

**Cost Benefit Analysis  
Alternatives - Comparison**

Alternatives Comparison			
	Microsoft	Amazon Web Services	Google
<b>Quantitative \$ CBA</b>			
Total Present Value Costs	\$ 113,958,914.68	\$ 80,759,098.29	\$ 79,586,808.29
Total Present Value Benefits	\$ -	\$ -	\$ -
Net Benefit (Cost)	\$ (113,958,914.68)	\$ (80,759,098.29)	\$ (79,586,808.29)
<b>Qualitative Benefits</b>			
Benefit 1			
Benefit 2			
Benefit 3			

Comments

**Cost Benefit Analysis  
MSFT - Summary**

**OSPI**

**Data Modernization Feasibility Study**

Azure by Microsoft	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTAL
<b>QUANTITATIVE COSTS</b>								
<b>Costs</b>								
Non-Recurring	\$ 24,635,564	\$ 24,828,464	\$ 16,626,164	\$ 10,972,214	\$ 10,312,448	\$ 16,448	\$ 15,998	\$ 87,407,301
Recurring	\$ 2,098,492	\$ 3,734,155	\$ 5,612,640	\$ 7,366,189	\$ 8,260,285	\$ 8,280,689	\$ 8,257,675	\$ 43,610,125
<b>Total Costs</b>	<b>\$ 26,734,056</b>	<b>\$ 28,562,619</b>	<b>\$ 22,238,804</b>	<b>\$ 18,338,403</b>	<b>\$ 18,572,733</b>	<b>\$ 8,297,137</b>	<b>\$ 8,273,673</b>	<b>\$ 131,017,426</b>
<b>Total Costs - Present Value</b>	<b>\$ 25,582,828</b>	<b>\$ 26,155,646</b>	<b>\$ 19,487,789</b>	<b>\$ 15,377,876</b>	<b>\$ 14,903,709</b>	<b>\$ 6,371,336</b>	<b>\$ 6,079,730</b>	<b>\$ 113,958,915</b>

Benefits								
Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Savings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Avoidance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Benefits</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Benefits - Present Value</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

<b>NET BENEFIT (COST)</b>	<b>\$ (26,734,056)</b>	<b>\$ (28,562,619)</b>	<b>\$ (22,238,804)</b>	<b>\$ (18,338,403)</b>	<b>\$ (18,572,733)</b>	<b>\$ (8,297,137)</b>	<b>\$ (8,273,673)</b>	<b>\$ (131,017,425)</b>
<b>NET BENEFIT (COST) - Present Value</b>	<b>\$ (25,582,828)</b>	<b>\$ (26,155,646)</b>	<b>\$ (19,487,789)</b>	<b>\$ (15,377,876)</b>	<b>\$ (14,903,709)</b>	<b>\$ (6,371,336)</b>	<b>\$ (6,079,730)</b>	<b>\$ (113,958,914)</b>

**Cost Benefit Analysis  
MSFT - CBA DETAILS**

**OSPI**

**Data Modernization Feasibility Study**

Azure by Microsoft	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTAL
<b>QUANTITATIVE COSTS</b>								
<b>Non-Recurring Costs</b>								
Implementation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hardware	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software license fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FTE Salary and wages (including benefits)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FTC and professional services	\$ 24,576,000	\$ 24,768,000	\$ 16,564,800	\$ 10,910,400	\$ 10,296,000	\$ -	\$ -	\$ 87,115,200
Planning	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Procurement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service contracts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Infrastructure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Management	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transition (e.g., parallel system)	\$ 59,564	\$ 60,464	\$ 61,364	\$ 61,814	\$ 16,448	\$ 16,448	\$ 15,998	\$ 292,101
Other (specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Non-Recurring Costs</b>	<b>\$ 24,635,564</b>	<b>\$ 24,828,464</b>	<b>\$ 16,626,164</b>	<b>\$ 10,972,214</b>	<b>\$ 10,312,448</b>	<b>\$ 16,448</b>	<b>\$ 15,998</b>	<b>\$ 87,407,301</b>

**Cost Benefit Analysis  
MSFT - CBA DETAILS**

<b>Azure by Microsoft</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>	<b>YEAR 7</b>	<b>TOTAL</b>
<b>Recurring costs (operations &amp; maintenance)</b>								
Hardware	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software maintenance and upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Enhancements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software license fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service contracts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Infrastructure	\$ 310,599	\$ 637,383	\$ 974,017	\$ 1,203,681	\$ 1,445,995	\$ 1,466,399	\$ 1,443,385	\$ 7,481,459
Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Help desk support (cloud vendor) for cloud tools	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 84,000
User training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FTE Salary and wages (including benefits)	\$ 1,775,893	\$ 3,084,772	\$ 4,626,623	\$ 6,150,508	\$ 6,802,290	\$ 6,802,290	\$ 6,802,290	\$ 36,044,666
FTC and professional services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Recurring Costs</b>	<b>\$ 2,098,492</b>	<b>\$ 3,734,155</b>	<b>\$ 5,612,640</b>	<b>\$ 7,366,189</b>	<b>\$ 8,260,285</b>	<b>\$ 8,280,689</b>	<b>\$ 8,257,675</b>	<b>\$ 43,610,125</b>
<b>TOTAL COSTS</b>	<b>\$ 26,734,056</b>	<b>\$ 28,562,619</b>	<b>\$ 22,238,804</b>	<b>\$ 18,338,403</b>	<b>\$ 18,572,733</b>	<b>\$ 8,297,137</b>	<b>\$ 8,273,673</b>	<b>\$ 131,017,426</b>



**Cost Benefit Analysis  
MSFT - CBA DETAILS**

<b>Azure by Microsoft</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>	<b>YEAR 7</b>	<b>TOTAL</b>
<b>Cost Avoidance</b>								
(Enter cost avoidance here)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Cost Avoidance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Other Benefits</b>								
(Enter other benefits here)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Other Benefits</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL BENEFITS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>NET BENEFIT (COST)</b>	\$ (26,734,056)	\$ (28,562,619)	\$ (22,238,804)	\$ (18,338,403)	\$ (18,572,733)	\$ (8,297,137)	\$ (8,273,673)	\$ (131,017,426)
<b>NET BENEFIT (COST) - Present Value</b>	\$ (25,582,829)	\$ (26,155,646)	\$ (19,487,789)	\$ (15,377,876)	\$ (14,903,709)	\$ (6,371,336)	\$ (6,079,730)	\$ (113,958,915)

## Staffing Breakdown - Standalone Vendor Model

Summary of Staffing Costs - Standalone Model (No Integrator)									
Vendors: Microsoft Azure									
Staffing Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	5-Year Aggregate	7-Year Aggregate
FTE Staffing	\$1,775,893	\$3,084,772	\$4,626,623	\$6,150,508	\$6,802,290	\$6,802,290	\$6,802,290	\$22,440,085	\$36,044,666
FTC Staffing	\$24,576,000	\$24,768,000	\$16,564,800	\$10,910,400	\$10,296,000	\$0	\$0	\$87,115,200	\$87,115,200
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$26,351,893</b>	<b>\$27,852,772</b>	<b>\$21,191,423</b>	<b>\$17,060,908</b>	<b>\$17,098,290</b>	<b>\$6,802,290</b>	<b>\$6,802,290</b>	<b>\$109,555,285</b>	<b>\$123,159,866</b>



OSPI Data Modernization Feasibility Study Staffing Costs - OSPI FTE Hires				Model: Standalone Vendor (No Integrator)					
Position Title	Cost Side	Labor Cost Category	Year 1 FTE	Year 2 FTE	Year 3 FTE	Year 4 FTE	Year 5 FTE	Year 6 FTE	Year 7 FTE
Change Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change Management Analyst / Trai	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Independent QA Specialist	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Application Architect	Blended	Technical Engineering	0.0	0.0	1.0	1.0	1.0	1.0	1.0
Cloud Platform Engineer	Cloud	Technical Engineering	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Data Architect	Data	Technical Engineering	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Enterprise Architect	Blended	Technical Engineering	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Program Manager	Blended		0.0	0.0	1.0	1.0	1.0	1.0	1.0
<b>Totals</b>									

**OSPI Data Modernization FVendor: Microsoft Azure**

Position Title	WA OFM Published Equivalent Salary	Salary with 35% Benefit Addition	For Reference: Industry Average Salary	Year 1 Cost at WA OFM-Standard Salary	Year 2 Cost at WA OFM-Standard Salary	Year 3 Cost at WA OFM-Standard Salary	Year 4 Cost at WA OFM-Standard Salary
Junior .NET Developer	\$102,660	\$138,591	\$90,000	\$0	\$0	\$0	\$0
QA/Test Engineer	\$110,364	\$148,991	\$109,320	\$0	\$0	\$0	\$0
Senior .NET Developer	\$127,788	\$172,514	\$110,890	\$0	\$0	\$0	\$0
Test Automation Engineer	\$121,692	\$164,284	\$120,446	\$0	\$164,284	\$328,568	\$657,137
Cloud Support Engineer	\$121,692	\$164,284	\$129,460	\$0	\$0	\$0	\$0
Junior Cloud Support Eng.	\$95,568	\$129,017	\$85,000	\$0	\$0	\$0	\$0
Cybersecurity Architect	\$147,936	\$199,714	\$150,314	\$199,714	\$199,714	\$199,714	\$199,714
Cybersecurity Engineer	\$147,936	\$199,714	\$163,426	\$0	\$0	\$199,714	\$399,427
Database Administrator	\$121,692	\$164,284	\$105,023	\$0	\$0	\$0	\$0
Data Analyst	\$110,364	\$148,991	\$94,512	\$0	\$0	\$0	\$0
Data Platform Engineer	\$121,692	\$164,284	\$153,153	\$0	\$0	\$0	\$0
Data Engineer	\$115,908	\$156,476	\$137,519	\$156,476	\$312,952	\$469,427	\$625,903
BI Engineer	\$115,908	\$156,476	\$113,744	\$0	\$0	\$0	\$0
Data Scientist	\$121,692	\$164,284	\$140,540	\$0	\$0	\$0	\$0
Data Product Manager	\$121,692	\$164,284	\$181,404	\$0	\$164,284	\$164,284	\$328,568
Executive Sponsor	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0	\$0
Business Sponsor	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0	\$0
Technology Sponsor	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0	\$0
Product Owner / Program Sup.	\$189,096	\$255,280	\$189,096	\$510,559	\$1,021,118	\$1,531,678	\$2,042,237
Business Analyst	\$110,364	\$148,991	\$119,295	\$0	\$148,991	\$148,991	\$148,991
Product Manager	\$121,692	\$164,284	\$145,770	\$164,284	\$328,568	\$328,568	\$492,853
Portfolio Manager	\$145,770	\$196,789	\$145,770	\$0	\$0	\$0	\$0
Project Manager	\$147,936	\$199,714	\$153,000	\$399,427	\$399,427	\$599,141	\$599,141
Process Mapping Expert	\$100,980	\$136,323	\$125,000	\$0	\$0	\$0	\$0

OSPI Data Modernization FVendor: Microsoft Azure							
Position Title	WA OFM Published Equivalent Salary	Salary with 35% Benefit Addition	For Reference: Industry Average Salary	Year 1 Cost at WA OFM-Standard Salary	Year 2 Cost at WA OFM-Standard Salary	Year 3 Cost at WA OFM-Standard Salary	Year 4 Cost at WA OFM-Standard Salary
Change Manager	\$100,980	\$136,323	\$155,000	\$0	\$0	\$0	\$0
Change Management Analyst / Tra	\$78,912	\$106,531	\$133,500	\$0	\$0	\$0	\$0
Independent QA Specialist	\$121,692	\$164,284	\$153,000	\$0	\$0	\$0	\$0
Application Architect	\$102,660	\$138,591	\$141,825	\$0	\$0	\$138,591	\$138,591
Cloud Platform Engineer	\$115,908	\$156,476	\$155,829	\$0	\$0	\$0	\$0
Data Architect	\$121,692	\$164,284	\$156,183	\$164,284	\$164,284	\$164,284	\$164,284
Enterprise Architect	\$134,184	\$181,148	\$175,937	\$181,148	\$181,148	\$181,148	\$181,148
Program Manager	\$127,788	\$172,514	\$134,292	\$0	\$0	\$172,514	\$172,514
<b>Totals</b>				<b>\$1,775,893</b>	<b>\$3,084,772</b>	<b>\$4,626,623</b>	<b>\$6,150,508</b>

OSPI Data Modernization F						
Position Title	Year 5 Cost at WA OFM-Standard Salary	Year 6 Cost at WA OFM-Standard Salary	Year 7 Cost at WA OFM-Standard Salary	Estimated 5 Year Cost at WA OFM-Standard Salary	Notes	For Reference: Industry Salary Citations
Junior .NET Developer	\$0	\$0	\$0	\$0	Maintains codebase	Estimated ~\$90K based on
QA/Test Engineer	\$0	\$0	\$0	\$0	Broad QA coverage	Indeed avg \$109,320
Senior .NET Developer	\$0	\$0	\$0	\$0	Leads modernization;	Indeed avg \$107,086 &
Test Automation Engineer	\$657,137	\$657,137	\$657,137	\$1,807,126	Builds/maintains test	Built In QA avg \$92K–\$150K &
Cloud Support Engineer	\$0	\$0	\$0	\$0	24×7 ops support;	ZipRecruiter avg \$148,857 &
Junior Cloud Support Eng.	\$0	\$0	\$0	\$0	Tier 1 support post-	ZipRecruiter entry range
Cybersecurity Architect	\$199,714	\$199,714	\$199,714	\$998,568	Designs security;	<a href="#">Salary.com avg \$150,314 &amp;</a>
Cybersecurity Engineer	\$399,427	\$399,427	\$399,427	\$998,568	Validates security	ZipRecruiter avg \$139,931,
Database Administrator	\$0	\$0	\$0	\$0	Guides the unraveling	Indeed avg \$101,326 &
Data Analyst	\$0	\$0	\$0	\$0	Profiling, validation,	Indeed avg \$102,934 & Built In
Data Platform Engineer	\$0	\$0	\$0	\$0	Manages migration	Built In avg \$130,975 + Ladders
Data Engineer	\$625,903	\$625,903	\$625,903	\$2,190,661	Designs and builds	Built In \$130,975 (Wellfound,
BI Engineer	\$0	\$0	\$0	\$0	Builds reports and BI	ZipRecruiter \$61.21/hr
Data Scientist	\$0	\$0	\$0	\$0	Creates models and	Built In \$131,105 , Indeed
Data Product Manager	\$328,568	\$328,568	\$328,568	\$985,705	Owns product	ZipRecruiter avg \$181,404/yr
Executive Sponsor	\$0	\$0	\$0	\$0		Ted Loran OSPI
Business Sponsor	\$0	\$0	\$0	\$0		Deb Came, OSPI
Technology Sponsor	\$0	\$0	\$0	\$0		CIO-appointed or CIO direct
Product Owner / Program Sup.	\$2,297,516	\$2,297,516	\$2,297,516	\$7,403,108		Most critical role for OSPI to
Business Analyst	\$148,991	\$148,991	\$148,991	\$595,966	Gathers and analyzes	Indeed avg \$96,364 + Levels.fyi
Product Manager	\$492,853	\$492,853	\$492,853	\$1,807,126	Coordinates MVP	Built In avg \$141,539 & Gusto
Portfolio Manager	\$196,789	\$196,789	\$196,789	\$196,789		
Project Manager	\$798,854	\$798,854	\$798,854	\$2,795,990		Principal non-profit
Process Mapping Expert	\$0	\$0	\$0	\$0		Extensive process-mapping

