Impact Report for iBudget Algorithm Study

October 13, 2025

Agency for Persons with Disabilities (APD)
4030 Esplanade Way
Tallahassee, Florida 32399

ISF, Inc.
www.isf.com
Report prepared by:
October 13, 2025

Contents

0.1 Introduction 4
0.2 Economic Impact Analysis 5
0.2.1 Model 1: Impact Analysis 5
0.2.2 Model 2: Impact Analysis 7
0.2.3 Model 3: Impact Analysis 9
0.2.4 Model 4: Impact Analysis 11
0.2.5 Model 5: Impact Analysis 13
0.2.6 Model 6: Impact Analysis 15
0.2.7 Model 9: Impact Analysis 17
0.2.8 Comparative Analysis Across Models 19
0.2.8.1 Key Insights 19

0.1 Introduction

The Florida iBudget algorithm represents a critical component of the state's developmental disability services infrastructure, determining individual budget allocations for Home and Community-Based Services (HCBS) under the Developmental Disabilities Individual Budgeting waiver program. This system currently serves over 36,000 enrollees, making algorithmic decisions that directly impact the quality of life and service access for individuals with developmental disabilities across Florida. The algorithm's role extends beyond mere budget calculation; it fundamentally shapes how resources are distributed, what services individuals can access, and how person-centered planning principles are implemented in practice.

The enactment of House Bill 1103 in the 2025 legislative session has fundamentally altered the regulatory landscape for iBudget allocation methodologies. This legislation mandates a comprehensive study to review, evaluate, and identify recommendations regarding the current algorithm, with particular emphasis on ensuring compliance with person-centered planning requirements under section 393.0662, Florida Statutes. The bill's requirements extend beyond simple algorithmic refinement, demanding a fundamental reassessment of how statistical methods align with person-centered planning principles and contemporary disability services philosophy.

This analysis addresses the impact of the iBudget recommendations detailed in the [======] Report.

0.2 Economic Impact Analysis

This section presents the economic impact analysis for each budget allocation model. The conservative budget estimate is defined as the maximum of the actual cost and predicted cost for each case: Conservative = max(Actual, Predicted). This approach ensures adequate funding while accounting for model uncertainty.

0.2.1 Model 1: Impact Analysis

Table 1: Model 1: Economic Impact Summary

Metric	**Value**	**Per Client**
Sample Size	6,834	—
Total Actual Cost	$302,173,388.29	$44,216.18
Total Predicted Cost	$254,727,261.09	$37,273.52
Total Conservative Budget	$352,936,104.68	$51,644.15
Economic Impact	**$+50,762,716.39**	**$+7,427.97**
Impact Percentage	16.80%	—
Cases Over Budget	3,547	51.9%
Model R^2 (Test)	0.4300	—
RMSE (Test)	$33,718.68	—

Figure 0.2-1 presents the distribution analysis for Model 1, showing the distributions of actual costs, predicted costs, prediction errors, and conservative budget estimates.

The conservative budgeting approach for Model 1 would require an additional $50,762,716.39 (16.80%) compared to actual costs, averaging $7,427.97 per client. The model under-predicted costs in 51.9% of cases, necessitating the conservative approach to avoid budget shortfalls.

