



Request for Comments (RFC)
Autonomous Neighborhood Energy Vehicles (ANEV)
Mobility, Energy, Community Resilience, and Safety Data Framework
Issued by the Infrastructure Financial Data (IFD) Working Group

DRAFT of August 13, 2026

Executive Summary

FISTech invites comments, recommendations, technical assessments, and stakeholder participation regarding regulatory policies, development, design, deployment, financing, insuring, operation, and long-term management of Autonomous Neighborhood Energy Vehicles (ANEVs).

Unlike a Request for Proposals (RFP), this Request for Comments (RFC) is intended to foster industry dialogue, identify opportunities and barriers, evaluate technology readiness, and promote the adoption of internationally recognized open data standards that can support a scalable ANEV ecosystem.

This RFC seeks input from:

- Vehicle manufacturers
- Autonomous technology developers
- Transit agencies
- Utilities
- Infrastructure investors
- Financial institutions
- Insurance providers
- Smart City organizations
- Government agencies
- Academic institutions
- Trade associations
- Development organizations
- Humanitarian agencies
- Standards organizations

The goal is to determine how ANEV platforms can safely and economically support mobility, energy resilience, community services, and post-conflict recovery while generating high-integrity data that can improve future systems.

1. Purpose

The purpose of this RFC is to gather stakeholder feedback regarding:

- Technical feasibility
- Manufacturing feasibility
- Economic viability
- Financing models
- Autonomous technology requirements
- Regulatory frameworks
- Energy integration
- Community applications
- Smart City integration
- Safety data requirements
- Open-data standards

Particular emphasis is placed on identifying safety-related data elements that should be incorporated from the beginning of ANEV deployment to support future research, regulatory development, risk management, and continuous safety improvement.

Reviewers

Reviewers are volunteers from trade associations, industry groups, public agencies, private entities and non-profit's from around the world all offering their insights and expertise at this critical time where decisions made today will impact all our tomorrows.

2. Program Context

ANEVs are envisioned as small autonomous electric vehicles capable of operating in neighborhood and community environments while also serving as distributed energy assets and digital infrastructure platforms. The original ANEV concept focused on first-mile and last-mile mobility, ride-sharing, and battery-enabled energy services.

Subsequent stakeholder discussions have expanded the concept to include:

- Smart City applications
- Community energy systems
- Resilience infrastructure
- Humanitarian support
- Agricultural recovery
- Disaster response
- Post-conflict reconstruction platforms

The ANEV concept should therefore be evaluated as infrastructure rather than simply transportation.

3. ANEV Classification Framework

Respondents are invited to comment on four ANEV categories.

Category 1 - Basic ANEV

Features

- Qualifies as V2H or V2G ITC of 40%
- Meets DMV requirements for ANEV
- Can be registered with the DMV.
- Bankable and Insurable
- Simple passenger unit
- Smaller battery
- Lidar for a three-mile radius
- Full autonomous without a driver.
- Seating that can hold 2 passengers
- Wireless charging
- Fleet management integration
- Ride-share integration
- Vehicle-to-Home (V2H)
- Vehicle-to-Grid (V2G)
- Solar charging options
- Transit connections
- Smart City integration
- Energy trading capability
- Digital twin data collection

Target Cost Range

\$15,000-\$30,000

Category 2 - Standard ANEV

- Everything in basic
- Better passenger unit
- Enhanced battery capacity
- Seating that can hold 4 passengers
- Lidar for a four-mile radius

Target Cost Range

\$30,000-\$40,000

Category 3 - High-End ANEV

- Everything in Standard
- High end passenger unit
- Highest battery capacity
- Seating that can hold 6 passengers
- Lidar for a five-mile radius

Target Cost Range

\$40,000-\$50,000+

Category 4 - Post-Conflict Community Recovery ANEV

Mobile energy infrastructure platform supporting humanitarian operations, agricultural restoration, and community recovery.