OSPI Data Modernization F						
Position Title	Year 5 Cost at WA OFM-Standard Salary	Year 6 Cost at WA OFM-Standard Salary	Year 7 Cost at WA OFM-Standard Salary	Estimated 5 Year Cost at WA OFM-Standard Salary	Notes	For Reference: Industry Salary Citations
Change Manager	\$0	\$0	\$0	\$0		Drafting change management
Change Management Analyst / Trainee	\$0	\$0	\$0	\$0		Embeds with the training team
Independent QA Specialist	\$0	\$0	\$0	\$0		Required by WaTech standards
Application Architect	\$138,591	\$138,591	\$138,591	\$415,773	Guides application	Coursera avg \$146,488 &
Cloud Platform Engineer	\$0	\$0	\$0	\$0	Builds landing zone;	Randstad range
Data Architect	\$164,284	\$164,284	\$164,284	\$821,421	Defines data models	Built In avg \$146,625 &
Enterprise Architect	\$181,148	\$181,148	\$181,148	\$905,742	EA oversight upfront;	ZipRecruiter avg \$179,903 &
Program Manager	\$172,514	\$172,514	\$172,514	\$517,541	Plans and coordinates	Indeed avg \$106,492 +
<b>Totals</b>	<b>\$6,802,290</b>	<b>\$6,802,290</b>	<b>\$6,802,290</b>	<b>\$22,440,085</b>		

OSPI Data Modernization Feasibility Study Staffing Costs - FTC Contractor Hires (Consultancies, FTC Internal Resources)													Model: Standard	
Position Title	Cost Side	Labor Cost Category	Year 1 FTC	Year 2 FTC	Year 3 FTC	Year 4 FTC	Year 5 FTC	Year 6 FTC	Year 7 FTC	Standard FTC Rates	Year 1 Cost at Industry-Standard Salary	Year 2 Cost at Industry-Standard Salary	Year 3 Cost at Industry-Standard Salary	
Junior .NET Developer	Cloud	App Dev &	1.0	2.0	1.0	0.0	0.0	0.0	0.0	\$364,800	\$364,800	\$729,600	\$364,800	
QA/Test Engineer	Blended	App Dev &	2.0	2.0	1.0	0.0	0.0	0.0	0.0	\$384,000	\$768,000	\$768,000	\$384,000	
Senior .NET Developer	Cloud	App Dev &	0.0	2.0	1.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$1,248,000	\$624,000	
Test Automation	Blended	App Dev &	5.0	4.0	3.0	1.0	1.0	0.0	0.0	\$384,000	\$1,920,000	\$1,536,000	\$1,152,000	
Cloud Support	Cloud	Cloud &	3.0	2.0	1.0	0.0	0.0	0.0	0.0	\$432,000	\$1,296,000	\$864,000	\$432,000	
Junior Cloud Support	Cloud	Cloud &	2.0	1.0	0.0	0.0	0.0	0.0	0.0	\$364,800	\$729,600	\$364,800	\$0	
Cybersecurity	Blended	Cybersecurity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0	\$0	
Cybersecurity	Blended	Cybersecurity	2.0	2.0	1.0	0.0	0.0	0.0	0.0	\$576,000	\$1,152,000	\$1,152,000	\$576,000	
Database	Data	Data &	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0	\$0	
Data Analyst	Data	Data &	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0	\$0	
Data Platform	Data	Data &	5.0	5.0	4.0	3.0	3.0	0.0	0.0	\$480,000	\$2,400,000	\$2,400,000	\$1,920,000	
Data Engineer	Data	Data &	13.0	12.0	7.0	6.0	5.0	0.0	0.0	\$432,000	\$5,616,000	\$5,184,000	\$3,024,000	
BI Engineer	Data	Data &	3.0	3.0	3.0	3.0	3.0	0.0	0.0	\$432,000	\$1,296,000	\$1,296,000	\$1,296,000	
Data Scientist	Data	Data &	0.0	0.0	1.0	2.0	2.0	0.0	0.0	\$432,000	\$0	\$0	\$432,000	
Data Product Manager	Data	Data &	2.0	1.0	1.0	0.5	0.5	0.0	0.0	\$480,000	\$960,000	\$480,000	\$480,000	
Cloud Product Owner	Blended	OSPI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0	\$0	
Business Analyst	Blended	Product &	2.0	3.0	2.0	1.0	0.5	0.0	0.0	\$364,800	\$729,600	\$1,094,400	\$729,600	
Product Manager	Blended	Product &	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0	\$0	
Portfolio Manager	Blended	Project Team	1.0	1.0	0.5	0.5	0.5	0.0	0.0	\$432,000	\$432,000	\$432,000	\$216,000	
Project Manager	Blended	Project Team	2.0	2.0	2.0	2.0	2.0	0.0	0.0	\$364,800	\$729,600	\$729,600	\$729,600	
Process Mapping	Blended	Project Team	1.0	1.0	0.0	0.0	0.0	0.0	0.0	\$364,800	\$364,800	\$364,800	\$0	

OSPI Data Modernization Feasibility Study Staffing Costs - FTC Contractor Hires (Consultancies, FTC Internal Resources)													Model: Standard	
Position Title	Cost Side	Labor Cost Category	Year 1 FTC	Year 2 FTC	Year 3 FTC	Year 4 FTC	Year 5 FTC	Year 6 FTC	Year 7 FTC	Standard FTC Rates	Year 1 Cost at Industry-Standard Salary	Year 2 Cost at Industry-Standard Salary	Year 3 Cost at Industry-Standard Salary	
Change Manager	Blended	Project Team	3.0	6.0	6.0	5.0	5.0	0.0	0.0	\$432,000	\$1,296,000	\$2,592,000	\$2,592,000	
Change Management	Blended	Project Team	2.0	1.0	1.0	0.0	0.0	0.0	0.0	\$364,800	\$729,600	\$364,800	\$364,800	
Independent QA	Blended	Project Team	1.0	1.0	1.0	1.0	1.0	0.0	0.0	\$384,000	\$384,000	\$384,000	\$384,000	
Application Architect	Blended	Technical	1.0	1.0	0.0	0.0	0.0	0.0	0.0	\$624,000	\$624,000	\$624,000	\$0	
Cloud Platform	Cloud	Technical	3.0	2.0	1.0	0.0	0.0	0.0	0.0	\$624,000	\$1,872,000	\$1,248,000	\$624,000	
Data Architect	Data	Technical	1.0	1.0	0.5	0.5	0.5	0.0	0.0	\$480,000	\$480,000	\$480,000	\$240,000	
Enterprise Architect	Blended	Technical	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0	\$0	
Program Manager	Blended		1.0	1.0	0.0	0.0	0.0	0.0	0.0	\$432,000	\$432,000	\$432,000	\$0	
<b>Totals</b>											<b>\$24,576,000</b>	<b>\$24,768,000</b>	<b>\$16,564,800</b>	

OSPI Data Modernization Vendor (No Integrator)				Vendor: Microsoft Azure			
Position Title	Year 4 Cost at Industry-Standard Salary	Year 5 Cost at Industry-Standard Salary	Year 6 Cost at Industry-Standard Salary	Year 7 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Junior .NET Developer	\$0	\$0	\$0	\$0	\$1,459,200	\$190/hr	Maintains
QA/Test Engineer	\$0	\$0	\$0	\$0	\$1,920,000	\$200/hr	Broad QA
Senior .NET Developer	\$0	\$0	\$0	\$0	\$1,872,000	\$325/hr	Leads
Test Automation	\$384,000	\$384,000	\$0	\$0	\$5,376,000	\$200/hr	Builds/maintains
Cloud Support	\$0	\$0	\$0	\$0	\$2,592,000	\$225/hr	24x7 ops
Junior Cloud Support	\$0	\$0	\$0	\$0	\$1,094,400	\$190/hr	Tier 1
Cybersecurity	\$0	\$0	\$0	\$0	\$0	\$325/hr	Designs
Cybersecurity	\$0	\$0	\$0	\$0	\$2,880,000	\$300/hr	Validates
Database	\$0	\$0	\$0	\$0	\$0	\$325/hr	Guides the
Data Analyst	\$0	\$0	\$0	\$0	\$0	\$200/hr	Profiling,
Data Platform	\$1,440,000	\$1,440,000	\$0	\$0	\$9,600,000	\$250/hr	Manages
Data Engineer	\$2,592,000	\$2,160,000	\$0	\$0	\$18,576,000	\$225/hr	Designs
BI Engineer	\$1,296,000	\$1,296,000	\$0	\$0	\$6,480,000	\$225/hr	Builds
Data Scientist	\$864,000	\$864,000	\$0	\$0	\$2,160,000	\$225/hr	Creates
Data Product Manager	\$240,000	\$240,000	\$0	\$0	\$2,400,000	\$250/hr	Owns
Cloud Product Owner	\$0	\$0	\$0	\$0	\$0	\$250/hr	
Business Analyst	\$364,800	\$182,400	\$0	\$0	\$3,100,800	\$190/hr	Gathers
Product Manager	\$0	\$0	\$0	\$0	\$0	\$250/hr	Coordinate
Portfolio Manager	\$216,000	\$216,000	\$0	\$0	\$1,512,000	\$225/hr	
Project Manager	\$729,600	\$729,600	\$0	\$0	\$3,648,000	\$190/hr	
Process Mapping	\$0	\$0	\$0	\$0	\$729,600	\$190/hr	

OSPI Data Moderrone Vendor (No Integrator)				Vendor: Microsoft Azure			
Position Title	Year 4 Cost at Industry-Standard Salary	Year 5 Cost at Industry-Standard Salary	Year 6 Cost at Industry-Standard Salary	Year 7 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Change Manager	\$2,160,000	\$2,160,000	\$0	\$0	\$10,800,000	\$225/hr	
Change Management	\$0	\$0	\$0	\$0	\$1,459,200	\$190/hr	
Independent QA	\$384,000	\$384,000	\$0	\$0	\$1,920,000	\$200/hr	
Application Architect	\$0	\$0	\$0	\$0	\$1,248,000	\$325/hr	Guides
Cloud Platform	\$0	\$0	\$0	\$0	\$3,744,000	\$325/hr	Builds
Data Architect	\$240,000	\$240,000	\$0	\$0	\$1,680,000	\$250/hr	Defines
Enterprise Architect	\$0	\$0	\$0	\$0	\$0	\$325/hr	EA
Program Manager	\$0	\$0	\$0	\$0	\$864,000	\$225/hr	Plans and
<b>Totals</b>	<b>\$10,910,400</b>	<b>\$10,296,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$87,115,200</b>		

OSPI Data Modernization Feasibility Study Staffing Costs - Professional Services Hires (Vendor Offered)												
Model: Standalone Vendor (No Integrator)								Vendor: Microsoft Azure				
Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Junior .NET Developer	Cloud	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		Maintains codebase post-MVP
QA/Test Engineer	Blended	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		Broad QA coverage including performance
Senior .NET Developer	Cloud	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Leads modernization; retained
Test Automation Engineer	Blended	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		Builds/maintains test automation
Cloud Support Engineer	Cloud	Cloud & Systems Support	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		24x7 ops support; retains
Junior Cloud Support Eng.	Cloud	Cloud & Systems Support	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		Tier 1 support post-MVP
Cybersecurity Architect	Blended	Cybersecurity	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Designs security; retained
Cybersecurity Engineer	Blended	Cybersecurity	0.0	0.0	0.0	0.0	0.0	\$576,000	\$0	\$0		Validates security config

OSPI Data Modernization Feasibility Study Staffing Costs - Professional Services Hires (Vendor Offered)												
Model: Standalone Vendor (No Integrator)								Vendor: Microsoft Azure				
Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Database Administrator	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Guides the unraveling of 100+
Data Analyst	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		Profiling, validation, migration
Data Platform Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		Manages migration pipelines;
Data Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		Designs and builds data
BI Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		Builds reports
Data Scientist	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		Creates models and
Data Product Manager	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		Owns product roadmap
Product Owner / Program Sup.	Blended	OSPI Sponsors	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		

OSPI Data Modernization Feasibility Study Staffing Costs - Professional Services Hires (Vendor Offered)												
Model: Standalone Vendor (No Integrator)								Vendor: Microsoft Azure				
Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Business Analyst	Blended	Product & Business Analysis	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		Gathers and
Product Manager	Blended	Product & Business Analysis	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		Coordinates MVP delivery
Portfolio Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		
Project Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		
Process Mapping Expert	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		
Change Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		
Change Management Analyst / Trainer	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		
Independent QA Specialist	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		
Application Architect	Blended	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Guides application

OSPI Data Modernization Feasibility Study Staffing Costs - Professional Services Hires (Vendor Offered)												
Model: Standalone Vendor (No Integrator)								Vendor: Microsoft Azure				
Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Cloud Platform Engineer	Cloud	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Builds landing zone;
Data Architect	Data	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		Defines data
Enterprise Architect	Blended	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		EA oversight
Program Manager	Blended		0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		Plans and coordinates project
<b>Totals</b>									<b>\$0</b>	<b>\$0</b>		