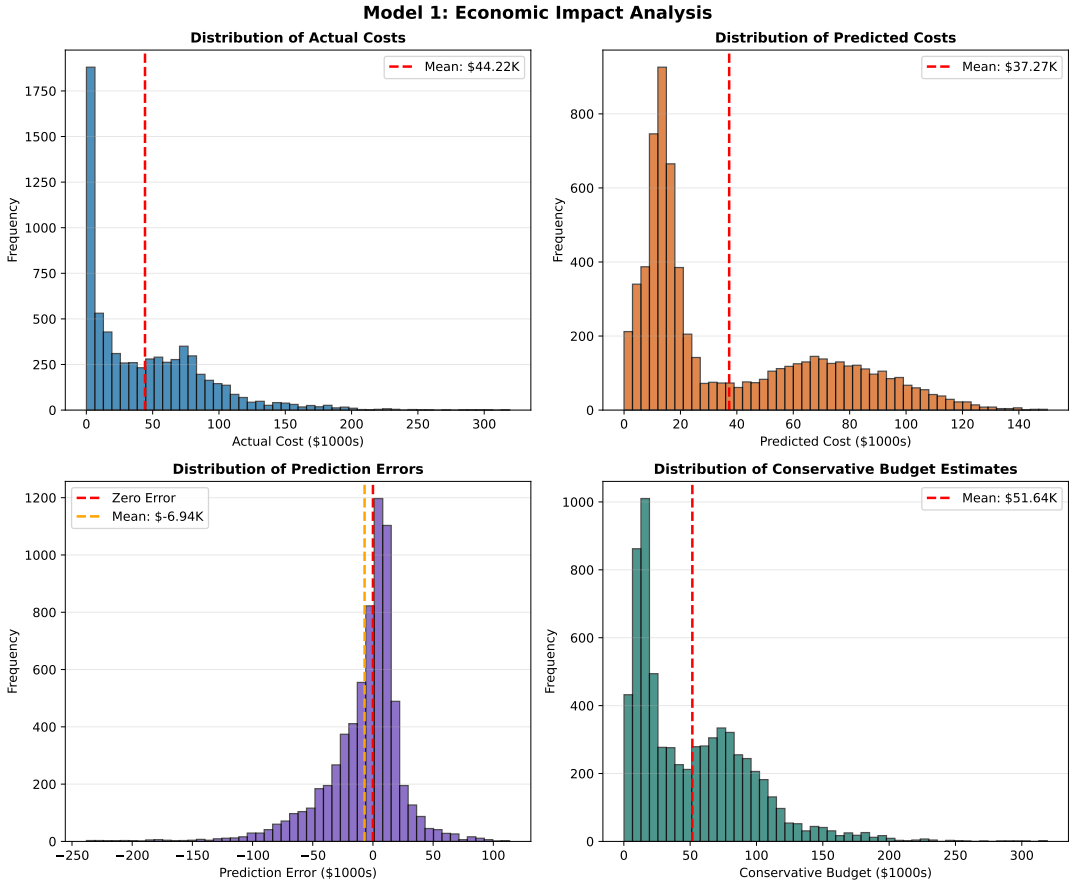

Figure 0.2-1: Model 1: Distribution of costs, predictions, errors, and conservative budget estimates. The conservative estimate takes the maximum of actual and predicted costs to ensure adequate funding.

0.2.2 Model 2: Impact Analysis

Table 2: Model 2: Economic Impact Summary

Metric	Value	Per Client
Sample Size	6,834	—
Total Actual Cost	$302,173,388.29	$44,216.18
Total Predicted Cost	$280,247,265.15	$41,007.79
Total Conservative Budget	$368,832,113.67	$53,970.17
Economic Impact	**$+66,658,725.38**	**$+9,753.98**
Impact Percentage	22.06%	—
Cases Over Budget	3,909	57.2%
Model R^2 (Test)	0.4252	—
RMSE (Test)	$33,859.02	—

Figure 0.2-2 presents the distribution analysis for Model 2, showing the distributions of actual costs, predicted costs, prediction errors, and conservative budget estimates.

The conservative budgeting approach for Model 2 would require an additional $66,658,725.38 (22.06%) compared to actual costs, averaging $9,753.98 per client. The model under-predicted costs in 57.2% of cases, necessitating the conservative approach to avoid budget shortfalls.

