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Electric Vehicle Infrastructure Deployment Plan

Missouri Department of Transportation

Revised August 2025

Contents

1.0 Introduction

Missouri has developed a Statewide Electric Vehicle Infrastructure Deployment Plan in accordance with the 2025 National Electric Vehicle Infrastructure (NEVI) Formula Program Interim Final Guidance. The plan details how the state intends to use unobligated NEVI Program funds, the state's Community Engagement Outcomes report in accordance with 23 CFR 680.112(d), and the state's strategies for physical and cybersecurity per 23 CFR 680.106 (h).

The Missouri NEVI Deployment Plan (NDP) will establish a framework for EV charging. Part of this framework is supporting long-distance EV travel by state residents and visitors. The NDP provides a framework to develop a network of EV charging stations along key travel corridors. This network will provide a backbone for future build-out of EV fast-charging stations along interstates and key highways in Missouri and will support the goal of the NEVI program to facilitate a national EV charging network.

2.0 Program Deployment

The Missouri NEVI Deployment Plan has the following timetable. It describes Missouri's proposed approach for development and adoption and is subject to modification as additional information becomes available.

- May – August 2022
  - NDP website launched
  - NDP submitted to U.S. Department of Transportation (USDOT)
- 2022-2023
  - Monitor and respond to Missouri EV Taskforce process and outcomes.
  - Develop initial approach for Missouri's administration of NEVI program funding.
  - Monitor NEVI program development and coordinate with other states to understand best practices and lessons learned.
- 2024
  - Using emerging best practices from other states, Issued Request for Information.
  - Begin annual EV Deployment Plan review and update.
- 2025
  - All NEVI Formula funding was suspended until revised Program Guidance was issued in August of 2025
  - Revised State EV Infrastructure Deployment Plan in accordance with new program guidance
- 2025-2026
  - Release RFP for NEVI funding.
  - Score proposals and announce successful awards.
  - Initiate deployment of EV charging stations.

3.0 Plan Vision and Goals

The Missouri NEVI Deployment Plan Vision and Goals were developed by reviewing the Joint Office of Energy and Transportation's National Electric Vehicle Infrastructure Formula Program objectives and criteria and aligning those with the Missouri Department of Transportation's 2025 Long Range Transportation Plan (LRTP) goals, objectives, and guiding principles for the next 25 years (https://www.modot.org/long-range-transportation-plan), and the agency's Strategic Vision as articulated in the FOCUS document (https://www.modot.org/focus).

The Missouri NDP goals below are drawn from and aligned with both of the documents referenced above to work in tandem with the state's top priorities while addressing the demand for electric vehicle charging infrastructure and forthcoming federal support under the NEVI Formula Program. The table below presents the proposed NDP goals and how they are aligned with the state's LRTP goals, objectives, and guiding principles.

3.1 Missouri's NEVI Plan Vision

Table 1: Missouri NEVI Deployment Plan Goals

Missouri NEVI Plan Goals	
Goal 1:	An EV charging network that serves Missouri's communities and travelers.
Goal 2:	A corridor-based EV charging system that leverages existing transportation and utility infrastructure for regional and interstate travel.
Goal 3:	A comprehensive system that supports transportation choices for all of Missouri's residents and builds on existing state-level planning efforts related to EVs.
Goal 4:	A resilient, economically sustainable vehicle fueling system that can adapt to changes in market conditions and transportation technologies.

3.2 Plan Updates

In accordance with the NEVI guidance, this plan is expected to be updated to reflect future year funding allocations, new guidance, and progress in implementing the plan. Updates will provide an opportunity to adjust the plan, including the goals and targets, based on new information, ongoing stakeholder and public input, and lessons learned.

3.3 NEVI Formula Funding

3.3.1 Sources

Missouri is forecasted to receive approximately $98.9 million in NEVI formula funds over the five-year period from Federal Fiscal Year (FY) 2022 to FY 2026 as indicated in Table 2. The minimum 20% non-federal match required to secure that funding is $19.8 million, for a minimum total five-year program amount of $118.7 million. If a larger non-federal match can be secured that amount could increase.