4. Feasibility Topics for Comment

Respondents are requested to provide comments regarding:

Technical Feasibility

- Vehicle architecture
- Autonomous technology readiness
- Battery systems
- Sensor systems
- Software platforms
- Fleet integration

Manufacturing Feasibility

- Supply chains
- Assembly methods
- Production scalability
- Domestic manufacturing opportunities

Financial Feasibility

- Capital costs
- Operating costs
- Residual values
- Financing structures
- Insurance considerations

Market Readiness

- Target markets
- Deployment barriers
- Customer adoption challenges
- Public acceptance

5. Energy and Infrastructure Integration

Respondents should comment regarding:

- Charging requirements
- Fast charging support
- Utility integration
- Demand response programs
- V2H applications
- V2G applications
- Community microgrids
- Renewable energy integration
- Battery lifecycle management

6. Regulatory and Policy Considerations

Respondents should identify:

- Federal requirements
- State requirements
- Local requirements
- Autonomous vehicle regulations
- Safety certification pathways
- Data reporting requirements
- Insurance requirements
- Accessibility standards

7. ANEV Safety Data Framework

High-quality safety data will be critical to future ANEV deployment.

The autonomous vehicle industry currently possesses limited long-term operational experience from fully autonomous systems operating without safety drivers. As ANEV deployment expands, especially among lower-cost neighborhood fleets, the amount of safety data available will increase significantly.

The Infrastructure Financial Data (IFD) Working Group advocates the use of internationally recognized open standards and consistent data elements to create high-integrity datasets that support long-term infrastructure decision-making.

Safety data should be treated as a critical Smart City data asset.

This RFC seeks comments regarding the safety information that should be captured from the earliest stages of ANEV development and deployment.

Future safety improvements will depend on the quality of data collected today.

8. Safety Data Categories

Vehicle Identification

Data should include:

- Vehicle type
- Vehicle class
- Manufacturer
- Model
- Software version
- Autonomous system version
- Sensor package version

Operational Exposure Data

Data should include:

- Vehicle miles traveled
- Autonomous miles traveled
- Passenger miles traveled
- Vehicle operating hours
- Autonomous operating hours
- Passenger trips completed
- Fleet utilization

Operating Environment Data

Data should include:

- Geographic region
- Road type
- Community type
- Posted speed limits
- Traffic volume
- Weather conditions
- Lighting conditions

Autonomous System Performance

Data should include:

- Disengagement events
- Remote operator interventions
- Sensor failures
- GPS interruptions
- Communication failures
- Software faults
- Emergency stops

Near-Miss Events

Data should include:

- Hard braking events
- Emergency maneuvers
- Time-to-collision measurements
- Pedestrian conflict events
- Bicycle conflict events
- Vehicle conflict events
- Obstacle avoidance events

Collision and Incident Data

Data should include:

- Time and location
- Severity classification
- Autonomous operating status
- Damage estimates
- Contributing factors
- Service interruptions
- Property damage

Passenger Safety Data

Data should include:

- Passenger injuries
- Boarding incidents
- Exiting incidents
- Accessibility incidents
- Emergency stop impacts

Vulnerable Road User Safety

Data should include:

- Pedestrian interactions
- Bicycle interactions
- Wheelchair-user interactions
- Child safety events
- Elderly user interactions

Cybersecurity Safety Data

Data should include:

- Unauthorized access attempts
- Spoofing attempts
- Communication disruptions
- Navigation interference
- Software integrity incidents

Infrastructure Interaction Data

Data should include:

- V2X performance
- Traffic signal interaction
- Charging system interaction
- Smart City platform integration
- Communications system performance

9. Post-Conflict ANEV Safety Data

Additional safety data is recommended for humanitarian and reconstruction deployments.

Potential categories include:

- Route clearance missions
- Hazard identification events
- Demining support activities
- Medical support deployments
- Infrastructure assessment missions
- Water support missions
- Humanitarian logistics operations
- Community energy support operations

These environments may create entirely new safety datasets that are not currently available in traditional autonomous transportation systems.

10. Open Data Standards and Smart City Integration

Respondents are encouraged to implement:

- XBRL / IFRS international data standards for financial data
- buildingSMART/IFC international data standards for financial data
- Open-data frameworks
- Digital twin asset management standards
- Smart City interoperability standards
- Safety reporting standards

The objective is to avoid fragmented datasets and enable long-term interoperability across manufacturers, operators, governments, researchers, and investors.

11. Desired Deliverables

Respondents may submit:

- Written comments
- Technical papers
- Research studies
- Cost analyses
- Safety recommendations
- Regulatory assessments
- Data standard recommendations
- Pilot project concepts
- Academic research proposals

12. RFC Status

This RFC:

- Is non-binding
- Does not constitute a procurement action
- Does not commit funding
- Does not establish technical standards
- Is intended to stimulate industry discussion and collaboration

Strategic Vision

ANEVs may ultimately evolve into:

- Neighborhood mobility systems
- Distributed energy assets
- Community resilience platforms
- Smart City infrastructure
- Humanitarian support systems
- Post-conflict reconstruction assets
- Agricultural recovery platforms
- Mobile microgrids
- Digital infrastructure nodes

Summary

The purpose of this RFC is to begin a conversation and collaboration among manufacturers, operators, regulators, investors, researchers, insurers, and communities regarding how ANEVs should be designed, financed, operated, measured, and continuously improved.