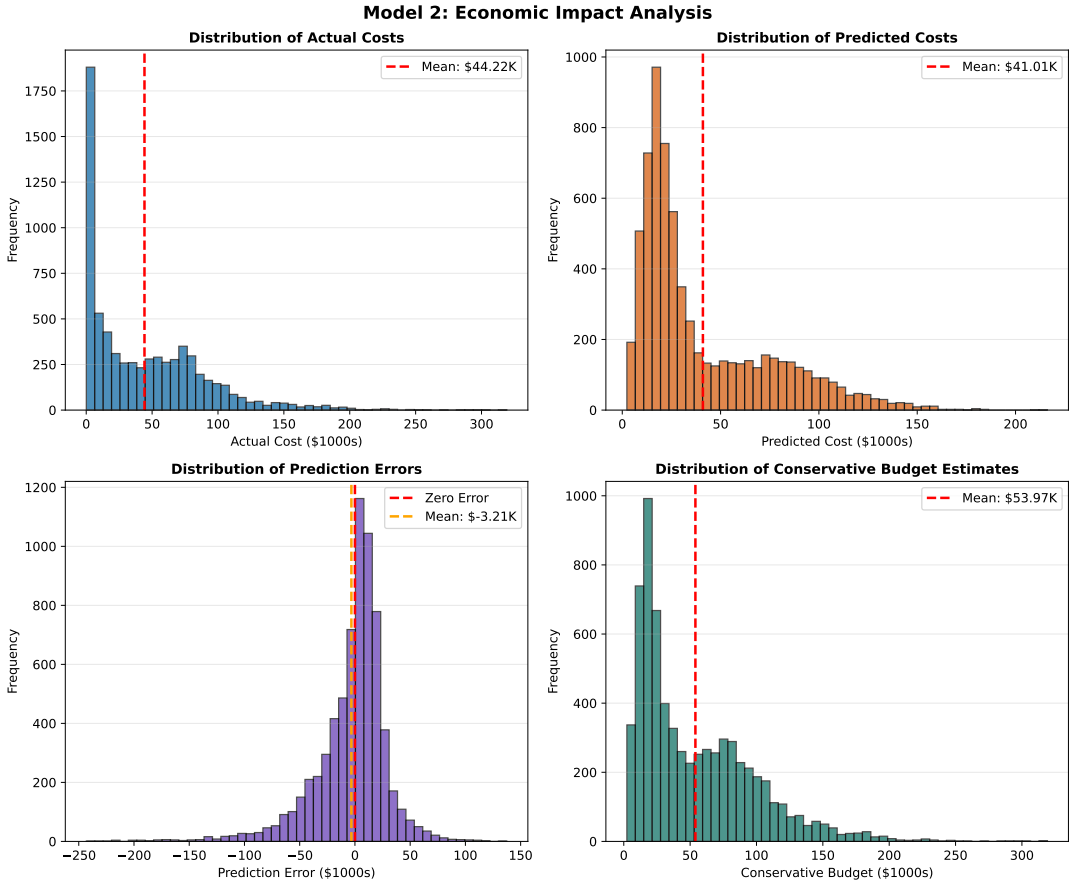

Figure 0.2-2: Model 2: Distribution of costs, predictions, errors, and conservative budget estimates. The conservative estimate takes the maximum of actual and predicted costs to ensure adequate funding.

0.2.3 Model 3: Impact Analysis

Table 3: Model 3: Economic Impact Summary

Metric	Value	Per Client
Sample Size	6,834	—
Total Actual Cost	$302,173,388.29	$44,216.18
Total Predicted Cost	$253,500,237.16	$37,093.98
Total Conservative Budget	$352,264,517.13	$51,545.88
Economic Impact	**$+50,091,128.84**	**$+7,329.69**
Impact Percentage	16.58%	—
Cases Over Budget	3,508	51.3%
Model R^2 (Test)	0.4317	—
RMSE (Test)	$33,666.51	—

Figure 0.2-3 presents the distribution analysis for Model 3, showing the distributions of actual costs, predicted costs, prediction errors, and conservative budget estimates.

The conservative budgeting approach for Model 3 would require an additional $50,091,128.84 (16.58%) compared to actual costs, averaging $7,329.69 per client. The model under-predicted costs in 51.3% of cases, necessitating the conservative approach to avoid budget shortfalls.