**Cost Benefit Analysis  
AWS - Summary**

**OSPI**  
**Data Modernization Feasibility Study**

<b>Amazon Web Services</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>	<b>YEAR 7</b>	<b>TOTAL</b>
<b>QUANTITATIVE COSTS</b>								
<b>Costs</b>								
Non-Recurring	\$ 14,943,600	\$ 15,408,000	\$ 9,412,800	\$ 4,478,400	\$ 4,296,000	\$ -	\$ -	\$ 48,538,800
Recurring	\$ 2,566,981	\$ 3,978,186	\$ 5,653,062	\$ 7,349,879	\$ 8,226,472	\$ 8,518,726	\$ 8,898,657	\$ 45,191,961
<b>Total Costs</b>	<b>\$ 17,510,581</b>	<b>\$ 19,386,186</b>	<b>\$ 15,065,862</b>	<b>\$ 11,828,279</b>	<b>\$ 12,522,472</b>	<b>\$ 8,518,726</b>	<b>\$ 8,898,657</b>	<b>\$ 93,730,761</b>
<b>Total Costs - Present Value</b>	<b>\$ 16,756,536</b>	<b>\$ 17,752,511</b>	<b>\$ 13,202,163</b>	<b>\$ 9,918,737</b>	<b>\$ 10,048,670</b>	<b>\$ 6,541,493</b>	<b>\$ 6,538,986</b>	<b>\$ 80,759,098</b>

<b>Benefits</b>								
Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Savings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Avoidance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Benefits</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Benefits - Present Value</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

<b>NET BENEFIT (COST)</b>	<b>\$ (17,510,581)</b>	<b>\$ (19,386,186)</b>	<b>\$ (15,065,862)</b>	<b>\$ (11,828,279)</b>	<b>\$ (12,522,472)</b>	<b>\$ (8,518,726)</b>	<b>\$ (8,898,657)</b>	<b>\$ (93,730,761)</b>
<b>NET BENEFIT (COST) - Present Value</b>	<b>\$ (16,756,536)</b>	<b>\$ (17,752,511)</b>	<b>\$ (13,202,163)</b>	<b>\$ (9,918,737)</b>	<b>\$ (10,048,670)</b>	<b>\$ (6,541,493)</b>	<b>\$ (6,538,986)</b>	<b>\$ (80,759,098)</b>

<b>Amazon Web Services w/ Integrator</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>	<b>YEAR 7</b>	<b>TOTAL</b>
<b>QUANTITATIVE COSTS</b>								
<b>Non-Recurring Costs</b>								
Implementation	\$ 639,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 639,600
Hardware	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software (Amorphic Platform)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software license fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FTE Salary and wages (including benefits)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FTC and professional services	\$ 14,304,000	\$ 15,408,000	\$ 9,412,800	\$ 4,478,400	\$ 4,296,000	\$ -	\$ -	\$ 47,899,200
Planning	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Procurement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service contracts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Infrastructure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Travel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Management	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transition (e.g., parallel system)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other (specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Non-Recurring Costs</b>	<b>\$ 14,943,600</b>	<b>\$ 15,408,000</b>	<b>\$ 9,412,800</b>	<b>\$ 4,478,400</b>	<b>\$ 4,296,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 48,538,800</b>
<b>Recurring costs (operations &amp; maintenance)</b>								
Hardware	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software (Amorphic Platform)	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 3,150,000
Software maintenance and upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Enhancements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software license fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service contracts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Infrastructure	\$ 341,088	\$ 443,414	\$ 576,439	\$ 749,370	\$ 974,181	\$ 1,266,436	\$ 1,646,367	\$ 5,997,295
Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Infrastructure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Help desk support	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
User training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FTE Salary and wages (including benefits)	\$ 1,775,893	\$ 3,084,772	\$ 4,626,623	\$ 6,150,508	\$ 6,802,290	\$ 6,802,290	\$ 6,802,290	\$ 36,044,666
FTC and professional services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Recurring Costs</b>	<b>\$ 2,566,981</b>	<b>\$ 3,978,186</b>	<b>\$ 5,653,062</b>	<b>\$ 7,349,879</b>	<b>\$ 8,226,472</b>	<b>\$ 8,518,726</b>	<b>\$ 8,898,657</b>	<b>\$ 45,191,961</b>
<b>TOTAL COSTS</b>	<b>\$ 17,510,581</b>	<b>\$ 19,386,186</b>	<b>\$ 15,065,862</b>	<b>\$ 11,828,279</b>	<b>\$ 12,522,472</b>	<b>\$ 8,518,726</b>	<b>\$ 8,898,657</b>	<b>\$ 93,730,761</b>



**Cost Benefit Analysis  
AWS - Benefits DETAILS**

<b>QUANTITATIVE BENEFITS</b>								
<b>Cost Avoidance</b>								
(Enter cost avoidance here)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Cost Avoidance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Other Benefits</b>								
(Enter other benefits here)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Other Benefits</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL BENEFITS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>NET BENEFIT (COST)</b>	\$ (17,510,581)	\$ (19,386,186)	\$ (15,065,862)	\$ (11,828,279)	\$ (12,522,472)	\$ (8,518,726)	\$ (8,898,657)	\$ (93,730,761)
<b>NET BENEFIT (COST) - Present Value</b>	\$ (16,756,536)	\$ (17,752,511)	\$ (13,202,163)	\$ (9,918,737)	\$ (10,048,670)	\$ (6,541,493)	\$ (6,538,986)	\$ (80,759,098)

## Staffing Breakdown - Vendor + Integrator Model

Summary of Staffing Costs - Vendor + Integrator Model									
Vendor: Amazon Web Services									
Staffing Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	5-Year Aggregate	7-Year Aggregate
FTE Staffing	\$1,775,893	\$3,084,772	\$4,626,623	\$6,150,508	\$6,802,290	\$6,802,290	\$6,802,290	\$22,440,085	\$36,044,666
FTC Staffing	\$14,304,000	\$15,408,000	\$9,412,800	\$4,478,400	\$4,296,000	\$0	\$0	\$47,899,200	\$47,899,200
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$16,079,893</b>	<b>\$18,492,772</b>	<b>\$14,039,423</b>	<b>\$10,628,908</b>	<b>\$11,098,290</b>	<b>\$6,802,290</b>	<b>\$6,802,290</b>	<b>\$70,339,285</b>	<b>\$83,943,866</b>



## OSPI Data

Position Title	Cost Side	Labor Cost Category	Year 1 FTE	Year 2 FTE	Year 3 FTE	Year 4 FTE	Year 5 FTE	Year 6 FTE	Year 7 FTE
Product Manager	Blended	Product & Business Analysis	1.0	2.0	2.0	3.0	3.0	3.0	3.0
Portfolio Manager	Blended	Project Team	0.0	0.0	0.0	0.0	1.0	1.0	1.0
Project Manager	Blended	Project Team	2.0	2.0	3.0	3.0	4.0	4.0	4.0
Process Mapping Expert	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change Management Analyst / Trainer	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Independent QA Specialist	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Application Architect	Blended	Technical Engineering	0.0	0.0	1.0	1.0	1.0	1.0	1.0
Cloud Platform Engineer	Cloud	Technical Engineering	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Data Architect	Data	Technical Engineering	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Enterprise Architect	Blended	Technical Engineering	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Program Manager	Blended	Technical Engineering	0.0	0.0	1.0	1.0	1.0	1.0	1.0

OSPI Data Position Title	Model: Vendor + In					
	WA OFM Published Equivalent Salary	Salary with 35% Benefit Addition	For Reference: Industry Average Salary	Year 1 Cost at WA OFM- Standard Salary	Year 2 Cost at WA OFM- Standard Salary	Year 3 Cost at WA OFM- Standard Salary
Junior .NET Developer	\$102,660	\$138,591	\$90,000	\$0	\$0	\$0
QA/Test Engineer	\$110,364	\$148,991	\$109,320	\$0	\$0	\$0
Senior .NET Developer	\$127,788	\$172,514	\$110,890	\$0	\$0	\$0
Test Automation Engineer	\$121,692	\$164,284	\$120,446	\$0	\$164,284	\$328,568
Cloud Support Engineer	\$121,692	\$164,284	\$129,460	\$0	\$0	\$0
Junior Cloud Support Eng.	\$95,568	\$129,017	\$85,000	\$0	\$0	\$0
Cybersecurity Architect	\$147,936	\$199,714	\$150,314	\$199,714	\$199,714	\$199,714
Cybersecurity Engineer	\$147,936	\$199,714	\$163,426	\$0	\$0	\$199,714
Database Administrator	\$121,692	\$164,284	\$105,023	\$0	\$0	\$0
Data Analyst	\$110,364	\$148,991	\$94,512	\$0	\$0	\$0
Data Platform Engineer	\$121,692	\$164,284	\$153,153	\$0	\$0	\$0
Data Engineer	\$115,908	\$156,476	\$137,519	\$156,476	\$312,952	\$469,427
BI Engineer	\$115,908	\$156,476	\$113,744	\$0	\$0	\$0
Data Scientist	\$121,692	\$164,284	\$140,540	\$0	\$0	\$0
Data Product Manager	\$121,692	\$164,284	\$181,404	\$0	\$164,284	\$164,284
Executive Sponsor	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0
Business Sponsor	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0
Technology Sponsor	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0
Product Owner / Program Sup.	\$189,096	\$255,280	\$189,096	\$510,559	\$1,021,118	\$1,531,678
Business Analyst	\$110,364	\$148,991	\$119,295	\$0	\$148,991	\$148,991

OSPI Data Position Title	Model: Vendor + In					
	WA OFM Published Equivalent Salary	Salary with 35% Benefit Addition	For Reference: Industry Average Salary	Year 1 Cost at WA OFM- Standard Salary	Year 2 Cost at WA OFM- Standard Salary	Year 3 Cost at WA OFM- Standard Salary
Product Manager	\$121,692	\$164,284	\$145,770	\$164,284	\$328,568	\$328,568
Portfolio Manager	\$145,770	\$196,789	\$145,770	\$0	\$0	\$0
Project Manager	\$147,936	\$199,714	\$153,000	\$399,427	\$399,427	\$599,141
Process Mapping Expert	\$100,980	\$136,323	\$125,000	\$0	\$0	\$0
Change Manager	\$100,980	\$136,323	\$155,000	\$0	\$0	\$0
Change Management Analyst / Trainer	\$78,912	\$106,531	\$133,500	\$0	\$0	\$0
Independent QA Specialist	\$121,692	\$164,284	\$153,000	\$0	\$0	\$0
Application Architect	\$102,660	\$138,591	\$141,825	\$0	\$0	\$138,591
Cloud Platform Engineer	\$115,908	\$156,476	\$155,829	\$0	\$0	\$0
Data Architect	\$121,692	\$164,284	\$156,183	\$164,284	\$164,284	\$164,284
Enterprise Architect	\$134,184	\$181,148	\$175,937	\$181,148	\$181,148	\$181,148
Program Manager	\$127,788	\$172,514	\$134,292	\$0	\$0	\$172,514

OSPI Data	Integrator				Vendor: Amazon Web Services	
Position Title	Year 4 Cost at WA OFM- Standard Salary	Year 5 Cost at WA OFM- Standard Salary	Year 6 Cost at WA OFM- Standard Salary	Year 7 Cost at WA OFM- Standard Salary	Estimated 5 Year Cost at WA OFM- Standard Salary	Notes
Junior .NET Developer	\$0	\$0	\$0	\$0	\$0	Maintains codebase
QA/Test Engineer	\$0	\$0	\$0	\$0	\$0	next-MVP Broad QA coverage
Senior .NET Developer	\$0	\$0	\$0	\$0	\$0	including Leads
Test Automation Engineer	\$657,137	\$657,137	\$657,137	\$657,137	\$1,807,126	modernization non-handoff to Builds/maintains test automation
Cloud Support Engineer	\$0	\$0	\$0	\$0	\$0	24x7 ops support;
Junior Cloud Support Eng.	\$0	\$0	\$0	\$0	\$0	retains one Tier 1 support post-MVP
Cybersecurity Architect	\$199,714	\$199,714	\$199,714	\$199,714	\$998,568	Designs security;
Cybersecurity Engineer	\$399,427	\$399,427	\$399,427	\$399,427	\$998,568	retained Validates security
Database Administrator	\$0	\$0	\$0	\$0	\$0	configs Guides the unraveling of
Data Analyst	\$0	\$0	\$0	\$0	\$0	100+ servers Profiling, validation,
Data Platform Engineer	\$0	\$0	\$0	\$0	\$0	migration QA Manages migration
Data Engineer	\$625,903	\$625,903	\$625,903	\$625,903	\$2,190,661	ninesines Designs and builds data
BI Engineer	\$0	\$0	\$0	\$0	\$0	ingestion/nines Builds reports and BI
Data Scientist	\$0	\$0	\$0	\$0	\$0	models Creates models and
Data Product Manager	\$328,568	\$328,568	\$328,568	\$328,568	\$985,705	analytics Owns product roadmap and
Executive Sponsor	\$0	\$0	\$0	\$0	\$0	delivery for
Business Sponsor	\$0	\$0	\$0	\$0	\$0	
Technology Sponsor	\$0	\$0	\$0	\$0	\$0	
Product Owner / Program Sup.	\$2,042,237	\$2,297,516	\$2,297,516	\$2,297,516	\$7,403,108	
Business Analyst	\$148,991	\$148,991	\$148,991	\$148,991	\$595,966	Gathers and analyzes business