Infrastructure Financial Data (IFD) Working Group is a convening platform under the National Science Foundation DT-RICH to bring disaggregated stakeholders into a digital ecosystem empowered with high integrity data.

About

Digital Twin Research, Innovation & Collaboration Hub (DT-RICH) is a National Science Foundation (NSF) Industry-University Cooperative Research Center (IUCRC) planning initiative that brings together government, industry, and university partners to accelerate the translation of digital twin research into practical technologies with societal impact. DT-RICH focuses on advancing digital twin applications across multiple domains, including geospatial systems, artificial intelligence, forecasting, industrial systems, construction, public health, medicine, and space traffic management. The Hub creates a collaborative environment where industry and academic partners identify real-world challenges and jointly develop innovative solutions.

Website: [Digital Twin Research, Innovation & Collaboration Hub](#)

Infrastructure Financial Data (IFD) Working Group

The **Infrastructure Financial Data (IFD) Working Group** is a multi-stakeholder initiative focused on establishing high-integrity data exchange for common infrastructure business processes through the use of open, internationally recognized standards including XBRL, ISO, buildingSMART IFC, FDX, and related frameworks. The Working Group's mission is to synergize and engage stakeholders to improve data interoperability, support digital twins, strengthen AI-enabled applications, and advance next-generation infrastructure systems.

The IFD Working Group promotes the vision of infrastructure as a connected system and seeks to align financial, operational, and technical data across stakeholders. Current activities include expanding XBRL-based data frameworks, improving Application for Payment (AFP) data exchange, supporting Advanced Digital Construction Management Systems (ADCMS), promoting interoperability, and enabling digital ecosystems that benefit project owners, contractors, investors, insurers, regulators, and small businesses. [\[fistech.co\]](#)

Information Page: [Infrastructure Financial Data Working Group](#)

Mission: To engage stakeholders and establish high-integrity, interoperable infrastructure data exchange that supports digital twins, AI innovation, improved risk management, and next-generation infrastructure delivery.

SRC Digital Insurance Services operates at the intersection of surety, capital markets, and emerging digital infrastructure. The company focuses on digitally connecting stakeholders with capital and financial markets while supporting the transition from fragmented, paper-based processes to data-enabled digital ecosystems. SRC combines expertise in surety, risk management, and infrastructure data innovation, helping stakeholders leverage advanced data models, AI-enabled insights, and next-generation risk management approaches. SRC maintains strategic relationships with FISTech and the Infrastructure Financial Data (IFD) Working Group and promotes digital interoperability within the built environment.

Website: [SRC Digital Insurance Services](#)

FISTech (Finance, Insurance and Surety Technology) is focused on digital ecosystem formation through data standardization and interoperability. FISTech promotes the use of open standards and high-integrity data to enable innovation across infrastructure, finance, insurance, surety, digital twins, and emerging technologies. Through platform development, pilot projects, working groups, educational initiatives, and stakeholder engagement, FISTech seeks to demonstrate how standardized machine-readable data can improve efficiency, transparency, risk management, and collaboration across multiple infrastructure sectors. FISTech serves as a convening platform for organizations working toward digitally connected infrastructure ecosystems.

Website: [FISTech](#)

\$1 Rides. \$500 Monthly Income. Put Your Second Car to Work!

Autonomous EVs for SMART Train Connections

- ▶ **\$1 RIDES EVERY TRIP**
- ▶ **\$500 MONTHLY INCOME**
- ▶ **PUT YOUR SPARE EV TO WORK!**



PREMIUM MODEL

STANDARD MODEL

BUDGET MODEL •

Cost: **\$50,000** | ITC Tax Credit: **\$15,000** | Net Cost After Credit: **\$35,000**

VEHICLE TO HOME / BUSINESS / GRID BATTERY

100% FINANCING AVAILABLE

BE PART OF A SMART CITY • PROVIDE TRANSPORTATION

License # 12345 | *Subject to eligibility. Financing O.A.C. Shown for illustration only.