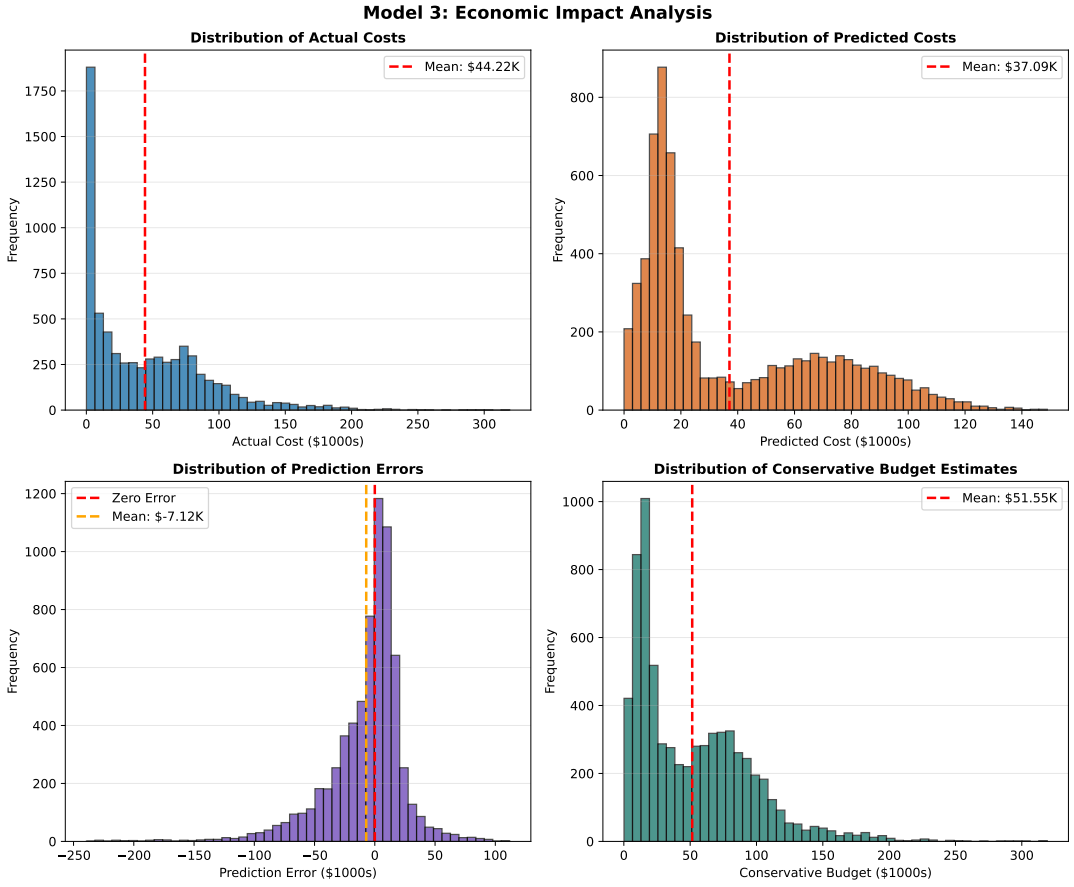

Figure 0.2-3: Model 3: Distribution of costs, predictions, errors, and conservative budget estimates. The conservative estimate takes the maximum of actual and predicted costs to ensure adequate funding.

0.2.4 Model 4: Impact Analysis

Table 4: Model 4: Economic Impact Summary

Metric	Value	Per Client
Sample Size	6,834	—
Total Actual Cost	$302,173,388.29	$44,216.18
Total Predicted Cost	$301,205,398.71	$44,074.54
Total Conservative Budget	$378,953,638.78	$55,451.22
Economic Impact	**$+76,780,250.49**	**$+11,235.04**
Impact Percentage	25.41%	—
Cases Over Budget	4,042	59.1%
Model R^2 (Test)	0.4717	—
RMSE (Test)	$32,462.66	—

Figure 0.2-4 presents the distribution analysis for Model 4, showing the distributions of actual costs, predicted costs, prediction errors, and conservative budget estimates.

The conservative budgeting approach for Model 4 would require an additional $76,780,250.49 (25.41%) compared to actual costs, averaging $11,235.04 per client. The model under-predicted costs in 59.1% of cases, necessitating the conservative approach to avoid budget shortfalls.