OSPI Data	Integrator				Vendor: Amazon Web Services	
Position Title	Year 4 Cost at WA OFM-Standard Salary	Year 5 Cost at WA OFM-Standard Salary	Year 6 Cost at WA OFM-Standard Salary	Year 7 Cost at WA OFM-Standard Salary	Estimated 5 Year Cost at WA OFM-Standard Salary	Notes
Product Manager	\$492,853	\$492,853	\$492,853	\$492,853	\$1,807,126	Coordinates MVP delivery; scales back
Portfolio Manager	\$0	\$196,789	\$196,789	\$196,789	\$196,789	
Project Manager	\$599,141	\$798,854	\$798,854	\$798,854	\$2,795,990	
Process Mapping Expert	\$0	\$0	\$0	\$0	\$0	
Change Manager	\$0	\$0	\$0	\$0	\$0	
Change Management Analyst / Trainer	\$0	\$0	\$0	\$0	\$0	
Independent QA Specialist	\$0	\$0	\$0	\$0	\$0	
Application Architect	\$138,591	\$138,591	\$138,591	\$138,591	\$415,773	Guides application modernization Builds landing zone;
Cloud Platform Engineer	\$0	\$0	\$0	\$0	\$0	
Data Architect	\$164,284	\$164,284	\$164,284	\$164,284	\$821,421	Implements governance EA oversight upfront;
Enterprise Architect	\$181,148	\$181,148	\$181,148	\$181,148	\$905,742	
Program Manager	\$172,514	\$172,514	\$172,514	\$172,514	\$517,541	Plans and coordinates project across

OSPI Data Position Title	Services For Reference : Industry Salary Citations
Junior .NET Developer	Estimated ~\$90K
QA/Test Engineer	based on Indeed avg
Senior .NET Developer	\$109,370 Indeed avg
Test Automation Engineer	\$107,086 Built In QA avg
Cloud Support Engineer	\$97K-\$115 ZipRecruit er avg
Junior Cloud Support Eng.	\$118,857 ZipRecruit er entry
Cybersecurity Architect	range <a href="https://www.salary.com">Salary.com</a> avg
Cybersecurity Engineer	\$150,314 ZipRecruit er avg
Database Administrator	\$139,931 Indeed avg
Data Analyst	\$101,376 Indeed avg
Data Platform Engineer	\$107,934 Built In avg
Data Engineer	\$130,975 Built In
BI Engineer	Wallfoun ZipRecruit er
Data Scientist	\$61,71/hr Built In \$131,105 ,
Data Product Manager	Indeed ZipRecruit er avg
Executive Sponsor	\$181,404/ Ted Loran OSPI
Business Sponsor	Deb Came,
Technology Sponsor	OSPI CIO- appointed
Product Owner / Program Sup.	or CIO Most critical
Business Analyst	role for Indeed avg
	\$96,364 +

OSPI Data Position Title	Services For Reference : Industry Salary Citations
Product Manager	Built In avg \$141,529
Portfolio Manager	
Project Manager	Principal non-profit represent
Process Mapping Expert	Extensive process- mapping
Change Manager	Drafting change managem
Change Management Analyst / Trainer	Embeds with the training
Independent QA Specialist	Required by WaTech
Application Architect	Coursera avg \$146,488
Cloud Platform Engineer	Randstad range \$124,011–
Data Architect	Built In avg \$146,625
Enterprise Architect	ZipRecruit er avg \$179,902
Program Manager	Indeed avg \$106,492

**OSPI Data Modernization Feasibility Study Staffing Costs - FTC Contractor Hire  
(Internal Resources)**

Position Title	Cost Side	Labor Cost Category	Year 1 FTC
Junior .NET Developer	Cloud	App Dev & Quality	1.0
QA/Test Engineer	Blended	App Dev & Quality	2.0
Senior .NET Developer	Cloud	App Dev & Quality	0.0
Test Automation Engineer	Blended	App Dev & Quality	5.0
Cloud Support Engineer	Cloud	Cloud & Systems Support	3.0
Junior Cloud Support Eng.	Cloud	Cloud & Systems Support	2.0
Cybersecurity Architect	Blended	Cybersecurity	0.0
Cybersecurity Engineer	Blended	Cybersecurity	2.0
Database Administrator	Data	Data & Analytics	0.0
Data Analyst	Data	Data & Analytics	0.0
Data Platform Engineer	Data	Data & Analytics	0.0
Data Engineer	Data	Data & Analytics	0.0
BI Engineer	Data	Data & Analytics	0.0
Data Scientist	Data	Data & Analytics	0.0
Data Product Manager	Data	Data & Analytics	0.0
Cloud Product Owner / Program Sup.	Blended	OSPI Sponsors	0.0
Business Analyst	Blended	Product & Business Analysis	2.0
Product Manager	Blended	Product & Business Analysis	0.0
Portfolio Manager	Blended	Project Team	1.0
Project Manager	Blended	Project Team	2.0
Process Mapping Expert	Blended	Project Team	1.0
Change Manager	Blended	Project Team	3.0
Change Management Analyst / Trainer	Blended	Project Team	2.0
Independent QA Specialist	Blended	Project Team	1.0
Application Architect	Blended	Technical Engineering	1.0
Cloud Platform Engineer	Cloud	Technical Engineering	3.0
Data Architect	Data	Technical Engineering	1.0
Enterprise Architect	Blended	Technical Engineering	0.0
Program Manager	Blended		1.0
<b>Totals</b>			

OSPI Data Modernization Feasibles (Consultancies, FTC)				
Position Title	Year 2 FTC	Year 3 FTC	Year 4 FTC	Year 5 FTC
Junior .NET Developer	2.0	1.0	0.0	0.0
QA/Test Engineer	2.0	1.0	0.0	0.0
Senior .NET Developer	2.0	1.0	0.0	0.0
Test Automation Engineer	4.0	3.0	1.0	1.0
Cloud Support Engineer	2.0	1.0	0.0	0.0
Junior Cloud Support Eng.	1.0	0.0	0.0	0.0
Cybersecurity Architect	0.0	0.0	0.0	0.0
Cybersecurity Engineer	2.0	1.0	0.0	0.0
Database Administrator	0.0	0.0	0.0	0.0
Data Analyst	0.0	0.0	0.0	0.0
Data Platform Engineer	0.0	0.0	0.0	0.0
Data Engineer	0.0	0.0	0.0	0.0
BI Engineer	0.0	0.0	0.0	0.0
Data Scientist	0.0	0.0	0.0	0.0
Data Product Manager	0.0	0.0	0.0	0.0
Cloud Product Owner / Program Sup.	0.0	0.0	0.0	0.0
Business Analyst	3.0	2.0	1.0	0.5
Product Manager	0.0	0.0	0.0	0.0
Portfolio Manager	1.0	0.5	0.5	0.5
Project Manager	2.0	2.0	2.0	2.0
Process Mapping Expert	1.0	0.0	0.0	0.0
Change Manager	6.0	6.0	5.0	5.0
Change Management Analyst / Trainer	1.0	1.0	0.0	0.0
Independent QA Specialist	1.0	1.0	1.0	1.0
Application Architect	1.0	0.0	0.0	0.0
Cloud Platform Engineer	2.0	1.0	0.0	0.0
Data Architect	1.0	0.5	0.5	0.5
Enterprise Architect	0.0	0.0	0.0	0.0
Program Manager	1.0	0.0	0.0	0.0
<b>Totals</b>				

OSPI Data Modernization Feasibility Model:		Vendor +	
Position Title	Year 6 FTC	Year 7 FTC	Standard FTC Rates
Junior .NET Developer	0.0	0.0	\$364,800
QA/Test Engineer	0.0	0.0	\$384,000
Senior .NET Developer	0.0	0.0	\$624,000
Test Automation Engineer	0.0	0.0	\$384,000
Cloud Support Engineer	0.0	0.0	\$432,000
Junior Cloud Support Eng.	0.0	0.0	\$364,800
Cybersecurity Architect	0.0	0.0	\$624,000
Cybersecurity Engineer	0.0	0.0	\$576,000
Database Administrator	0.0	0.0	\$624,000
Data Analyst	0.0	0.0	\$384,000
Data Platform Engineer	0.0	0.0	\$480,000
Data Engineer	0.0	0.0	\$432,000
BI Engineer	0.0	0.0	\$432,000
Data Scientist	0.0	0.0	\$432,000
Data Product Manager	0.0	0.0	\$480,000
Cloud Product Owner / Program Sup.	0.0	0.0	\$480,000
Business Analyst	0.0	0.0	\$364,800
Product Manager	0.0	0.0	\$480,000
Portfolio Manager	0.0	0.0	\$432,000
Project Manager	0.0	0.0	\$364,800
Process Mapping Expert	0.0	0.0	\$364,800
Change Manager	0.0	0.0	\$432,000
Change Management Analyst / Trainer	0.0	0.0	\$364,800
Independent QA Specialist	0.0	0.0	\$384,000
Application Architect	0.0	0.0	\$624,000
Cloud Platform Engineer	0.0	0.0	\$624,000
Data Architect	0.0	0.0	\$480,000
Enterprise Architect	0.0	0.0	\$624,000
Program Manager	0.0	0.0	\$432,000
<b>Totals</b>			

OSPI Data Modernization Feasibility Study	Vendor: Amazon Web Services		
	Position Title	Year 1 Cost at Industry-Standard Salary	Year 2 Cost at Industry-Standard Salary
Junior .NET Developer	\$364,800	\$729,600	\$364,800
QA/Test Engineer	\$768,000	\$768,000	\$384,000
Senior .NET Developer	\$0	\$1,248,000	\$624,000
Test Automation Engineer	\$1,920,000	\$1,536,000	\$1,152,000
Cloud Support Engineer	\$1,296,000	\$864,000	\$432,000
Junior Cloud Support Eng.	\$729,600	\$364,800	\$0
Cybersecurity Architect	\$0	\$0	\$0
Cybersecurity Engineer	\$1,152,000	\$1,152,000	\$576,000
Database Administrator	\$0	\$0	\$0
Data Analyst	\$0	\$0	\$0
Data Platform Engineer	\$0	\$0	\$0
Data Engineer	\$0	\$0	\$0
BI Engineer	\$0	\$0	\$0
Data Scientist	\$0	\$0	\$0
Data Product Manager	\$0	\$0	\$0
Cloud Product Owner / Program Sup.	\$0	\$0	\$0
Business Analyst	\$729,600	\$1,094,400	\$729,600
Product Manager	\$0	\$0	\$0
Portfolio Manager	\$432,000	\$432,000	\$216,000
Project Manager	\$729,600	\$729,600	\$729,600
Process Mapping Expert	\$364,800	\$364,800	\$0
Change Manager	\$1,296,000	\$2,592,000	\$2,592,000
Change Management Analyst / Trainer	\$729,600	\$364,800	\$364,800
Independent QA Specialist	\$384,000	\$384,000	\$384,000
Application Architect	\$624,000	\$624,000	\$0
Cloud Platform Engineer	\$1,872,000	\$1,248,000	\$624,000
Data Architect	\$480,000	\$480,000	\$240,000
Enterprise Architect	\$0	\$0	\$0
Program Manager	\$432,000	\$432,000	\$0
<b>Totals</b>	<b>\$14,304,000</b>	<b>\$15,408,000</b>	<b>\$9,412,800</b>

OSPI Data Modernization Feasib			
Position Title	Year 4 Cost at Industry-Standard Salary	Year 5 Cost at Industry-Standard Salary	Year 6 Cost at Industry-Standard Salary
Junior .NET Developer	\$0	\$0	\$0
QA/Test Engineer	\$0	\$0	\$0
Senior .NET Developer	\$0	\$0	\$0
Test Automation Engineer	\$384,000	\$384,000	\$0
Cloud Support Engineer	\$0	\$0	\$0
Junior Cloud Support Eng.	\$0	\$0	\$0
Cybersecurity Architect	\$0	\$0	\$0
Cybersecurity Engineer	\$0	\$0	\$0
Database Administrator	\$0	\$0	\$0
Data Analyst	\$0	\$0	\$0
Data Platform Engineer	\$0	\$0	\$0
Data Engineer	\$0	\$0	\$0
BI Engineer	\$0	\$0	\$0
Data Scientist	\$0	\$0	\$0
Data Product Manager	\$0	\$0	\$0
Cloud Product Owner / Program Sup.	\$0	\$0	\$0
Business Analyst	\$364,800	\$182,400	\$0
Product Manager	\$0	\$0	\$0
Portfolio Manager	\$216,000	\$216,000	\$0
Project Manager	\$729,600	\$729,600	\$0
Process Mapping Expert	\$0	\$0	\$0
Change Manager	\$2,160,000	\$2,160,000	\$0
Change Management Analyst / Trainer	\$0	\$0	\$0
Independent QA Specialist	\$384,000	\$384,000	\$0
Application Architect	\$0	\$0	\$0
Cloud Platform Engineer	\$0	\$0	\$0
Data Architect	\$240,000	\$240,000	\$0
Enterprise Architect	\$0	\$0	\$0
Program Manager	\$0	\$0	\$0
<b>Totals</b>	<b>\$4,478,400</b>	<b>\$4,296,000</b>	<b>\$0</b>

## OSPI Data Modernization Feasib

Position Title	Year 7 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations
Junior .NET Developer	\$0	\$1,459,200	\$190/hr
QA/Test Engineer	\$0	\$1,920,000	\$200/hr
Senior .NET Developer	\$0	\$1,872,000	\$325/hr
Test Automation Engineer	\$0	\$5,376,000	\$200/hr
Cloud Support Engineer	\$0	\$2,592,000	\$225/hr
Junior Cloud Support Eng.	\$0	\$1,094,400	\$190/hr
Cybersecurity Architect	\$0	\$0	<a href="#">\$325/hr</a>
Cybersecurity Engineer	\$0	\$2,880,000	\$300/hr
Database Administrator	\$0	\$0	\$325/hr
Data Analyst	\$0	\$0	\$200/hr
Data Platform Engineer	\$0	\$0	\$250/hr
Data Engineer	\$0	\$0	\$225/hr
BI Engineer	\$0	\$0	\$225/hr
Data Scientist	\$0	\$0	\$225/hr
Data Product Manager	\$0	\$0	\$250/hr
Cloud Product Owner / Program Sup.	\$0	\$0	\$250/hr
Business Analyst	\$0	\$3,100,800	\$190/hr
Product Manager	\$0	\$0	\$250/hr
Portfolio Manager	\$0	\$1,512,000	\$225/hr
Project Manager	\$0	\$3,648,000	\$190/hr
Process Mapping Expert	\$0	\$729,600	\$190/hr
Change Manager	\$0	\$10,800,000	\$225/hr
Change Management Analyst / Trainer	\$0	\$1,459,200	\$190/hr
Independent QA Specialist	\$0	\$1,920,000	\$200/hr
Application Architect	\$0	\$1,248,000	\$325/hr
Cloud Platform Engineer	\$0	\$3,744,000	\$325/hr
Data Architect	\$0	\$1,680,000	\$250/hr
Enterprise Architect	\$0	\$0	\$325/hr
Program Manager	\$0	\$864,000	\$225/hr
<b>Totals</b>	<b>\$0</b>	<b>\$47,899,200</b>	

