2,358,537	$ 2,540,481	$ 2,733,207
3,968,192	4,354,101	4,764,533	5,200,833	5,664,414	6,156,760	6,679,431	7,234,064	7,822,381	8,446,189	9,107,386	9,807,965	10,550,018

Appendix B

Performing Arts Centers Property Value Impacts

Graebert, Mary Beth, et al. *Rebuilding Prosperous Places in Michigan*. The Land Policy Institute at Michigan State University. 2014.

- "Variables of greatest interest are measurements of the amenities that exist within walking distance of a home"
    - Amenity value for 1 Performing Arts Center theater within 0.5 miles, Midwest: 5.7%
    - http://landpolicy.msu.edu/uploads/files/Resources/Publications__Presentations/Reports/LPI/Rebuilding_Prosperous_Places_Initiative/2014/rebuildingprosperousplacesinmi_LPI_summaryreport_reduced_062014.pdf

Graebert, Mary Beth. "The Impact of Placemaking Attributes on Home Prices in the Midwest." Presentation. 2013.

- Presentation summarizing hedonic study.
- Performing Arts Center identified as a "pull factor"

Gadwa, Anne, Ann Markusen, and Nathaniel Walton. *How Artist Space Matters: Impacts and Insights from Three Case Studies drawn from Artspace Project's Earliest Developments*. Metris Arts Consulting. 2010.

- Average estimated property value effect of proximity to Tilsner Artists Cooperative: 10.8% (0-3 miles)

Other Impacts of Performing Arts Centers

Arts & Economic Prosperity IV: The Economic Impact of Nonprofit Arts and Culture Organizations and Their Audiences in the Town of Telluride. Americans for the Arts. 2010.

- Studied 30 nonprofit arts and culture organizations.
- Total industry expenditures in FYE 2010 were $37.4 million.
- Total jobs supported by organizations and audiences: 977
- Household income paid to residents: $22.5 million
- Government revenue: $1.8 million (local government), $754k (state government)
- Average attendee spending was $150.22 per person per event, excluding admission.
    - 75% of attendees of arts and culture events were non-residents, and spent $191.81 per event, on average. Event-related expenditures include food and drink, souvenirs and gifts, ground transportation, and lodging. Meals and lodging were the largest components of non-resident expenditures.

    - Resident attendees spent, on average, $27.51 per event. The main component of expenditure was food and drink.

Arts & Economic Prosperity IV: The Economic Impact of Nonprofit Arts and Culture Organizations and Their Audiences in the City of Missoula. Americans for the Arts. 2010.

- Studied 66 nonprofit arts and culture organizations.
- Total industry expenditures were $39.9 million in FYE 2010
- Total jobs supported by organizations and audiences: 1,447
- Household income paid to residents: $30.3 million
- Government revenue: $1.8 million (local government), $1.5 million (state government)
- Average attendee spending was $20.31 per person per event, excluding admission.
    - 18% of attendees of arts and culture events were non-residents, and spent $52.64 per event, on average. Event-related expenditures include food and drink, souvenirs and gifts, ground transportation, and lodging. Meals and lodging were the largest components of non-resident expenditures.
    - Resident attendees spent, on average, $12.83 per event. The main component of expenditure was food and drink.

Arts & Economic Prosperity IV: The Economic Impact of Nonprofit Arts and Culture Organizations and Their Audiences in the Town of Crested Butte. Americans for the Arts. 2010.

- Studied 20 nonprofit arts and culture organizations.
- Total industry expenditures were $6.8 million in FYE 2010.
- Total jobs supported by organizations and audiences: 159
- Household income paid to residents: $3.2 million
- Government revenue: $281k (local government), $155k (state government)
- Average attendee spending was $45.11 per person per event, excluding admission.
    - 41.3% of attendees of arts and culture events were non-residents, and spent $77.03 per event, on average. Event-related expenditures include food and drink, souvenirs and gifts, ground transportation, and lodging. Meals and lodging were the largest components of non-resident expenditures.
    - Resident attendees spent, on average, $22.70 per event. The main component of expenditure was food and drink.

Arts & Economic Prosperity IV: The Economic Impact of Nonprofit Arts and Culture Organizations and Their Audiences in the City of Boise. Americans for the Arts. 2010.

- Study included 65 nonprofit arts and culture organizations.
- Total industry expenditures were $48 million in FYE 2010.
- Average attendee spending was $150.22 per person per event, excluding admission.

- 75% of attendees of arts and culture events were non-residents, and spent $191.81 per event, on average. Event-related expenditures include food and drink, souvenirs and gifts, ground transportation, and lodging. Meals and lodging were the largest components of non-resident expenditures.
- Resident attendees spent, on average, $27.51 per event. The main component of expenditure was food and drink.

Overture Center for the Arts Community and Economic Impact Study. AMS Planning & Research. Madison, Wisconsin. 2010.

- The Center for the arts saw $12.3 million in ticket sales, with $10 million in additional spending
- The Center supports 1,471 FTE, $26.39 million in household income to local residents, and $4.5 million in local and state government revenue
- Property values within four blocks of the Overture Center grew 392% from 1998-2008, compared to 116% in the City.

Denver Performing Arts Complex: Economic Impact Analysis. BBC Research & Consulting. 2014.

- Total economic impact (direct and indirect): $141 million
- Total direct spending was $86.5 million, including $19.2 million in visitor spending, $10.3 million in DPAC operations, and $57 in performing company operations. Supports 2,500 FTE.
- 77% attendees from outside City and County, 25% outside of metropolitan area

Downtown Performing Arts Center and Economic and Community Impact Report. Greensboro Performing Arts Center Task Force. 2012.

- Operation of new facility would support 268 jobs, based on tickets and $19.45 additional spending. This would result in $4.7 million in household income.
- Survey of Greensbro community suggests residents spend over $60 in additional spending.

New Urbanism Literature Review

Eppli, M. J., & Tu, C. C. (1999). *Valuing the New Urbanism: The Impact of the New Urbanism on Prices of Single-Family Homes.* Washington, D.C.: Urban Land Institute.

Song, Y., & Knaap, G. J. (2006). "Valuing Amenities of New Urbanist Communities." *Environmental Valuation: Interregional and Intraregional Perspectives*, 253.

Song, Y., & Knaap, G. J. (2003). "New Urbanism and Housing Values: A Disaggregate Assessment." *Journal of Urban Economics*, 54(2), 218-238.

Bartholomew, K., & Ewing, R. (2011). "Hedonic Price Effects of Pedestrian- and Transit-Oriented Development." *Journal of Planning Literature*, 26(1), 18-34.

Plaut, P. O., & Boarnet, M. G. (2003). "New Urbanism and the Value of Neighborhood Design." *Journal of Architectural and Planning Research*, 254-265.

Tu, C. C., & Eppli, M. J. (1999). "Valuing New Urbanism: The Case of Kentlands." *Real Estate Economics*, 27(3), 425-451.