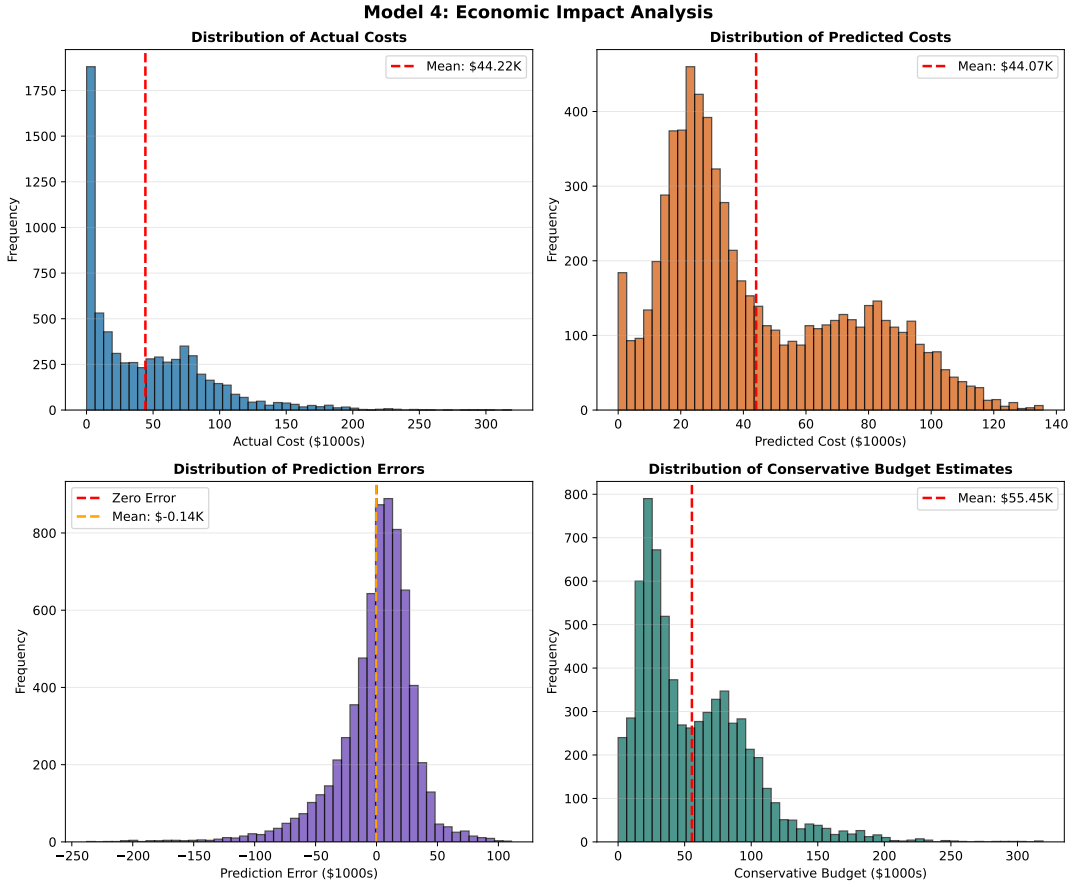

Figure 0.2-4: Model 4: Distribution of costs, predictions, errors, and conservative budget estimates. The conservative estimate takes the maximum of actual and predicted costs to ensure adequate funding.

0.2.5 Model 5: Impact Analysis

Table 5: Model 5: Economic Impact Summary

Metric	Value	Per Client
Sample Size	6,834	—
Total Actual Cost	$302,173,388.29	$44,216.18
Total Predicted Cost	$260,331,382.59	$38,093.56
Total Conservative Budget	$356,096,831.54	$52,106.65
Economic Impact	**$+53,923,443.25**	**$+7,890.47**
Impact Percentage	17.85%	—
Cases Over Budget	3,576	52.3%
Model R^2 (Test)	0.4474	—
RMSE (Test)	$33,198.10	—

Figure 0.2-5 presents the distribution analysis for Model 5, showing the distributions of actual costs, predicted costs, prediction errors, and conservative budget estimates.

The conservative budgeting approach for Model 5 would require an additional $53,923,443.25 (17.85%) compared to actual costs, averaging $7,890.47 per client. The model under-predicted costs in 52.3% of cases, necessitating the conservative approach to avoid budget shortfalls.