## OSPI Data Modernization Feasib

Position Title	Notes
Junior .NET Developer	Maintains codebase post-MVP
QA/Test Engineer	Broad QA coverage including performance and UAT post-PoC
Senior .NET Developer	Leads modernization; handoff to junior
Test Automation Engineer	Builds/maintains test automation; part-time post-MVP
Cloud Support Engineer	24x7 ops support; retains one FTE post-MVP
Junior Cloud Support Eng.	Tier 1 support post-MVP
Cybersecurity Architect	Designs security; retained advisory
Cybersecurity Engineer	Validates security configs, manages vulnerability scans
Database Administrator	Guides the unraveling of 100+ servers and connected web apps to ensure
Data Analyst	Profiling, validation, migration QA metrics
Data Platform Engineer	Manages migration pipelines; retains for maintenance
Data Engineer	Designs and builds data ingestion/pipelines; retains one for
BI Engineer	Builds reports and BI models; fractional support post-MVP
Data Scientist	Creates models and analysis during migration; limited advisory post-MVP
Data Product Manager	Owns product roadmap and delivery for data platforms; critical for MVP
Cloud Product Owner / Program Sup.	
Business Analyst	Gathers and analyzes business requirements; validates outcomes
Product Manager	Coordinates MVP delivery; scales back post-launch
Portfolio Manager	
Project Manager	
Process Mapping Expert	
Change Manager	
Change Management Analyst / Trainer	
Independent QA Specialist	
Application Architect	Guides application modernization; fractional support post-MVP
Cloud Platform Engineer	Builds landing zone; Implements CI/CD pipelines; retains one for continuous
Data Architect	Defines data models and governance; post-MVP advisory
Enterprise Architect	EA oversight upfront; governance role after MVP
Program Manager	Plans and coordinates project across teams; retains half-time for roadmap and stakeholder management
<b>Totals</b>	

OSPI Data Modernization Feasibility Study Staffing Costs -							Model: Vendor + Integrator		Vendor: Amazon Web		Citations	Notes
Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary		
Junior .NET Developer	Cloud	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		Maintains codebase
QA/Test Engineer	Blended	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		post-MVP Broad QA coverage including
Senior .NET Developer	Cloud	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Leads modernization:
Test Automation Engineer	Blended	App Dev & Quality	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		Builds/maintains test automation
Cloud Support Engineer	Cloud	Cloud & Systems Support	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		24x7 ops support; retains
Junior Cloud Support Eng.	Cloud	Cloud & Systems Support	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		Tier 1 support post-MVP
Cybersecurity Architect	Blended	Cybersecurity	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Designs security; retained
Cybersecurity Engineer	Blended	Cybersecurity	0.0	0.0	0.0	0.0	0.0	\$576,000	\$0	\$0		Validates security configs.
Database Administrator	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Guides the unraveling
Data Analyst	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		Profiling, validation, migration

**OSPI Data Modernization Feasibility Study Staffing Costs - Model: Vendor + Integrator Vendor: Amazon Web**

Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Data Platform Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		Manages migration pipelines: Designs and builds data Builds reports and BI Creates models and Owns product roadmap
Data Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		
BI Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		
Data Scientist	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		
Data Product Manager	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		
Product Owner / Program Sup.	Blended	OSPI Sponsors	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		
Business Analyst	Blended	Product & Business Analysis	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		
Product Manager	Blended	Product & Business Analysis	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		
Portfolio Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		
Project Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		

OSPI Data Modernization Feasibility Study Staffing Costs -							Model: Vendor + Integrator		Vendor: Amazon Web			
Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Citations	Notes
Process Mapping Expert	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		
Change Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		
Change Management Analyst / Trainer	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$364,800	\$0	\$0		
Independent QA Specialist	Blended	Project Team	0.0	0.0	0.0	0.0	0.0	\$384,000	\$0	\$0		
Application Architect	Blended	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Guides application
Cloud Platform Engineer	Cloud	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		Builds landing zone;
Data Architect	Data	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$480,000	\$0	\$0		Defines data models
Enterprise Architect	Blended	Technical Engineering	0.0	0.0	0.0	0.0	0.0	\$624,000	\$0	\$0		EA oversight upfront;
Program Manager	Blended		0.0	0.0	0.0	0.0	0.0	\$432,000	\$0	\$0		Plans and coordinates project
<b>Totals</b>								\$13,468,800	\$0	\$0		

**Cost Benefit Analysis  
GCP - Summary**

**OSPI**

**Data Modernization Feasibility Study**

Google Cloud Provider	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTAL
<b>QUANTITATIVE COSTS</b>								
<b>Costs</b>								
Non-Recurring	\$ 15,432,560	\$ 15,480,575	\$ 9,441,800	\$ 4,478,400	\$ 4,296,000	\$ 384,000	\$ 384,000	\$ 49,897,335
Recurring	\$ 2,110,808	\$ 3,930,496	\$ 5,429,786	\$ 7,038,964	\$ 7,798,162	\$ 7,934,607	\$ 8,108,955	\$ 42,351,778
<b>Total Costs</b>	<b>\$ 17,543,368</b>	<b>\$ 19,411,071</b>	<b>\$ 14,871,586</b>	<b>\$ 11,517,364</b>	<b>\$ 12,094,162</b>	<b>\$ 8,318,607</b>	<b>\$ 8,492,955</b>	<b>\$ 92,249,113</b>
<b>Total Costs - Present Value</b>	<b>\$ 16,787,912</b>	<b>\$ 17,775,299</b>	<b>\$ 13,031,920</b>	<b>\$ 9,658,016</b>	<b>\$ 9,704,973</b>	<b>\$ 6,387,823</b>	<b>\$ 6,240,865</b>	<b>\$ 79,586,808</b>

Benefits								
Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Savings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Avoidance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Benefits</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Benefits - Present Value</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

<b>NET BENEFIT (COST)</b>	<b>\$ (17,543,368)</b>	<b>\$ (19,411,071)</b>	<b>\$ (14,871,586)</b>	<b>\$ (11,517,364)</b>	<b>\$ (12,094,162)</b>	<b>\$ (8,318,607)</b>	<b>\$ (8,492,955)</b>	<b>\$ (92,249,113)</b>
<b>NET BENEFIT (COST) - Present Value</b>	<b>\$ (16,787,912)</b>	<b>\$ (17,775,299)</b>	<b>\$ (13,031,920)</b>	<b>\$ (9,658,016)</b>	<b>\$ (9,704,973)</b>	<b>\$ (6,387,823)</b>	<b>\$ (6,240,865)</b>	<b>\$ (79,586,808)</b>



Google Cloud Provider w/ Integrator	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTAL
Infrastructure	\$ 121,781	\$ 158,315	\$ 205,809	\$ 267,552	\$ 347,817	\$ 452,162	\$ 587,811	\$ 2,141,247
Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Support (Platform)	\$ 108,864	\$ 362,880	\$ 290,304	\$ 290,304	\$ 290,304	\$ 290,304	\$ 290,304	\$ 1,923,264
User training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FTE Salary and wages (including benefits)	\$ 1,775,893	\$ 3,084,772	\$ 4,626,623	\$ 6,150,508	\$ 6,802,290	\$ 6,802,290	\$ 6,802,290	\$ 36,044,666
FTC and professional services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Recurring Costs</b>	<b>\$ 2,110,808</b>	<b>\$ 3,930,496</b>	<b>\$ 5,429,786</b>	<b>\$ 7,038,964</b>	<b>\$ 7,798,162</b>	<b>\$ 7,934,607</b>	<b>\$ 8,108,955</b>	<b>\$ 42,351,778</b>
<b>TOTAL COSTS</b>	<b>\$ 17,543,368</b>	<b>\$ 19,411,071</b>	<b>\$ 14,871,586</b>	<b>\$ 11,517,364</b>	<b>\$ 12,094,162</b>	<b>\$ 8,318,607</b>	<b>\$ 8,492,955</b>	<b>\$ 92,249,113</b>



**Cost Benefit Analysis  
GCP - Benefits DETAILS**

<b>Google Cloud Provider w/ Integrator</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>	<b>YEAR 7</b>
<b>QUANTITATIVE BENEFITS</b>							
<b>Cost Avoidance</b>							
(Enter cost avoidance here)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Cost Avoidance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Other Benefits</b>							
(Enter other benefits here)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Other Benefits</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL BENEFITS</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

<b>NET BENEFIT (COST)</b>	\$ (17,543,368)	\$ (19,411,071)	\$ (14,871,586)	\$ (11,517,364)	\$ (12,094,162)	\$ (8,318,607)	<b>\$ (8,492,955)</b>	<b>\$ (92,249,113)</b>
<b>NET BENEFIT (COST) - Present Value</b>	\$ (16,787,912)	\$ (17,775,299)	\$ (13,031,920)	\$ (9,658,016)	\$ (9,704,973)	\$ (6,387,823)	<b>\$ (6,240,865)</b>	<b>\$ (79,586,808)</b>

# Staffing Breakdown - Vendor + Integrator Model

Summary of Staffing Costs - Vendor + Integrator Model									
Vendor: Google Cloud Provider									
Staffing Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	5-Year Aggregate	7-Year Aggregate
FTE Staffing	\$1,775,893	\$3,084,772	\$4,626,623	\$6,150,508	\$6,802,290	\$6,802,290	\$6,802,290	\$22,440,085	\$36,044,666
FTC Staffing	\$6,201,600	\$9,897,600	\$6,456,000	\$4,094,400	\$3,912,000	\$0	\$0	\$30,561,600	\$30,561,600
Professional Services	\$8,102,400	\$5,510,400	\$2,956,800	\$384,000	\$384,000	\$384,000	\$384,000	\$17,337,600	\$18,105,600
<b>Total</b>	<b>\$16,079,893</b>	<b>\$18,492,772</b>	<b>\$14,039,423</b>	<b>\$10,628,908</b>	<b>\$11,098,290</b>	<b>\$7,186,290</b>	<b>\$7,186,290</b>	<b>\$70,339,285</b>	<b>\$84,711,866</b>

## OSPI Data Modernization Feasibility Study Staffing Costs - OSPI FTE Hires

Position Title	Cost Side	Labor Cost Category	Year 1 FTE	Year 2 FTE	Year 3 FTE	Year 4 FTE	Year 5 FTE
Junior .NET Developer	Cloud	App Dev &	0.0	0.0	0.0	0.0	0.0
QA/Test Engineer	Blended	App Dev &	0.0	0.0	0.0	0.0	0.0
Senior .NET Developer	Cloud	App Dev &	0.0	0.0	0.0	0.0	0.0
Test Automation Engineer	Blended	App Dev &	0.0	1.0	2.0	4.0	4.0
Cloud Support Engineer	Cloud	Cloud &	0.0	0.0	0.0	0.0	0.0
Junior Cloud Support Eng.	Cloud	Cloud &	0.0	0.0	0.0	0.0	0.0
Cybersecurity Architect	Blended	Cybersecu	1.0	1.0	1.0	1.0	1.0
Cybersecurity Engineer	Blended	Cybersecu	0.0	0.0	1.0	2.0	2.0
Database Administrator	Data	Data &	0.0	0.0	0.0	0.0	0.0
Data Analyst	Data	Data &	0.0	0.0	0.0	0.0	0.0
Data Platform Engineer	Data	Data &	0.0	0.0	0.0	0.0	0.0
Data Engineer	Data	Data &	1.0	2.0	3.0	4.0	4.0
BI Engineer	Data	Data &	0.0	0.0	0.0	0.0	0.0
Data Scientist	Data	Data &	0.0	0.0	0.0	0.0	0.0
Data Product Manager	Data	Data &	0.0	1.0	1.0	2.0	2.0
Executive Sponsor	Blended	OSPI	0.0	0.0	0.0	0.0	0.0
Business Sponsor	Blended	OSPI	0.0	0.0	0.0	0.0	0.0
Technology Sponsor	Blended	OSPI	0.0	0.0	0.0	0.0	0.0
Product Owner / Program Sup.	Blended	OSPI	2.0	4.0	6.0	8.0	9.0
Business Analyst	Blended	Product &	0.0	1.0	1.0	1.0	1.0
Product Manager	Blended	Product &	1.0	2.0	2.0	3.0	3.0
Portfolio Manager	Blended	Project	0.0	0.0	0.0	0.0	1.0
Project Manager	Blended	Project	2.0	2.0	3.0	3.0	4.0
Process Mapping Expert	Blended	Project	0.0	0.0	0.0	0.0	0.0
Change Manager	Blended	Project	0.0	0.0	0.0	0.0	0.0
Change Management Analyst /	Blended	Project	0.0	0.0	0.0	0.0	0.0
Independent QA Specialist	Blended	Project	0.0	0.0	0.0	0.0	0.0
Application Architect	Blended	Technical	0.0	0.0	1.0	1.0	1.0
Cloud Platform Engineer	Cloud	Technical	0.0	0.0	0.0	0.0	0.0
Data Architect	Data	Technical	1.0	1.0	1.0	1.0	1.0
Enterprise Architect	Blended	Technical	1.0	1.0	1.0	1.0	1.0
Program Manager	Blended		0.0	0.0	1.0	1.0	1.0