Join the Construction Finance Data Working Group collaboration as they explore where emerging technologies can enable next generation infrastructure that leverages AI to connect energy, transportation, water, and agriculture for a holistic community approach.

Autonomous Neighborhood Electric Vehicles (ANEVs) are part of a Smart City that provides a solution to the “Last Mile”. A challenge faced by every community as they seek to provide an affordable transportation network that enables mobility to everyone, particularly those without a car.

The ANEV pilot is exploring if the cost of an ANEV can be reduced enough to make owning an ANEV an income opportunity for individuals or companies. Proving communities with “last mile” transportation connectivity without a financial burden on communities.

- Provide reliable and predictable public transportation that can overcome the “last mile” barrier.
- Promote sustainability by creating an environment for batteries to assume some of the energy load at peak times.
- Create resiliency by creating an environment for a mobile fleet of batteries that can be dispatched in emergencies
- Take a significant number of cars off the road as the train option becomes the preferred option
- A fleet of ANEVs as affordable income generating assets for individuals and companies
- An asset that qualifies for ITC credit as a battery system
- Is not a burden on community resources, but administered by public agencies for maximum public benefit.
- Able to transport up to four passengers.
- Able to navigate the roadways within a two mile radius of dedicated train station
- Scheduling and fare collection are handled by ride app platform.
- Meets DMV requirements for travelling on roads and for registering ownership.
- Can be financed similar to a car or solar/battery system.

Be a Part of Transitioning to Next Generation Digital Infrastructure

Autonomous ANEV. Built to Earn. Built to Power.

Autonomous. Electric. Solar-Powered. Income-Generating.

Next Generation Infrastructure – Solutions for Vehicle-to-Home Power and Last Mile.

Low cost. High utility. 100% electric. Built around what matters most:

The Battery.



BIG BATTERY
LONG RANGE



EARN MORE
EVERY DAY



LOW COST
EASY TO MAINTAIN



CLEAN ENERGY
BETTER FUTURE

More rides. More deliveries. More income. Powered by autonomy.

AVEV: ONE PASSENGER POD. TWO TRANSPORTATION NETWORKS.

A high-capacity battery platform for road transportation, energy storage, V2G and V2H services—combined with a detachable passenger pod that can transition to lightweight vertical air mobility at rooftop vertiports.

AVEV

- ⚡ 100% ELECTRIC
- ☀️ SOLAR ASSISTED
- 📋 SAFE. RELIABLE. AUTONOMOUS.
- 🛡️ BUILT FOR COMMUNITIES. BUILT FOR THE FUTURE.

ONE PLATFORM. DETACHABLE POD. MULTI-MODAL FUTURE.

1 GROUND TRANSPORTATION PLATFORM

Road Mode + Energy Platform



DETACHABLE PASSENGER POD
Spacious, comfortable, autonomous rides.

INTERCHANGEABLE ROAD MODE → AIR MODE
Seamless transition in minutes.

SAME PASSENGER POD
ENDLESS POSSIBILITIES

HIGH-CAPACITY ENERGY PLATFORM The Powerhouse on the Ground

- HIGH-CAPACITY ENERGY STORAGE**
Massive battery for long range and heavy-duty use.
- VEHICLE-TO-GRID (V2G)**
Send energy to the grid. Earn revenue.
- VEHICLE-TO-HOME (V2H)**
Power your home when you need it.
- BACKUP POWER**
Reliable backup for homes & businesses.
- MOBILE ENERGY ASSET**
A revenue-generating energy platform.



2 VERTICAL LIFT SYSTEM

Air Mode + Lightweight Air Module



LIGHTWEIGHT AIR MODULE
Optimized for efficiency and performance.

NO HEAVY GROUND BATTERY
Keeps the air module light and efficient.

POD TRANSFERS FROM GROUND PLATFORM
Quick, safe, and autonomous.

OPTIMIZED FOR VERTICAL FLIGHT
Quiet, zero-emission air travel.

ROOFTOP VERTIPORTS

- 🛡️ Independent from the land battery platform
- ✅ Built on top of buildings
- 📶 Connect to the skies. Anywhere.

HOW IT WORKS: SEAMLESS TRANSITION IN MINUTES

1 GROUND PLATFORM WITH LARGE V2G/V2H BATTERY



The energy platform stays on the ground to power mobility and provide V2G/V2H services.

2 PASSENGER POD DETACHES



The pod autonomously detaches from the ground platform.