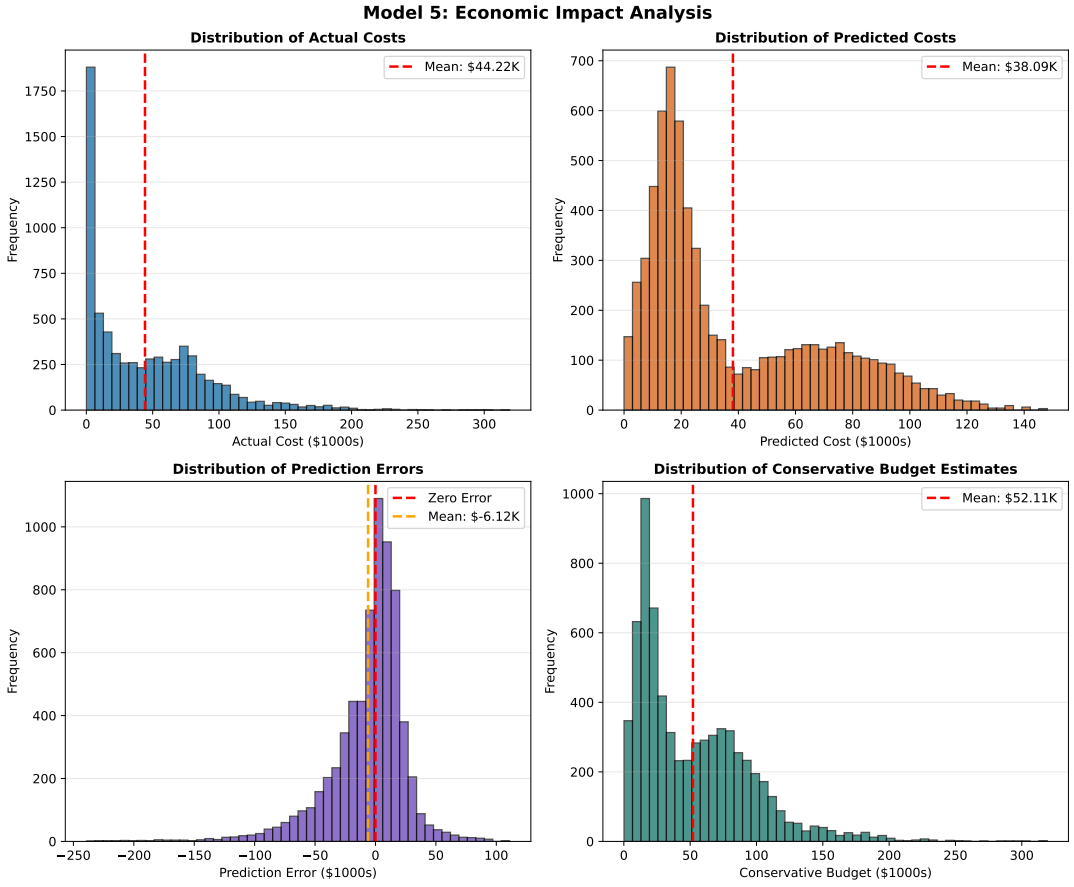

Figure 0.2-5: Model 5: Distribution of costs, predictions, errors, and conservative budget estimates. The conservative estimate takes the maximum of actual and predicted costs to ensure adequate funding.

0.2.6 Model 6: Impact Analysis

Table 6: Model 6: Economic Impact Summary

Metric	Value	Per Client
Sample Size	6,834	—
Total Actual Cost	$302,173,388.29	$44,216.18
Total Predicted Cost	$413,605,889.79	$60,521.79
Total Conservative Budget	$477,292,383.97	$69,840.85
Economic Impact	**$+175,118,995.68**	**$+25,624.67**
Impact Percentage	57.95%	—
Cases Over Budget	4,818	70.5%
Model R^2 (Test)	-0.3008	—
RMSE (Test)	$50,935.97	—

Figure 0.2-6 presents the distribution analysis for Model 6, showing the distributions of actual costs, predicted costs, prediction errors, and conservative budget estimates.

The conservative budgeting approach for Model 6 would require an additional $175,118,995.68 (57.95%) compared to actual costs, averaging $25,624.67 per client. The model under-predicted costs in 70.5% of cases, necessitating the conservative approach to avoid budget shortfalls.