Model: Vendor + Integratc					Vendor: Google Cloud Provid		
Year 6 FTE	Year 7 FTE	WA OFM Published Equivalent Salary	Salary with 35% Benefit Addition	For Reference : Industry Average Salary	Year 1 Cost at WA OFM- Standard Salary	Year 2 Cost at WA OFM- Standard Salary	Year 3 Cost at WA OFM- Standard Salary
0.0	0.0	\$102,660	\$138,591	\$90,000	\$0	\$0	\$0
0.0	0.0	\$110,364	\$148,991	\$109,320	\$0	\$0	\$0
0.0	0.0	\$127,788	\$172,514	\$110,890	\$0	\$0	\$0
4.0	4.0	\$121,692	\$164,284	\$120,446	\$0	\$164,284	\$328,568
0.0	0.0	\$121,692	\$164,284	\$129,460	\$0	\$0	\$0
0.0	0.0	\$95,568	\$129,017	\$85,000	\$0	\$0	\$0
1.0	1.0	\$147,936	\$199,714	\$150,314	\$199,714	\$199,714	\$199,714
2.0	2.0	\$147,936	\$199,714	\$163,426	\$0	\$0	\$199,714
0.0	0.0	\$121,692	\$164,284	\$105,023	\$0	\$0	\$0
0.0	0.0	\$110,364	\$148,991	\$94,512	\$0	\$0	\$0
0.0	0.0	\$121,692	\$164,284	\$153,153	\$0	\$0	\$0
4.0	4.0	\$115,908	\$156,476	\$137,519	\$156,476	\$312,952	\$469,427
0.0	0.0	\$115,908	\$156,476	\$113,744	\$0	\$0	\$0
0.0	0.0	\$121,692	\$164,284	\$140,540	\$0	\$0	\$0
2.0	2.0	\$121,692	\$164,284	\$181,404	\$0	\$164,284	\$164,284
0.0	0.0	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0
0.0	0.0	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0
0.0	0.0	\$189,096	\$255,280	\$189,096	\$0	\$0	\$0
9.0	9.0	\$189,096	\$255,280	\$189,096	\$510,559	\$1,021,118	\$1,531,678
1.0	1.0	\$110,364	\$148,991	\$119,295	\$0	\$148,991	\$148,991
3.0	3.0	\$121,692	\$164,284	\$145,770	\$164,284	\$328,568	\$328,568
1.0	1.0	\$145,770	\$196,789	\$145,770	\$0	\$0	\$0
4.0	4.0	\$147,936	\$199,714	\$153,000	\$399,427	\$399,427	\$599,141
0.0	0.0	\$100,980	\$136,323	\$125,000	\$0	\$0	\$0
0.0	0.0	\$100,980	\$136,323	\$155,000	\$0	\$0	\$0
0.0	0.0	\$78,912	\$106,531	\$133,500	\$0	\$0	\$0
0.0	0.0	\$121,692	\$164,284	\$153,000	\$0	\$0	\$0
1.0	1.0	\$102,660	\$138,591	\$141,825	\$0	\$0	\$138,591
0.0	0.0	\$115,908	\$156,476	\$155,829	\$0	\$0	\$0
1.0	1.0	\$121,692	\$164,284	\$156,183	\$164,284	\$164,284	\$164,284
1.0	1.0	\$134,184	\$181,148	\$175,937	\$181,148	\$181,148	\$181,148
1.0	1.0	\$127,788	\$172,514	\$134,292	\$0	\$0	\$172,514

er						
Year 4 Cost at WA OFM- Standard Salary	Year 5 Cost at WA OFM- Standard Salary	Year 6 Cost at WA OFM- Standard Salary	Year 7 Cost at WA OFM- Standard Salary	Estimated 5 Year Cost at WA OFM- Standard Salary	Notes	For Reference : Industry Salary Citations
\$0	\$0	\$0	\$0	\$0	Maintains	Estimated
\$0	\$0	\$0	\$0	\$0	Broad QA	Indeed
\$0	\$0	\$0	\$0	\$0	Leads	Indeed
\$657,137	\$657,137	\$657,137	\$657,137	\$1,807,126	Builds/mai	Built In QA
\$0	\$0	\$0	\$0	\$0	24x7 ops	ZipRecruit
\$0	\$0	\$0	\$0	\$0	Tier 1	ZipRecruit
\$199,714	\$199,714	\$199,714	\$199,714	\$998,568	Designs	<a href="#">Salary.co</a>
\$399,427	\$399,427	\$399,427	\$399,427	\$998,568	Validates	ZipRecruit
\$0	\$0	\$0	\$0	\$0	Guides	Indeed
\$0	\$0	\$0	\$0	\$0	Profiling,	Indeed
\$0	\$0	\$0	\$0	\$0	Manages	Built In
\$625,903	\$625,903	\$625,903	\$625,903	\$2,190,661	Designs	Built In
\$0	\$0	\$0	\$0	\$0	Builds	ZipRecruit
\$0	\$0	\$0	\$0	\$0	Creates	Built In
\$328,568	\$328,568	\$328,568	\$328,568	\$985,705	Owens	ZipRecruit
\$0	\$0	\$0	\$0	\$0		Ted Loran
\$0	\$0	\$0	\$0	\$0		Deb
\$0	\$0	\$0	\$0	\$0		CIO-
\$2,042,237	\$2,297,516	\$2,297,516	\$2,297,516	\$7,403,108		Most
\$148,991	\$148,991	\$148,991	\$148,991	\$595,966	Gathers	Indeed
\$492,853	\$492,853	\$492,853	\$492,853	\$1,807,126	Coordinat	Built In
\$0	\$196,789	\$196,789	\$196,789	\$196,789		
\$599,141	\$798,854	\$798,854	\$798,854	\$2,795,990		Principal
\$0	\$0	\$0	\$0	\$0		Extensive
\$0	\$0	\$0	\$0	\$0		Drafting
\$0	\$0	\$0	\$0	\$0		Embeds
\$0	\$0	\$0	\$0	\$0		Required
\$138,591	\$138,591	\$138,591	\$138,591	\$415,773	Guides	Coursera
\$0	\$0	\$0	\$0	\$0	Builds	Randstad
\$164,284	\$164,284	\$164,284	\$164,284	\$821,421	Defines	Built In
\$181,148	\$181,148	\$181,148	\$181,148	\$905,742	EA	ZipRecruit
\$172,514	\$172,514	\$172,514	\$172,514	\$517,541	Plans and	Indeed

OSPI Data Modernization Feasibility Study Staffing Costs - FTC Contractor Hires (Consultancies)

Position Title	Cost Side	Labor Cost Category	Year 1 FTC	Year 2 FTC	Year 3 FTC	Year 4 FTC
Junior .NET Developer	Cloud	App Dev & Quality	0.0	0.0	0.0	0.0
QA/Test Engineer	Blended	App Dev & Quality	0.0	0.0	0.0	0.0
Senior .NET Developer	Cloud	App Dev & Quality	0.0	0.0	0.0	0.0
Test Automation Engineer	Blended	App Dev & Quality	0.0	0.0	0.0	0.0
Cloud Support Engineer	Cloud	Cloud & Systems Support	0.0	0.0	0.0	0.0
Junior Cloud Support Eng.	Cloud	Cloud & Systems Support	0.0	0.0	0.0	0.0
Cybersecurity Architect	Blended	Cybersecurity	0.0	0.0	0.0	0.0
Cybersecurity Engineer	Blended	Cybersecurity	0.0	2.0	1.0	0.0
Database Administrator	Data	Data & Analytics	0.0	0.0	0.0	0.0
Data Analyst	Data	Data & Analytics	0.0	0.0	0.0	0.0
Data Platform Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0
Data Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0
BI Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0
Data Scientist	Data	Data & Analytics	0.0	0.0	0.0	0.0
Data Product Manager	Data	Data & Analytics	0.0	0.0	0.0	0.0
Cloud Product Owner / Program Sup.	Blended	OSPI Sponsors	0.0	0.0	0.0	0.0
Business Analyst	Blended	Product & Business Analysis	2.0	3.0	2.0	1.0
Product Manager	Blended	Product & Business Analysis	0.0	0.0	0.0	0.0
Portfolio Manager	Blended	Project Team	1.0	1.0	0.5	0.5
Project Manager	Blended	Project Team	2.0	2.0	2.0	2.0
Process Mapping Expert	Blended	Project Team	1.0	1.0	0.0	0.0
Change Manager	Blended	Project Team	3.0	6.0	6.0	5.0
Change Management Analyst / Trainer	Blended	Project Team	2.0	1.0	1.0	0.0
Independent QA Specialist	Blended	Project Team	1.0	1.0	1.0	1.0
Application Architect	Blended	Technical Engineering	1.0	1.0	0.0	0.0
Cloud Platform Engineer	Cloud	Technical Engineering	0.0	2.0	1.0	0.0
Data Architect	Data	Technical Engineering	1.0	1.0	0.5	0.5
Enterprise Architect	Blended	Technical Engineering	0.0	0.0	0.0	0.0
Program Manager	Blended		1.0	1.0	0.0	0.0

**Totals**

OSPI Data Modernizations, FTC Internal Resources)					
Position Title	Year 5 FTC	Year 6 FTC	Year 7 FTC	Standard FTC Rates	Year 1 Cost at Industry- Standard Salary
Junior .NET Developer	0.0	0.0	0.0	\$364,800	\$0
QA/Test Engineer	0.0	0.0	0.0	\$384,000	\$0
Senior .NET Developer	0.0	0.0	0.0	\$624,000	\$0
Test Automation Engineer	0.0	0.0	0.0	\$384,000	\$0
Cloud Support Engineer	0.0	0.0	0.0	\$432,000	\$0
Junior Cloud Support Eng.	0.0	0.0	0.0	\$364,800	\$0
Cybersecurity Architect	0.0	0.0	0.0	\$624,000	\$0
Cybersecurity Engineer	0.0	0.0	0.0	\$576,000	\$0
Database Administrator	0.0	0.0	0.0	\$624,000	\$0
Data Analyst	0.0	0.0	0.0	\$384,000	\$0
Data Platform Engineer	0.0	0.0	0.0	\$480,000	\$0
Data Engineer	0.0	0.0	0.0	\$432,000	\$0
BI Engineer	0.0	0.0	0.0	\$432,000	\$0
Data Scientist	0.0	0.0	0.0	\$432,000	\$0
Data Product Manager	0.0	0.0	0.0	\$480,000	\$0
Cloud Product Owner / Program Sup.	0.0	0.0	0.0	\$480,000	\$0
Business Analyst	0.5	0.0	0.0	\$364,800	\$729,600
Product Manager	0.0	0.0	0.0	\$480,000	\$0
Portfolio Manager	0.5	0.0	0.0	\$432,000	\$432,000
Project Manager	2.0	0.0	0.0	\$364,800	\$729,600
Process Mapping Expert	0.0	0.0	0.0	\$364,800	\$364,800
Change Manager	5.0	0.0	0.0	\$432,000	\$1,296,000
Change Management Analyst / Trainer	0.0	0.0	0.0	\$364,800	\$729,600
Independent QA Specialist	1.0	0.0	0.0	\$384,000	\$384,000
Application Architect	0.0	0.0	0.0	\$624,000	\$624,000
Cloud Platform Engineer	0.0	0.0	0.0	\$624,000	\$0
Data Architect	0.5	0.0	0.0	\$480,000	\$480,000
Enterprise Architect	0.0	0.0	0.0	\$624,000	\$0
Program Manager	0.0	0.0	0.0	\$432,000	\$432,000
<b>Totals</b>					<b>\$6,201,600</b>

OSPI Data Modernization Position Title	Model: Vendor + Integrator			
	Year 2 Cost at Industry-Standard Salary	Year 3 Cost at Industry-Standard Salary	Year 4 Cost at Industry-Standard Salary	Year 5 Cost at Industry-Standard Salary
Junior .NET Developer	\$0	\$0	\$0	\$0
QA/Test Engineer	\$0	\$0	\$0	\$0
Senior .NET Developer	\$0	\$0	\$0	\$0
Test Automation Engineer	\$0	\$0	\$0	\$0
Cloud Support Engineer	\$0	\$0	\$0	\$0
Junior Cloud Support Eng.	\$0	\$0	\$0	\$0
Cybersecurity Architect	\$0	\$0	\$0	\$0
Cybersecurity Engineer	\$1,152,000	\$576,000	\$0	\$0
Database Administrator	\$0	\$0	\$0	\$0
Data Analyst	\$0	\$0	\$0	\$0
Data Platform Engineer	\$0	\$0	\$0	\$0
Data Engineer	\$0	\$0	\$0	\$0
BI Engineer	\$0	\$0	\$0	\$0
Data Scientist	\$0	\$0	\$0	\$0
Data Product Manager	\$0	\$0	\$0	\$0
Cloud Product Owner / Program Sup.	\$0	\$0	\$0	\$0
Business Analyst	\$1,094,400	\$729,600	\$364,800	\$182,400
Product Manager	\$0	\$0	\$0	\$0
Portfolio Manager	\$432,000	\$216,000	\$216,000	\$216,000
Project Manager	\$729,600	\$729,600	\$729,600	\$729,600
Process Mapping Expert	\$364,800	\$0	\$0	\$0
Change Manager	\$2,592,000	\$2,592,000	\$2,160,000	\$2,160,000
Change Management Analyst / Trainer	\$364,800	\$364,800	\$0	\$0
Independent QA Specialist	\$384,000	\$384,000	\$384,000	\$384,000
Application Architect	\$624,000	\$0	\$0	\$0
Cloud Platform Engineer	\$1,248,000	\$624,000	\$0	\$0
Data Architect	\$480,000	\$240,000	\$240,000	\$240,000
Enterprise Architect	\$0	\$0	\$0	\$0
Program Manager	\$432,000	\$0	\$0	\$0
<b>Totals</b>	<b>\$9,897,600</b>	<b>\$6,456,000</b>	<b>\$4,094,400</b>	<b>\$3,912,000</b>