Table 2: NEVI Formula Funds and Matching Funds (Millions)

Federal Fiscal Year	Forecasted NEVI Funds	Local Match Funds	Total Funds
FY 2022	$ 14,647,722	$ 2,929,544	$ 17,577,266
FY 2023	$ 21,078,366	$ 4,215,673	$ 25,294,039
FY 2024	$ 21,078,366	$ 4,215,673	$ 25,294,039
FY 2025	$ 21,078,366	$ 4,215,673	$ 25,294,039
FY 2026	$ 21,078,366	$ 4,215,673	$ 25,294,039
TOTAL	$ 98,961,186	$ 19,792,237	$ 118,753,423

3.4 State, Regional, and Local Policy

Entities that contract with the State and charging equipment providers will need to demonstrate they are coordinating with property owners and municipalities to ensure they follow local permitting requirements, zoning laws, and land-use policies before charging sites are selected.

4.0 Implementation

Strategies for guiding the implementation of the program will rely on the contracting developed based on best practices and existing MoDOT contracting practices.

4.1 Strategies for EV Infrastructure Operations and Maintenance

Vendors receiving awards will follow agreed-upon requirements for operation and maintenance. Monitoring and service level agreements for station performance will be specified in the contract and it is expected that MoDOT will monitor station up time through vendor reported usage data and general user satisfaction on publicly accessible third-party charging web sites. Operation and maintenance costs are anticipated to be approximately 5% of installation cost and will be evaluated per location over time. Enforcement of idle fees and time limits will be the responsibility of the vendor/station operator.

4.2 Strategies for Service Provider and Station Owner Identification

It is expected that MoDOT will use existing solicitation methods to advertise, select, and award contracts to electric vehicle charging equipment service providers/property owners. Based on prior experience and communications with other states, charging equipment companies and other potential vendors generally have the expertise and ability to locate suitable locations for charging stations along the AFC. MoDOT will monitor progress with regular meetings between the vendor(s) and project team consistent with contract language and structure.

4.3 Strategies for Data Collection and Sharing

Contracts with vendors will include requirements to provide anonymized usage statistics for analysis. A methodology to coordinate data statewide and to provide to the Joint Office will be developed. Consideration will be given to using tools such as ArcGIS Online dashboards to provide partners and the public access to relevant information. Data sharing will conform to requirements outlined in 23 CFR 680.112.

4.4 Strategies for Addressing Resiliency Against Technology, Utilities, and Extreme Weather

Three primary areas where Missouri will address resiliency are described below. Additionally, the State will examine best practices from other states to learn and adapt the approach and deployment methodology in an effort to develop the EV network for comprehensive resiliency.

- **Technology Resiliency –** With charging and battery technology evolving, the charging provider should have the ability to upgrade chargers to meet new standards and evolving battery technology. Delivering suitable power to the site is a key focus of this

effort, along with modular infrastructure that can be easily upgraded will be a key outcome in the process.

- **Energy/Grid Resiliency -** Missouri will continually explore options for energy resilience along with utility partners and charging providers. One challenge to implementing the charging system is the numerous utility providers located along the corridor network, which is also an opportunity to ensure energy resilience for the charging network.
- **Extreme Weather Resiliency –** Extreme cold, excessive heat, snow, flash flooding, and tornadoes are all extreme weather events that may be experienced in Missouri. Because MoDOT has minimal experience with EV infrastructure, it is anticipated resiliency during these extreme weather events will be addressed primarily by the private charging provider, with potential requirements to address resiliency as a component of the contracting process.

4.5 Draft Charger Types

4.5.1 NEVI Standard

- Applied to all AFC routes
- Conformance with NEVI standards required to be certified as fully built-out
- Charger power standards:
  - Minimum Standard – 150 kW x (4) (600 kW total)
  - Preferred Standard A – 175 kW x (4) (700 kW total) with power sharing (350 kW per port)
  - Preferred Standard B – 350 kW x (2) and 150 kW x (2) (1 MW total)
- Site configuration
  - Preferred - Pull-through charging site orientation (see Figure 1: Pull-Through Charging Site Orientation)
  - Minimum Standard – Head-in charging site orientation, parallel orientation (see Figure 2: Head-In Charging Site Orientation with Parallel Chargers) preferred over perpendicular (see Figure 3: Head-In Charging Site Orientation with Perpendicular Chargers)
  - Compliant with all applicable ADA and NEVI standards