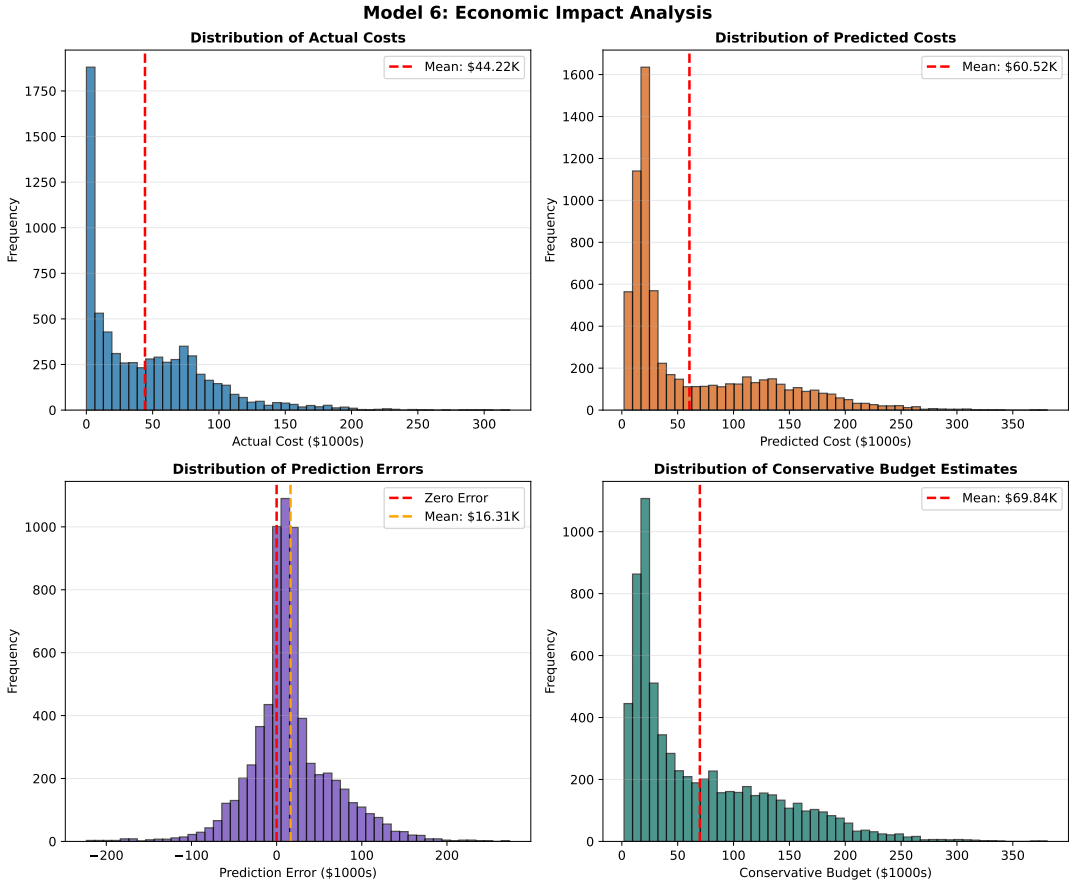

Figure 0.2-6: Model 6: Distribution of costs, predictions, errors, and conservative budget estimates. The conservative estimate takes the maximum of actual and predicted costs to ensure adequate funding.

0.2.7 Model 9: Impact Analysis

Table 7: Model 9: Economic Impact Summary

Metric	Value	Per Client
Sample Size	19,893	—
Total Actual Cost	$787,621,455.30	$39,592.89
Total Predicted Cost	$679,742,324.93	$34,169.93
Total Conservative Budget	$915,710,129.65	$46,031.78
Economic Impact	**$+128,088,674.35**	**$+6,438.88**
Impact Percentage	16.26%	—
Cases Over Budget	10,164	51.1%
Model R^2 (Test)	0.5472	—
RMSE (Test)	$27,777.18	—

Figure 0.2-7 presents the distribution analysis for Model 9, showing the distributions of actual costs, predicted costs, prediction errors, and conservative budget estimates.

The conservative budgeting approach for Model 9 would require an additional $128,088,674.35 (16.26%) compared to actual costs, averaging $6,438.88 per client. The model under-predicted costs in 51.1% of cases, necessitating the conservative approach to avoid budget shortfalls.