OSPI Data Modernization Position Title	Vendor: Google Cloud Provider				
	Year 6 Cost at Industry- Standard Salary	Year 7 Cost at Industry- Standard Salary	Estimated 5 Year Cost at Industry- Standard Salary	Citations	Notes
Junior .NET Developer	\$0	\$0	\$0	\$190/hr	Maintains codebase
QA/Test Engineer	\$0	\$0	\$0	\$200/hr	Broad QA coverage
Senior .NET Developer	\$0	\$0	\$0	\$325/hr	Leads moderniza
Test Automation Engineer	\$0	\$0	\$0	\$200/hr	Builds/maintains test
Cloud Support Engineer	\$0	\$0	\$0	\$225/hr	24x7 ops support;
Junior Cloud Support Eng.	\$0	\$0	\$0	\$190/hr	Tier 1 support
Cybersecurity Architect	\$0	\$0	\$0	<u>\$325/hr</u>	Designs security
Cybersecurity Engineer	\$0	\$0	\$1,728,000	\$300/hr	Validates security
Database Administrator	\$0	\$0	\$0	\$325/hr	Guides the
Data Analyst	\$0	\$0	\$0	\$200/hr	Profiling, validation
Data Platform Engineer	\$0	\$0	\$0	\$250/hr	Manages migration
Data Engineer	\$0	\$0	\$0	\$225/hr	Designs and builds
BI Engineer	\$0	\$0	\$0	\$225/hr	Builds reports
Data Scientist	\$0	\$0	\$0	\$225/hr	Creates models
Data Product Manager	\$0	\$0	\$0	\$250/hr	Owns product
Cloud Product Owner / Program Sup.	\$0	\$0	\$0	\$250/hr	
Business Analyst	\$0	\$0	\$3,100,800	\$190/hr	Gathers and
Product Manager	\$0	\$0	\$0	\$250/hr	Coordinates MVP
Portfolio Manager	\$0	\$0	\$1,512,000	\$225/hr	
Project Manager	\$0	\$0	\$3,648,000	\$190/hr	
Process Mapping Expert	\$0	\$0	\$729,600	\$190/hr	
Change Manager	\$0	\$0	\$10,800,000	\$225/hr	
Change Management Analyst / Trainer	\$0	\$0	\$1,459,200	\$190/hr	
Independent QA Specialist	\$0	\$0	\$1,920,000	\$200/hr	
Application Architect	\$0	\$0	\$1,248,000	\$325/hr	Guides applicatio
Cloud Platform Engineer	\$0	\$0	\$1,872,000	\$325/hr	Builds landing
Data Architect	\$0	\$0	\$1,680,000	\$250/hr	Defines data
Enterprise Architect	\$0	\$0	\$0	\$325/hr	EA oversight
Program Manager	\$0	\$0	\$864,000	\$225/hr	Plans and coordinat
<b>Totals</b>	\$0	\$0	\$30,561,600		

OSPI Data Modernization Feasibility Study Staffing Costs - Professional Services Hires (Vendor Offered)

Position Title	Cost Side	Labor Cost Category	Year 1 PS	Year 2 PS	Year 3 PS	Year 4 PS	Year 5 PS
Junior .NET Developer	Cloud	App Dev & Quality	1.0	2.0	1.0	0.0	0.0
QA/Test Engineer	Blended	App Dev & Quality	2.0	2.0	1.0	0.0	0.0
Senior .NET Developer	Cloud	App Dev & Quality	0.0	2.0	1.0	0.0	0.0
Test Automation Engineer	Blended	App Dev & Quality	5.0	4.0	3.0	1.0	1.0
Cloud Support Engineer	Cloud	Cloud & Systems Support	3.0	2.0	1.0	0.0	0.0
Junior Cloud Support Eng.	Cloud	Cloud & Systems Support	2.0	1.0	0.0	0.0	0.0
Cybersecurity Architect	Blended	Cybersecurity	0.0	0.0	0.0	0.0	0.0
Cybersecurity Engineer	Blended	Cybersecurity	2.0	0.0	0.0	0.0	0.0
Database Administrator	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0
Data Analyst	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0
Data Platform Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0
Data Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0
BI Engineer	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0
Data Scientist	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0
Data Product Manager	Data	Data & Analytics	0.0	0.0	0.0	0.0	0.0
Product Owner / Program Sup.	Blended	OSPI Sponsors	0.0	0.0	0.0	0.0	0.0
Business Analyst	Blended	Product & Business Analysis	0.0	0.0	0.0	0.0	0.0
Product Manager	Blended	Product & Business Analysis	0.0	0.0	0.0	0.0	0.0
Portfolio Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0
Project Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0
Process Mapping Expert	Blended	Project Team	0.0	0.0	0.0	0.0	0.0
Change Manager	Blended	Project Team	0.0	0.0	0.0	0.0	0.0
Change Management Analyst / Trainer	Blended	Project Team	0.0	0.0	0.0	0.0	0.0
Independent QA Specialist	Blended	Project Team	0.0	0.0	0.0	0.0	0.0
Application Architect	Blended	Technical Engineering	0.0	0.0	0.0	0.0	0.0
Cloud Platform Engineer	Cloud	Technical Engineering	3.0	0.0	0.0	0.0	0.0
Data Architect	Data	Technical Engineering	0.0	0.0	0.0	0.0	0.0
Enterprise Architect	Blended	Technical Engineering	0.0	0.0	0.0	0.0	0.0
Program Manager	Blended		0.0	0.0	0.0	0.0	0.0

OSPI Data Modernization Feasibility Study	Model: Vendor + Integrator					Vendor: Google Cloud Provider
Position Title	Vendor Professional Services Rates	Year 1 Cost at Industry-Standard Salary	Year 2 Cost at Industry-Standard Salary	Year 3 Cost at Industry-Standard Salary	Year 4 Cost at Industry-Standard Salary	Year 5 Cost at Industry-Standard Salary
Junior .NET Developer	\$364,800	\$364,800	\$729,600	\$364,800	\$0	\$0
QA/Test Engineer	\$384,000	\$768,000	\$768,000	\$384,000	\$0	\$0
Senior .NET Developer	\$624,000	\$0	\$1,248,000	\$624,000	\$0	\$0
Test Automation Engineer	\$384,000	\$1,920,000	\$1,536,000	\$1,152,000	\$384,000	\$384,000
Cloud Support Engineer	\$432,000	\$1,296,000	\$864,000	\$432,000	\$0	\$0
Junior Cloud Support Eng.	\$364,800	\$729,600	\$364,800	\$0	\$0	\$0
Cybersecurity Architect	\$624,000	\$0	\$0	\$0	\$0	\$0
Cybersecurity Engineer	\$576,000	\$1,152,000	\$0	\$0	\$0	\$0
Database Administrator	\$624,000	\$0	\$0	\$0	\$0	\$0
Data Analyst	\$384,000	\$0	\$0	\$0	\$0	\$0
Data Platform Engineer	\$480,000	\$0	\$0	\$0	\$0	\$0
Data Engineer	\$432,000	\$0	\$0	\$0	\$0	\$0
BI Engineer	\$432,000	\$0	\$0	\$0	\$0	\$0
Data Scientist	\$432,000	\$0	\$0	\$0	\$0	\$0
Data Product Manager	\$480,000	\$0	\$0	\$0	\$0	\$0
Product Owner / Program Sup.	\$480,000	\$0	\$0	\$0	\$0	\$0
Business Analyst	\$364,800	\$0	\$0	\$0	\$0	\$0
Product Manager	\$480,000	\$0	\$0	\$0	\$0	\$0
Portfolio Manager	\$432,000	\$0	\$0	\$0	\$0	\$0
Project Manager	\$364,800	\$0	\$0	\$0	\$0	\$0
Process Mapping Expert	\$364,800	\$0	\$0	\$0	\$0	\$0
Change Manager	\$432,000	\$0	\$0	\$0	\$0	\$0
Change Management Analyst / Trainer	\$364,800	\$0	\$0	\$0	\$0	\$0
Independent QA Specialist	\$384,000	\$0	\$0	\$0	\$0	\$0
Application Architect	\$624,000	\$0	\$0	\$0	\$0	\$0
Cloud Platform Engineer	\$624,000	\$1,872,000	\$0	\$0	\$0	\$0
Data Architect	\$480,000	\$0	\$0	\$0	\$0	\$0
Enterprise Architect	\$624,000	\$0	\$0	\$0	\$0	\$0
Program Manager	\$432,000	\$0	\$0	\$0	\$0	\$0

OSPI Data Modernization Feasibility Study				
Position Title	Year 6 Cost at Industry-Standard Salary	Year 7 Cost at Industry-Standard Salary	Estimated 5 Year Cost at Industry-Standard Salary	Notes
Junior .NET Developer	\$0	\$0	\$1,459,200	Maintains codebase post-MVP
QA/Test Engineer	\$0	\$0	\$1,920,000	Broad QA coverage including performance and
Senior .NET Developer	\$0	\$0	\$1,872,000	Leads modernization; handoff to junior
Test Automation Engineer	\$384,000	\$384,000	\$5,376,000	Builds/maintains test automation; part-time post-
Cloud Support Engineer	\$0	\$0	\$2,592,000	24x7 ops support; retains one FTE post-MVP
Junior Cloud Support Eng.	\$0	\$0	\$1,094,400	Tier 1 support post-MVP
Cybersecurity Architect	\$0	\$0	\$0	Designs security; retained advisory
Cybersecurity Engineer	\$0	\$0	\$1,152,000	Validates security configs, manages vulnerability
Database Administrator	\$0	\$0	\$0	Guides the unraveling of 100+ servers and
Data Analyst	\$0	\$0	\$0	Profiling, validation, migration QA metrics
Data Platform Engineer	\$0	\$0	\$0	Manages migration pipelines; retains for
Data Engineer	\$0	\$0	\$0	Designs and builds data ingestion/pipelines;
BI Engineer	\$0	\$0	\$0	Builds reports and BI models; fractional support
Data Scientist	\$0	\$0	\$0	Creates models and analysis during migration;
Data Product Manager	\$0	\$0	\$0	Owens product roadmap and delivery for data
Product Owner / Program Sup.	\$0	\$0	\$0	
Business Analyst	\$0	\$0	\$0	Gathers and analyzes business requirements;
Product Manager	\$0	\$0	\$0	Coordinates MVP delivery; scales back post-
Portfolio Manager	\$0	\$0	\$0	
Project Manager	\$0	\$0	\$0	
Process Mapping Expert	\$0	\$0	\$0	
Change Manager	\$0	\$0	\$0	
Change Management Analyst / Trainer	\$0	\$0	\$0	
Independent QA Specialist	\$0	\$0	\$0	
Application Architect	\$0	\$0	\$0	Guides application modernization; fractional
Cloud Platform Engineer	\$0	\$0	\$1,872,000	Builds landing zone; Implements CI/CD pipelines;
Data Architect	\$0	\$0	\$0	Defines data models and governance; post-MVP
Enterprise Architect	\$0	\$0	\$0	EA oversight upfront; governance role after MVP
Program Manager	\$0	\$0	\$0	Plans and coordinates project across teams;

**CBA Template  
List of Values**

**Discount rate**                      **4.5%**

Use the discount rate provided by the agency's finance office or discount rates published by the Federal Reserve.

<https://www.frbdiscowindow.org/>

**"n" - Year whose cash flow is being discounted [used in NPV calculations]**

Year 1	1
Year 2	2
Year 3	3
Year 4	4
Year 5	5
Year 6	6
Year 7	7

Phase	Role Title	Typical Duration (Months)
Discovery	Enterprise Architect	1
Discovery	Program Manager	1
Discovery	Application Architect	1
Discovery	Cybersecurity Architect	1
Discovery	Business Analyst	1
Discovery	Data Architect	1
Design	Enterprise Architect	2
Design	Cloud Platform Engineer	2
Design	Application Architect	2
Design	Data Architect	2
Design	Cybersecurity Architect	2
Plan	Program Manager	1
Plan	Senior DevOps Engineer	1
Plan	Application Architect	1
Plan	Cloud Platform Engineer	1
Plan	Cybersecurity Architect	1
Development	Senior DevOps Engineer	4
Development	Cloud Platform Engineer	4
Development	Application Architect	4
Development	Data Architect	4
Development	Cybersecurity Engineer	4
Testing	QA/Test Engineer	2
Testing	Test Automation Engineer	2
Testing	Senior DevOps Engineer	2
Testing	Cybersecurity Engineer	2
Testing	Application Architect	2
Implementation	Program Manager	2
Implementation	Cloud Platform Engineer	2
Implementation	Application Architect	2
Implementation	Cybersecurity Architect	2
Implementation	Senior DevOps Engineer	2
Implementation	Data Architect	2

Role	MVP Count	Post-MVP Count
Application Architect	1	0.25
Business Analyst	1	0.5
Cybersecurity Architect	1	0.25
Cybersecurity Engineer	1	0.5
Data Analyst	1	0.5
Data Architect	1	0.25
Enterprise Architect	1	0.25
Product Manager	1	0.5
Program Manager	1	0.5
QA/Test Engineer	1	0.25
Senior .NET Developer	1	0
Test Automation Engineer	1	0.25
Cloud Platform Engineer	2	1
Cloud Support Engineer	2	1
Data Platform Engineer	2	1
Senior DevOps Engineer	2	1
TOTAL head-count equivalent	20	8

Phase	Monthly Costs
MVP Monthly Rate	#N/A
Post-MVP Monthly Rate	\$ 93,344

Phase	Sprint Costs
MVP Monthly Rate	#N/A
Post-MVP Monthly Rate	\$ 43,115

Why This Role Matters	
Define overall technical vision and business alignment	
Drives timelines, dependencies, and governance planning	
Inventories legacy components; evaluates modernization feasibility	
Early identification of risks, Zero Trust mapping	
Captures stakeholder needs and defines business processes	
Assesses data fragmentation and integration needs	
Oversees translation of discovery into architecture blueprints	
Designs Landing Zones, networking, subscriptions, and identity structure	
Refactors app-level design (containers, PaaS alignment)	
Designs data landing zones, analytics platforms, lineage tracking	
Embeds policy enforcement, conditional access, firewalling, and monitoring	
Finalizes scope, tracks technical milestones, builds resource plan	
Plans automation paths (IaC, pipelines, preflight tests)	
Validates plan against downstream dependencies	
Plans infra-as-code setup and Landing Zone buildout	
Defines security-as-code and policy implementation details	
Build automation, CI/CD, IaC, and environments	
Deploy Landing Zones, core services, DNS, APIM	
Build modernization hooks, downstream integration	
Build data lake, define Synapse/Fabric integration	
Enforce access controls, validate config drift	
Run test cases across components, validate data flows	
Build regression pipeline, verify performance	
Validate deployment logic and environments	
Penetration testing, validate policies	
Support validation of app integrations	
Coordinate cutover, stakeholder communications	
Final infra validation, DNS, and hybrid networking	
Support go-live transitions and validate system behavior	
Confirm access controls and zero drift post-go-live	
Oversee go-live pipelines and rollback strategies	
Final schema validation, live data verification	

Blended Salary	
\$	1
\$	1
\$	1
\$	2
\$	-
\$	1
\$	1
\$	3
\$	1
\$	-
\$	-
\$	4
\$	-
\$	-
\$	-
	#N/A