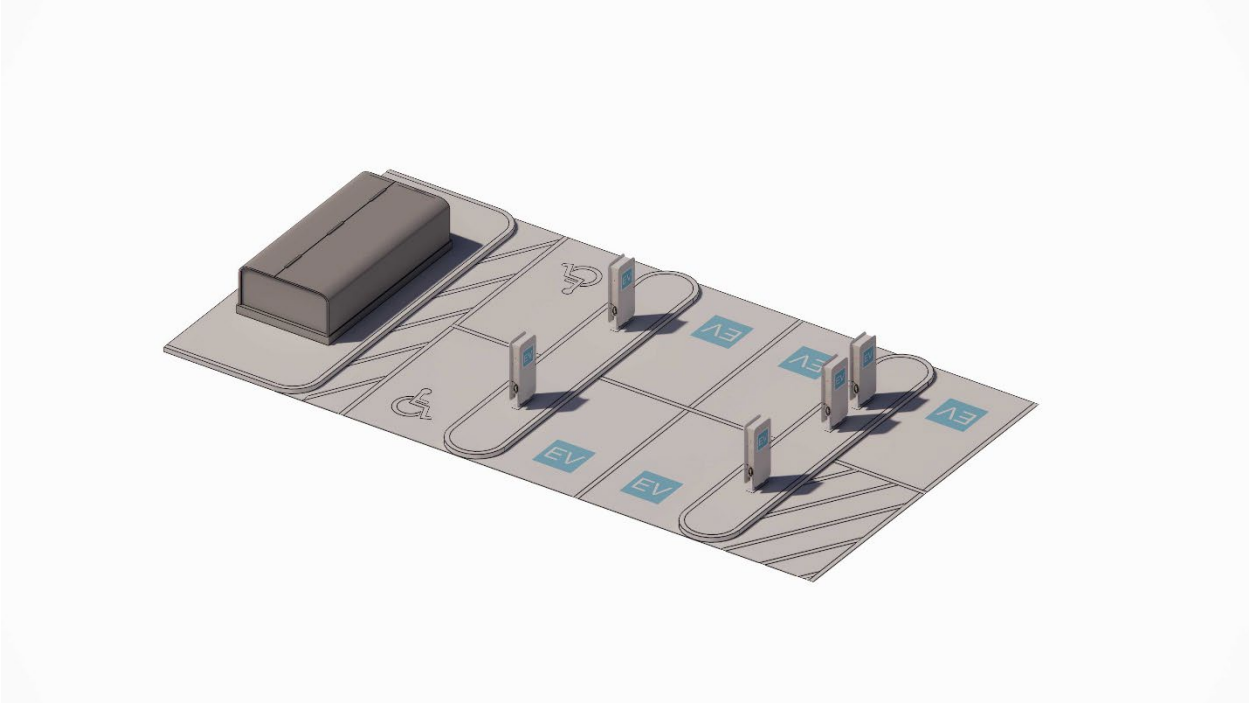

Figure 1: Pull-Through Charging Site Orientation Concept

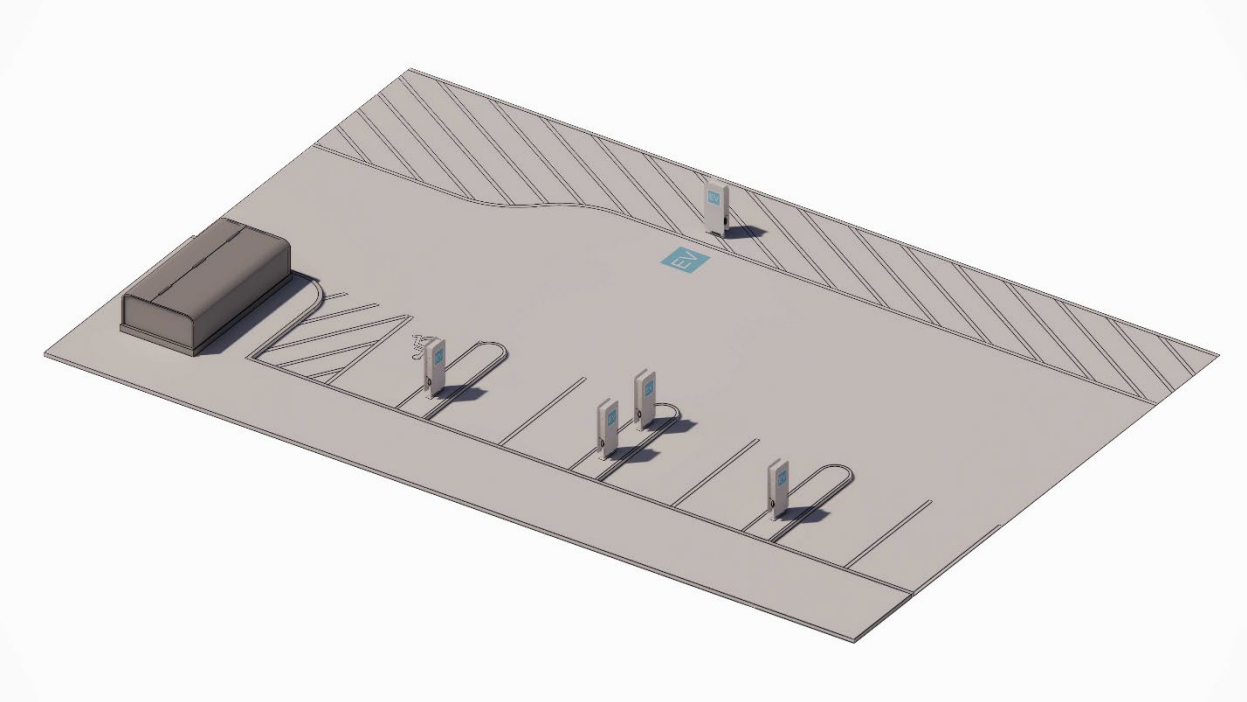

Figure 2: Head-In Charging Site Orientation with Parallel Chargers Concept

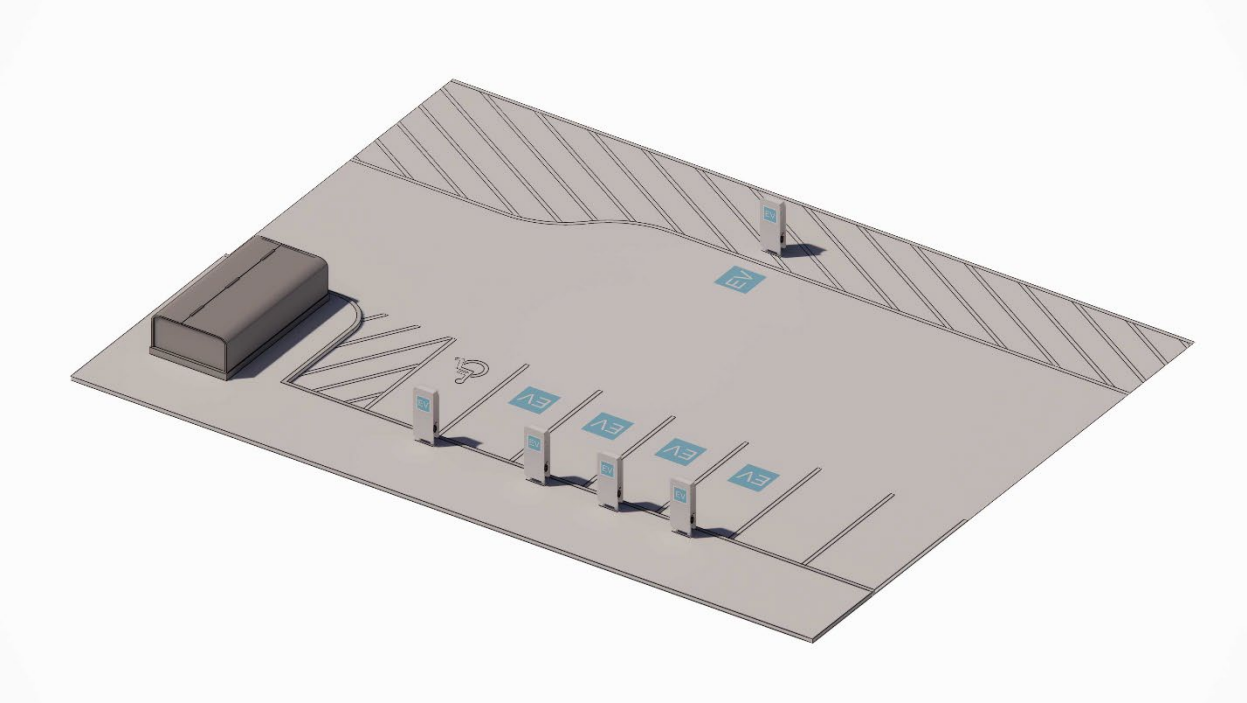

Figure 3: Head-In Charging Site Orientation with Perpendicular Chargers Concept

4.5.2 Charging Location Amenities and Features

MoDOT recognizes not all charging locations will have a full suite of amenities, and these locations will be supporting travelers having a 10-minute to 30-minute layover for long distance trips. As site selection is initiated, MoDOT has identified the amenities that should be part of the considerations for site suitability. They are categorized into tiers; each corresponding to the level of preference or need, with each tier inclusive of the amenities in the lower tiers.