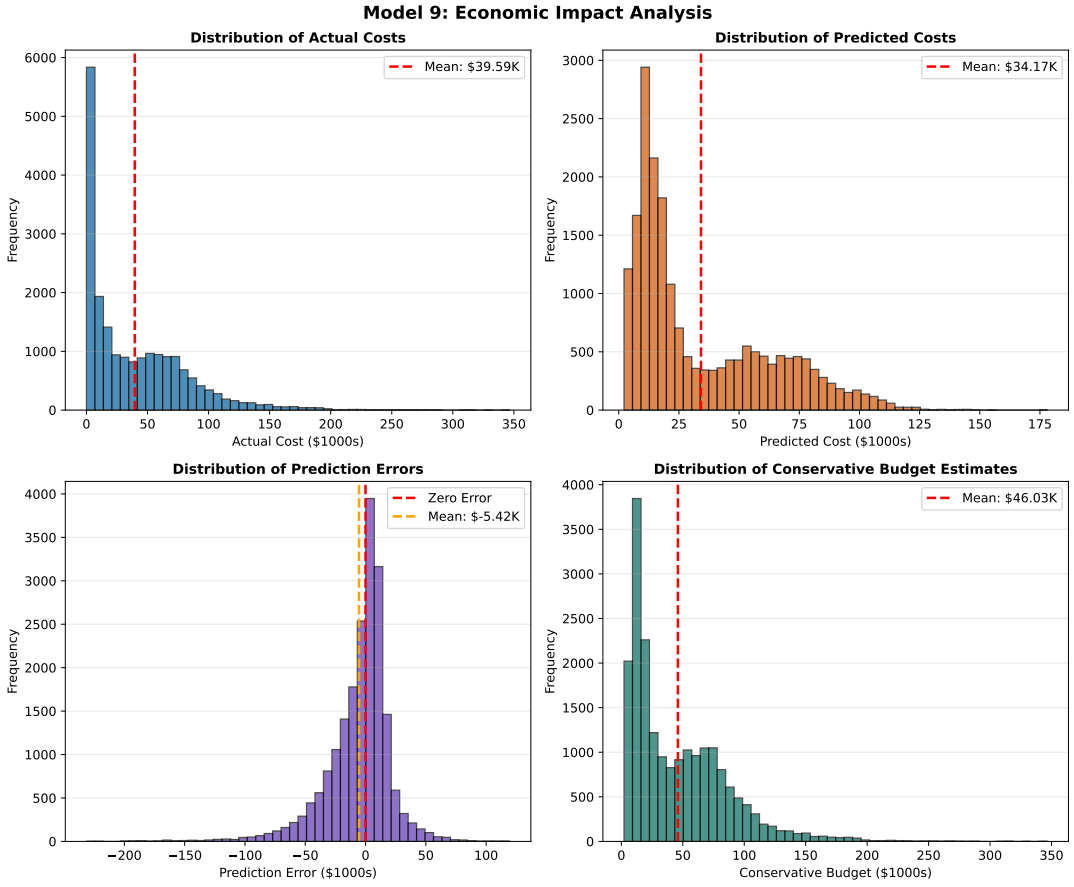

Figure 0.2-7: Model 9: Distribution of costs, predictions, errors, and conservative budget estimates. The conservative estimate takes the maximum of actual and predicted costs to ensure adequate funding.

0.2.8 Comparative Analysis Across Models

Table 8 presents a comprehensive comparison of economic impacts across all budget allocation models.

Table 8: Comparative Economic Impact Analysis Across All Models

Model	Samples	R^2 Test	Economic Impact	Impact %	Over Budget %
Model 1	6,834	0.4300	$+50,762,716.39	+16.80%	51.9%
Model 2	6,834	0.4252	$+66,658,725.38	+22.06%	57.2%
Model 3	6,834	0.4317	$+50,091,128.84	+16.58%	51.3%
Model 4	6,834	0.4717	$+76,780,250.49	+25.41%	59.1%
Model 5	6,834	0.4474	$+53,923,443.25	+17.85%	52.3%
Model 6	6,834	-0.3008	$+175,118,995.68	+57.95%	70.5%
Model 9	19,893	0.5472	$+128,088,674.35	+16.26%	51.1%

0.2.8.1 Key Insights

- Model 9 achieves the highest predictive accuracy with $R^2 = 0.5472$.
- Model 6 requires the largest conservative budget adjustment at 57.95%.
- The conservative budgeting approach ensures adequate funding to cover cases where the model under-predicts actual costs.
- Economic impact percentages reflect both model accuracy and the degree of systematic under- or over-prediction.