3 POD CONNECTS TO AIR MODULE



The pod docks with the lightweight air module.

4 FLIGHT TO ROOFTOP VERTIPORT



Take off vertically and fly to rooftop vertiports across the city.

ENERGY PLATFORM VALUE: POWERING MORE THAN TRANSPORTATION

- | | | | | |
|---|---|--|-------------------------------------|---|
| | | | | |
| LONG RANGE HIGH UTILIZATION | EARN REVENUE EVERY DAY | V2G / V2H READY | RELIABLE BACKUP POWER | MOBILE ENERGY ASSET |
| Built for heavy-duty use and long life. | Through rides, deliveries, and energy services. | Support the grid. Power your home. Lower your costs. | Always ready for what matters most. | A high-value asset that works for you 24/7. |

A MULTI-MODAL NETWORK OF THE FUTURE



- 👤 MORE RIDES
- 📦 MORE DELIVERIES
- ⚡ MORE ENERGY
- 💰 MORE INCOME

ONE PASSENGER POD. TWO NETWORKS. ENDLESS BENEFITS.

POWERING COMMUNITIES. CONNECTING FUTURES.



REBUILDING COMMUNITIES

Restoring Lives. Renewing Hope.
Building a Better Future.

ANEV COMMUNITY RECOVERY PLATFORM

POWERING PEACE. RESTORING AGRICULTURE. REBUILDING COMMUNITIES.

AUTONOMOUS • ELECTRIC • SOLAR-POWERED • HUMANITARIAN MISSION READY

FROM RECOVERY TO RESILIENCE. FROM CRISIS TO OPPORTUNITY.

A mobile platform delivering clean energy, water, connectivity, and agricultural support to restore essential services and rebuild sustainable communities after conflict.

RECOVERY MODULES



SMART NURSERY MODULE

Transport seedlings, saplings and tree stock to restore degraded lands.



IRRIGATION DEPLOYMENT MODULE

Deploy solar pumps, drip irrigation and water systems for resilient farming.



SOIL & WATER LAB

Onboard testing for soil health, nutrients, salinity and water quality.



COMMUNITY MICROGRID

Clean, reliable power for homes, clinics, schools, cooperatives and water infrastructure.



MARKET ACCESS PLATFORM

Connect farmers to buyers, cooperatives, digital markets and value chains.



COMMUNITY-LED RECOVERY

Local Communities. Local Ownership.
Lasting Resilience.

The ANEV Community Recovery Platform supports local governments, farmers, cooperatives, schools, clinics, and recovery organizations by providing:

- ⚡ Community Microgrids
- 💧 Clean Water Access
- 🌱 Agricultural Restoration
- 🌳 Irrigation Support
- 📶 Emergency Communications
- 🛒 Market Connectivity
- 👥 Sustainable Livelihoods



OUR IMPACT



RESTORE
INFRASTRUCTURE



REVIVE
AGRICULTURE



EMPOWER
PEOPLE



BUILD
PEACE

Together, we turn crisis into opportunity
and rebuild communities that last.

BUILT FOR POST-CONFLICT RECOVERY AND SUSTAINABLE COMMUNITIES



DEMINE
SUPPORT



ROUTE
CLEARANCE &
MAPPING



WATER
PURIFICATION &
DELIVERY



EMERGENCY
COMMUNICATIONS
& CONNECTIVITY



MEDICAL &
HUMANITARIAN
SUPPORT



TOOLS & INPUT
TRANSPORT



AGRICULTURAL
EXTENSION &
TRAINING



DATA & IMPACT
MONITORING

USES FOR COMMUNITIES



FARMS



SCHOOLS



CLINICS



COOPERATIVES



WATER
SYSTEMS



COMMUNITY
CENTERS

SPECIFICATIONS (PROTOTYPE)

- Range: 150–250 km
- Battery: 50–200 kWh (modular)
- Payload: 1,000+ kg
- Solar Array: 2.5+ kW
- Drive: 4x4 Electric
- Autonomy: Level 4 (controlled environments)



RESTORING LAND



GROWING FOOD



CLEAN WATER



POWERING COMMUNITIES



EDUCATION FOR ALL



HEALTH FOR ALL



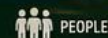
STRONGER TOGETHER



SUSTAINABLE FUTURE



STRONG COMMUNITIES. HEALTHY FARMS. RELIABLE ENERGY. LASTING PEACE.



PEOPLE



PLANET



PROSPERITY



PEACE