- ***Minimum Amenities and Features:*** Bathroom, vending machine, benches, trash can, lighting, 24 hour access, security cameras
- ***Preferred Amenities and Features:*** Restaurant, convenience store, shelter/canopy
- ***Ideal Amenities and Features:*** Outdoor space/park/playground, pet relief area, multiple restaurants, back-up power connection

5.0 Community Engagement

With the issuance of the 2025 revised Program Guidance, Missouri is in the process of developing a meaningful and responsible public engagement process for EV deployment. Resources developed for the initial public engagement effort included:

- MoDOT Alternative Fuels National Electric Vehicle Infrastructure Formula Program webpage (https://www.modot.org/nevi)
- Missouri Utility Provider Survey

5.1 Communication Program Goals

As Missouri continues to develop and improve the deployment plan, further public engagement activities will inform those efforts, including outreach efforts to DACs . Goals for communication include:

- Broad-based engagement from communities and stakeholders as input to plan development
- Feedback on the NDP and community and traveler needs and desires for electric vehicle infrastructure
- Input on priorities for additional corridors where development of electric vehicle infrastructure may be warranted in the future

5.2 Meetings

Missouri held a stakeholder meeting with utility providers on May 27, 2022, An overview of the NEVI program was provided, and participants were given the opportunity to ask questions and receive responses to increase awareness and understanding. Representatives from the following organizations attended:

- Associated Electric Cooperative Incorporated
- Missouri Public Utilities Alliance
- Callaway Electric Corporation
- Ameren Missouri
- Evergy
- Liberty Utilities

Issued RFI posted May 1, 2024 and closed June 14, 2024

  - Received 12 responses.

Standing quarterly meetings with Utility sector

MoDOT has also given presentations to the following groups to update them on Missouri NEVI approach. These presentations have been made to targeted industry that are instrumental to

the successful deployment of NEVI. MoDOT will provide Community Engagement Outcomes Report as required by 23 CFR 680.112 (d).

- Midwest Energy Policy Series December 8, 2022
- PACE Show February 9, 2023
- American Council of Engineers April 14, 2023
- PSC Workshop April 21, 2023

5.3 Feedback

In coordination with the utility provider meeting, a 26-question survey was distributed to utility providers within the state. Fifteen responses were received. Key questions and responses included:

- Willingness to provide local matching funds (more than half of respondents indicated a willingness to provide a 20% match)
- Types of grid upgrades necessary to support EV charging (responses included transformer upgrades, line extensions, feeder circuits)
- Additional information needed from MoDOT (EV charging station locations, any known traffic hazards, types and sizes of EV chargers)
- Utility provider ownership/operation of EV charging stations (57% of respondents indicated they do not plan to own or operate EV charging stations)

The Missouri NDP has considered the feedback provided to date and will continue to solicit additional feedback as it is updated.

5.4 Identification of and Outreach to Disadvantaged Communities within the State

"Communities" are defined as a group of individuals living in close geographic proximity to one another. "Disadvantaged" is defined through data investigation of these communities by a combination of variables including – low-income (and/or high persistent poverty), racial minority composition, linguistic isolation, high transportation cost burden, high energy cost burden, and disproportionate environmental stressors.

The State of Missouri will develop procedures to encourage and monitor participation of all citizens in the planning process. This includes meaningful engagement in projects and programs with low-income and minority individuals, those with limited English proficiency, and other underserved groups.

6.0 Nondiscrimination

Missouri DOT is a proven administrator of Federal-aid funds and as such, assures compliance with State and Federal nondiscrimination laws as a regular business practice. The NDP will be implemented utilizing the adopted practices that have provided compliance with all applicable laws and have been successfully implemented by other federal funding programs for decades. By utilizing this proven practice, Title VI of the Civil Rights Act, Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and all accompanying USDOT regulations and ancillary programs will be included in the NEVI program from the onset.

