ECHO Vision 2040 Strategic Plan
Survey Methodology and Statistical Reliability

Executive Summary

This fact sheet documents the statistical methodology underpinning the ECHO Vision 2040 community engagement process and explains why the resulting recommendations provide a reliable foundation for Council's policy decisions and staff's operational improvements.

With 1,585 survey responses achieving a ±2.46% margin of error at the 95% confidence level, the engagement process meets or exceeds national research standards and far surpasses typical local government efforts. This precision ensures that policy decisions shaping the ECHO Program for the next 15 years rest on documented community preferences rather than anecdotal input or narrow advocacy.

For the 11 policy decisions requiring Council direction, the data provides an evidentiary foundation for confident deliberation on program priorities, funding allocation, and long-term direction. For the 19 operational improvements, the same data gives staff clear guidance on community expectations, reducing the risk of stakeholder concerns. This alignment between documented input and program practice helps maintain public trust in ECHO as it enters its next chapter.

Survey Methodology

Community Engagement Approach

TPMA employed a mixed-methods approach to community engagement, combining quantitative survey research with qualitative stakeholder interviews. The community survey collected 1,585 responses from Volusia County residents, providing a statistically representative sample of community opinion. Additionally, 52 stakeholder interviews captured in-depth perspectives from municipal partners, nonprofit organizations, cultural institutions, environmental advocates, and other key constituencies. This dual approach ensures that the strategic plan reflects both broad community sentiment and nuanced stakeholder expertise.

Understanding Margin of Error

The margin of error (±2.46%) quantifies the precision of survey results. When the survey reports that a certain percentage of respondents support a particular ECHO priority, the true percentage among all Volusia County residents likely falls within 2.46 percentage points of that reported figure. For example, if 65% of respondents indicate support for a priority, the actual community-wide support likely ranges between 62.54% and 67.46%. A smaller margin of error indicates greater precision, and the ECHO survey's ±2.46% margin exceeds common standards for municipal research.

Sample Size and Precision

The relationship between sample size and margin of error follows a mathematical principle: larger samples reduce uncertainty, but with diminishing returns. Table 2 illustrates how different sample sizes affect survey precision at a 95% confidence level, demonstrating that the ECHO survey achieved optimal precision for strategic decision-making.

Table 2: Sample Size and Margin of Error Comparison

Sample Size	Margin of Error	Practical Interpretation
400	±4.90%	Acceptable for initial exploration
800	±3.46%	Standard for many municipal surveys
1,200	±2.83%	Strong precision for policy guidance
1,585	**±2.46%**	**High precision for strategic decisions (ECHO Survey)**
2,000	±2.19%	Marginal improvement over 1,585

Source: Margin of error calculations based on standard formula for simple random sampling at 95% confidence level with p=0.5 (most conservative assumption).

The 95% Confidence Level

The confidence level describes the reliability of the margin of error estimate. A 95% confidence level means that if this same survey were conducted 100 times with different random samples, approximately 95 of those surveys would produce results within the stated margin of error of the true population value. This is the industry standard for professional research, used by organizations including the Pew Research Center and the U.S. Census Bureau for community surveys.

Industry Standards Comparison

Table 3 compares the ECHO survey's precision against common benchmarks in survey research, demonstrating that the survey exceeds typical standards for professional research.

Table 3: Industry Standards for Survey Precision

Survey Type	Typical MOE	ECHO Comparison
National Political Polls	±3% to ±4%	Exceeds
Local Government Surveys	±5%	Significantly Exceeds
Professional Market Research	±3% to ±5%	Exceeds
ECHO Vision 2040 Survey	**±2.46%**	**Benchmark**

Source: American Association for Public Opinion Research (AAPOR) standards; Pew Research Center methodology documentation.

Strategic Implications for Policy and Operations

The statistical rigor of the ECHO Vision 2040 community engagement process provides specific benefits for both policy decisions and operational improvements. This section explains how the data quality supports different types of decision-making.

Baseline for Future Measurement

As ECHO Vision 2040 implementation proceeds, subsequent surveys can be compared against this baseline with confidence that measured differences reflect actual shifts in community sentiment rather than statistical noise. This enables meaningful tracking of program outcomes.