TOOLING RATES

**TOOLING**

**Unit Price**

**Unit**

STORAGE

ADLS Gen2 - Hot	\$	0.0229	/GB/month
ADLS Gen2 - Cool	\$	0.0139	/GB/month
ADLS Gen2 - Cold	\$	0.0070	/GB/month
ADLS Gen2 - Transactions	\$	0.0004	/10K operations
Azure Files - Standard	\$	0.0330	/GB/month
Azure Files - Premium	\$	0.1600	/GB/month

COMPUTE

Databricks Jobs DBU	\$	0.324	/DBU/hr
Databricks SQL DBU	\$	6.528	/hr SQL compute
Databricks DBU	\$	0.400	/DBU All-purpose
Integration Runtime VM (D4v3)	\$	0.418	/hour
App Service P1v3	\$	0.200	/hour

DATABASES

Azure SQL Database - Basic	\$	4.990	/month
Azure SQL Database - S2	\$	109.610	/DB/month
Azure SQL Database - Elastic Pool	\$	4.120	/GB/pool
SQL Managed Instance (4 vCore)	\$	921.320	/month
SQL Managed Instance (8 vCore)	\$	1,088.000	/month

ANALYTICS

Power BI Embedded A1	\$	1.009	/hour
Power BI Embedded A2	\$	2.016	/hour
Power BI Embedded A3	\$	4.032	/hour
Power BI Premium P1	\$	4,995.00	/month
Power BI Pro	\$	10.000	/user/month

GOVERNANCE

Purview - Data Governance	\$	37.710	/Asset
Purview - Data Security	\$	20.240	/Asset
Unity Catalog	Included		with Databricks

NETWORKING

ExpressRoute - 1Gbps	\$	545.000	/circuit
ExpressRoute - 10Gbps	\$	4,250.450	/circuit
Private Link	\$	7.500	/endpoint/mo
Azure Firewall	\$	1.75	/hour

INTEGRATION

Data Factory - Pipeline	\$	2.030	/pipeline run
API Management - Standard	\$	2.000	/hour/instance
Event Hubs	\$	0.031	/hour

SECURITY

Azure Key Vault	\$	3.180	/10k operations
Azure Monitor	\$	2.300	/GB/month
Azure Backup	\$	35.030	/VM
Azure Sentinel	\$	167.700	/GB/month
Site Recovery	\$	25.000	/VM/month
Web Application Firewall V2-internal	\$	9.52	/compute unit
Web Application Firewall V2-external	\$	40.00	/compute unit
Azure DevOps	\$	52.000	/user/month

**These are representative costs using an example Azure Pricing Agreement. The Pricing Agreement that OSPI**

DATA GROWTH MODEL (Assuming 1 end-to-end project per year migrating 20TB per project)  
 DATA MIGRATION SCHEDULE

	Year 1
New Project Migrated Data (TB)	20
Organic Data Growth (5TB a year)	5
Data Maintained in the Cloud (TB)	25

**TOOLING**

Component	Per Unit	Units	Year 1	
<b>STORAGE</b>				
ADLS Gen2 - Hot	\$0.0229	19200.00	\$ 5,276.16	25600.00
ADLS Gen2 - Cool	\$0.0139	6400.00	\$ 1,067.52	12800.00
ADLS Gen2 - Cold	\$0.0070	0.00	\$ -	12800.00
Azure Files - Standard	\$0.0330	6400.00	\$ 2,534.40	12800.00
<b>Storage Subtotal</b>		<b>32000.00</b>	<b>\$ 8,878.08</b>	<b>64000.00</b>
<b>COMPUTE</b>				
Databricks Jobs DBU	\$0.3240	3650	\$ 14,191.20	7300
Databricks SQL DBU	\$6.5280	0	\$ -	730
Integration Runtime VM (D4v3)	\$0.4180	3650	\$ 18,308.40	7300
App Service P1v3	\$0.2000	0	\$ -	10950
<b>Compute Subtotal</b>		<b>7300.00</b>	<b>\$ 32,499.60</b>	<b>26280.00</b>
<b>DATABASES</b>				
Azure SQL Database - Elastic Pool	\$4.1200	400	\$ 59,328.00	1000
Azure SQL Database - S2	\$109.6100	5	\$ 19,729.80	15
SQL Managed Instance (4 vCore)	\$921.3200	0	\$ -	1
<b>Databases Subtotal</b>		<b>405.00</b>	<b>\$ 79,057.80</b>	<b>1016.00</b>
<b>ANALYTICS</b>				
Power BI Embedded A1	\$1.009	0.00	\$ -	730.00
Power BI Embedded A2	\$2.016	0.00	\$ -	0.00
Power BI Embedded A3	\$4.032	0.00	\$ -	0.00
Power BI Premium P1	\$4,995.00	0.00	\$ -	0.00
Power BI Pro	\$10.00	0.00	\$ -	0.00
<b>Analytics Subtotal</b>		<b>0.00</b>	<b>\$ -</b>	<b>730.00</b>
<b>GOVERNANCE</b>				
Purview - Data Governance	\$37.71	100	\$ 45,253.80	200
Purview - Data Security	\$20.24	50	\$ 23,977.20	100
Unity Catalog	Included			
<b>Governance Subtotal</b>		<b>150</b>	<b>\$ 69,231.00</b>	<b>300</b>
<b>NETWORKING</b>				
ExpressRoute - 1Gbps	\$545.00	0	\$ -	0
ExpressRoute - 10Gbps	\$4,250.45	1	\$ 51,005.40	1
Private Link	\$7.5000	10	\$ 900.00	20
Azure Firewall	\$1.7500	2	\$ 7,658.43	2
<b>Networking Subtotal</b>		<b>13</b>	<b>\$ 59,563.83</b>	<b>23</b>
<b>INTEGRATION</b>				
Data Factory - Pipeline	\$2.030	50	\$ 1,218.00	100
API Management - Standard	\$2.000	0	\$ -	730
Event Hubs	\$0.031	730	\$ 271.56	1460
<b>Integration Subtotal</b>		<b>780</b>	<b>\$ 1,489.56</b>	<b>2290</b>
<b>SECURITY</b>				
Azure Key Vault	\$3.180	10	\$ 381.60	10
Azure Monitor	\$2.300		\$ 17,049.00	
Azure Backup	\$35.030	25	\$ 10,509.00	50
Azure Sentinel	\$167.70	25	\$ 50,310.00	25
Site Recovery	\$25.00	10	\$ 3,000.00	25
Azure DevOps	\$52.00	25	\$ 19,200.00	25
Web Application Firewall V2-internal	\$9.52	5	\$ 1,713.60	5
Web Application Firewall V2-external	\$40.00	12	\$ 17,280.00	12
<b>Security Subtotal</b>		<b>112</b>	<b>\$ 119,443.20</b>	<b>152</b>
<b>TOOLING TOTAL</b>		<b>40760.00</b>	<b>\$ 370,163.07</b>	<b>94791.00</b>

I will have with Azure would be different and thus the pricing will be different from these estimates!

Year 2		Year 3		Year 4	
20		20		20	
5		5		5	
50		75		100	

  

Year 2		Year 3		Year 4	
\$ 7,034.88	19200.00	\$ 5,276.16	25600.00	\$ 7,034.88	32000.00
\$ 2,135.04	19200.00	\$ 3,202.56	25600.00	\$ 4,270.08	32000.00
\$ 1,075.20	38400.00	\$ 3,225.60	51200.00	\$ 3,225.60	64000.00
\$ 4,055.04	19200.00	\$ 5,702.40	25600.00	\$ 7,603.20	32000.00
<b>\$ 14,300.16</b>	<b>96000.00</b>	<b>\$ 17,406.72</b>	<b>128000.00</b>	<b>\$ 22,133.76</b>	<b>160000.00</b>

  

\$ 28,382.40	10950	\$ 42,573.60	14600	\$ 56,764.80	18250
\$ 57,185.28	1460	\$ 114,370.56	2190	\$ 171,555.84	2920
\$ 36,616.80	10950	\$ 54,925.20	7300	\$ 36,616.80	3650
\$ 26,280.00	32850	\$ 78,840.00	65700	\$ 157,680.00	98550
<b>\$ 148,464.48</b>	<b>56210.00</b>	<b>\$ 290,709.36</b>	<b>89790.00</b>	<b>\$ 422,617.44</b>	<b>123370.00</b>

  

\$ 148,320.00	1600	\$ 237,312.00	2000	\$ 296,640.00	2400
\$ 59,189.40	25	\$ 98,649.00	20	\$ 78,919.20	15
\$ 33,167.52	2	\$ 66,335.04	3	\$ 99,502.56	4
<b>\$ 240,676.92</b>	<b>1627.00</b>	<b>\$ 402,296.04</b>	<b>2023.00</b>	<b>\$ 475,061.76</b>	<b>2419.00</b>

  

\$ 8,838.84	0.00	\$ -	0.00	\$ -	0.00
\$ -	730.00	\$ 17,661.04	730.00	\$ 17,661.04	0.00
\$ -	0.00	\$ -	0.00	\$ -	730.00
\$ -	0	\$ -	0	\$ -	0
\$ -	0.00	\$ -	0.00	\$ -	0.00
<b>\$ 8,838.84</b>	<b>730.00</b>	<b>\$ 17,661.04</b>	<b>730.00</b>	<b>\$ 17,661.04</b>	<b>730.00</b>

  

\$ 45,867.60	200	\$ 45,867.60	200	\$ 45,867.60	200
\$ 24,284.04	200	\$ 24,897.84	250	\$ 25,204.80	250
<b>\$ 70,151.64</b>	<b>400</b>	<b>\$ 70,765.44</b>	<b>450</b>	<b>\$ 71,072.40</b>	<b>450</b>

  

\$ -	0	\$ -	0	\$ -	1
\$ 51,005.40	1	\$ 51,005.40	1	\$ 51,005.40	0
\$ 1,800.00	30	\$ 2,700.00	35	\$ 3,150.00	25
\$ 7,658.43	2	\$ 7,658.43	2	\$ 7,658.43	2
<b>\$ 60,463.83</b>	<b>33</b>	<b>\$ 61,363.83</b>	<b>38</b>	<b>\$ 61,813.83</b>	<b>28</b>

  

\$ 2,436.00	200	\$ 4,872.00	300	\$ 7,308.00	400
\$ 17,520.00	1460	\$ 35,040.00	2190	\$ 52,560.00	2190
\$ 543.12	2190	\$ 814.68	2190	\$ 814.68	2190
<b>\$ 20,499.12</b>	<b>3850</b>	<b>\$ 40,726.68</b>	<b>4680</b>	<b>\$ 60,682.68</b>	<b>4780</b>

  

\$ 381.60	10	\$ 381.60	10	\$ 381.60	10
\$ 17,049.00		\$ 17,049.00		\$ 17,049.00	
\$ 21,018.00	50	\$ 21,018.00	50	\$ 21,018.00	75
\$ 50,310.00	25	\$ 50,310.00	25	\$ 50,310.00	25
\$ 7,500.00	25	\$ 7,500.00	25	\$ 7,500.00	30
\$ 19,200.00	25	\$ 19,200.00	25	\$ 19,200.00	25
\$ 1,713.60	5	\$ 1,713.60	5	\$ 1,713.60	5
\$ 17,280.00	12	\$ 17,280.00	12	\$ 17,280.00	12
<b>\$ 134,452.20</b>	<b>152</b>	<b>\$ 134,452.20</b>	<b>152</b>	<b>\$ 134,452.20</b>	<b>182</b>
<b>\$ 697,847.19</b>	<b>159002.00</b>	<b>\$ 1,035,381.31</b>	<b>225863.00</b>	<b>\$ 1,265,495.11</b>	<b>291959.00</b>

Year 5		Year 6		Year 7	
	20		20		20
	5		5		5
	125		150		175

Year 5		Year 6		Year 7	
\$	8,793.60	38400.00	\$	10,552.32	44800.00
\$	5,337.60	38400.00	\$	6,405.12	44800.00
\$	4,032.00	76800.00	\$	4,838.40	89600.00
\$	9,504.00	38400.00	\$	11,404.80	44800.00
\$	27,667.20	192000.00	\$	33,200.64	224000.00

\$	70,956.00	10950	\$	42,573.60	10950
\$	228,741.12	2920	\$	228,741.12	2920
\$	18,308.40	1460	\$	7,323.36	
\$	236,520.00	131400	\$	315,360.00	131400
\$	554,525.52	146730.00	\$	593,998.08	145270.00

\$	355,968.00	2400	\$	355,968.00	2400
\$	59,189.40	10	\$	39,459.60	5
\$	132,670.08	4	\$	132,670.08	4
\$	547,827.48	2414.00	\$	528,097.68	2409.00

\$	-	0.00	\$	-	0.00
\$	-	0.00	\$	-	0.00
\$	35,322.07	730.00	\$	35,322.07	730.00
\$	-	0	\$	-	0
\$	-	0.00	\$	-	0.00
\$	35,322.07	730.00	\$	35,322.07	730.00

\$	45,867.60	200	\$	45,867.60	200
\$	25,204.80	250	\$	25,204.80	250
\$	71,072.40	450	\$	71,072.40	450

\$	6,540.00	1	\$	6,540.00	0
\$	-	0	\$	-	0
\$	2,250.00	20	\$	1,800.00	20
\$	7,658.43	2	\$	7,658.43	2
\$	16,448.43	23	\$	15,998.43	22

\$	9,744.00	200	\$	4,872.00	200
\$	52,560.00	2190	\$	52,560.00	2190
\$	814.68	2190	\$	814.68	2190
\$	63,118.68	4580	\$	58,246.68	4580

\$	381.60	10	\$	381.60	10
\$	17,049.00		\$	17,049.00	
\$	31,527.00	75	\$	31,527.00	75
\$	50,310.00	25	\$	50,310.00	25
\$	9,000.00	30	\$	9,000.00	30
\$	19,200.00	25	\$	19,200.00	25
\$	1,713.60	5	\$	1,713.60	5
\$	17,280.00	12	\$	17,280.00	12
\$	146,461.20	182	\$	146,461.20	182
\$	1,462,442.98	347109.00	\$	1,482,397.18	377643.00