In accordance with federal law, no person shall be excluded from participation in, or is denied the benefits of, or is subjected to discrimination under any program or activity receiving Federal financial assistance from MoDOT on the grounds of race, color, age, sex, disability or national origin.

7.0 Cybersecurity

The State of Missouri and the Missouri DOT are committed to public service, including cyber security, cyber resiliency, and privacy protections for all services and systems in the communities in which they serve. The potential sources and types of cybersecurity threats for EVSEs are evolving and regularly scheduled risk assessments are prudent and necessary to provide Defense-in-Depth protection. Successful exploitation of even a single DCFC can cause relay chatter, or other various power quality issues and phase instability, that can have cascading effects upstream.

Primary Goals of this EVSE cybersecurity guidance include:

- Securing EVSE infrastructure deployed as part of the NDP. Secure is defined as:
  - Protected against physical or electronic intrusion by unauthorized persons or entities.
  - Hardened against damage or loss of service due to weather, environment, transient surge voltages, traffic incidents, etc.
  - Protected against insider threats whether malicious or inadvertent.
  - Segmented (separated) to protect against unintended damage, unauthorized access, loss of data, service availability, privacy breach etc. from unprotected connections among stakeholder partner and user systems.
- Validating that all revenue and financial systems are compliant with the Payment Card Industry (PCI) requirements.
- Developing security operations that are compliant with, and certification maintained for, Security Operations Center – Level 2 (SOC2) audit requirements.
- Building in physical and electronic resiliency systemwide.
- Implementing Security by Design for each project.

8.1 EV Industry Cybersecurity Best Practices

8.1.1 General

A common set of recommended best practices are summarized below for the EV deployers. Details of these are available from: https://doi.org/10.2172/1706221

- **Risk Management**
  - Establish full lifecycle risk reviews and prioritize improvements based on risk to EVSE operations.
  - Maintain updated architecture diagrams to identify critical assets, internet connections, open ports, and supported protocols.
  - Establish a process for active security patch management.
- **Configuration and Change Management**
  - Create a formal process for uploading code.
  - Properly secure keys, credentials, and other secret items.
- **Identity and Access Management**
  - Require individual credentials for system login and don't reuse credentials.
  - Limit the use of system/maintenance accounts.
- **Threat and Vulnerability Management**
  - Use a Common Vulnerability Scoring System (CVSS) to evaluate potential vulnerabilities and prioritize response.
  - Establish and regularly update a comprehensive threat profile.
- **Communications**
  - Encrypt all information internal and external to the EVSE.
  - Apply network segmentation and security systems including Intrusion Detection System (IDS), Intrusion Prevention System (IPS) and firewalls.
- **Event and Incident Response, Continuity of Operations**
  - Implement Information Security Continuous Monitoring (ISCM) per National Institute of Standards and Technology Special Publication (NIST SP) 800-137.
  - Establish protocols and procedures for immediate response to logs or alerts from ISCM, Security Information and Event Management (SIEM) and IDS/IPS systems.
  - Create a Security Operations Center (SOC) and maintain SOC2 certification.
  - Establish business continuity, incident response and disaster recovery plans. Conduct regularly scheduled table-top exercises, drills, and reviews to test procedures, train staff and update per technology changes.
- **Supply Chain Management**
  - Use secure shipping channels that include verification of the state of EVSE when it departs facility.
  - Specify tamper resistant seals, alarms, and other protective measures to prevent and report attempts of unauthorized access to equipment or enclosures.
- **Workforce Management**

- Ensure critical roles have redundancy in personnel and cross function capabilities.
- Evaluate competence of staff with periodic social engineering (phishing), audits, etc.

- **Cybersecurity Program Management**
  - Mature a cybersecurity program strategy with clear priorities and governance model.
  - Include a "safe" environment for anonymous or protected means to report violations or vulnerability concerns.

8.1.2 Foundational Principles

Achieving the best feasible protective posture is facilitated by employing two foundational principles: Security by Design and Defense-in-Depth.

- ***Security by Design*** is the controlled use of established processes to build security functions, safeguards and procedures into software and systems design from project initiation, ensuring security is considered and tested throughout the entire design/engineering phase.
- ***Defense in Depth*** is the practice of constructing cybersecurity defense via layers of protection that overlap and enhance adjacent layers. Where one layer is defeated, another is automatically implemented to step into the gap and continue defensive efforts.