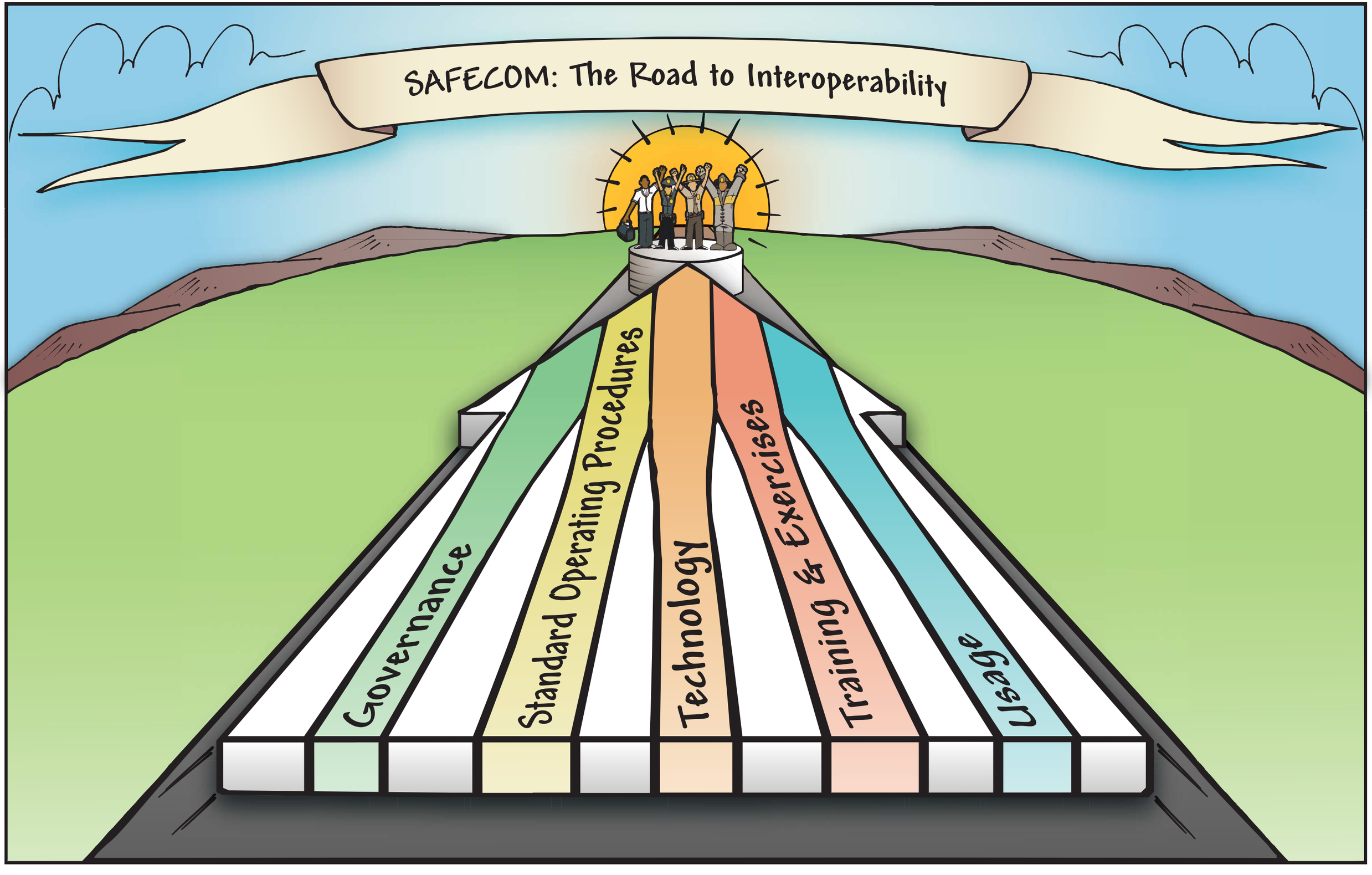
SAFECOM: The Road to Interoperability

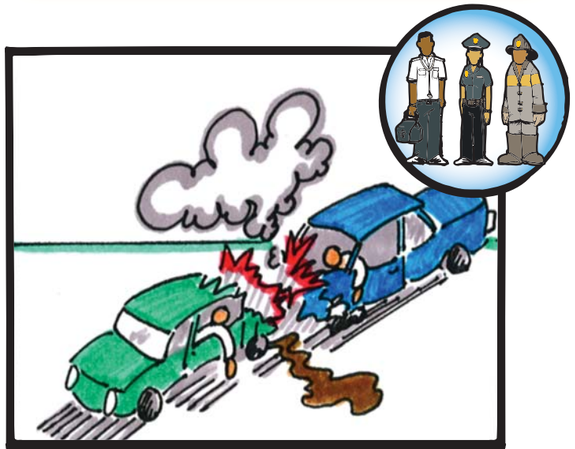


From day-to-day to high impact incidents, our Nation's emergency responders too often cannot rely on their ability to communicate with one another across jurisdictions and disciplines. This limitation impedes emergency responders' ability to respond effectively to emergencies at all levels. This significantly increases the risk of harm or death to both the responders arriving on scene and the victims relying on them for help.

SAFECOM's philosophy supports the notion that the same interoperability solutions that are used daily for local emergencies should be scalable for response to any statewide incident as well as for natural disasters and terrorist attacks. If responders use interoperability solutions every day, the coordinated communications in response to any incident will be a natural instinct.

The Problem "On the Ground"

Local Traffic Accident



Happens almost daily but with relatively low consequences

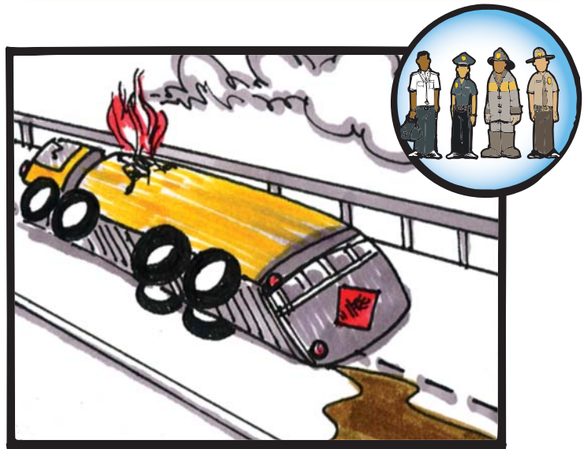
The Problem:

Local police, fire, and EMS cannot effectively communicate.

Impacts:

- **Lives at risk**
- **Risk for redundant, uncoordinated response**

Toxic Spill on State Highway



Happens less often but when it does, there are higher consequences

The Problem:

Local and state responders cannot effectively communicate across agencies and disciplines.

Impacts:

- **Lives at risk**
- **Risk for redundant, uncoordinated response**
- **Property, data, and infrastructure at risk**
- **Health risks**
- **Local business interrupted**

Natural Disaster or Terrorist Attack

Happens least often but when it does, there are very high consequences

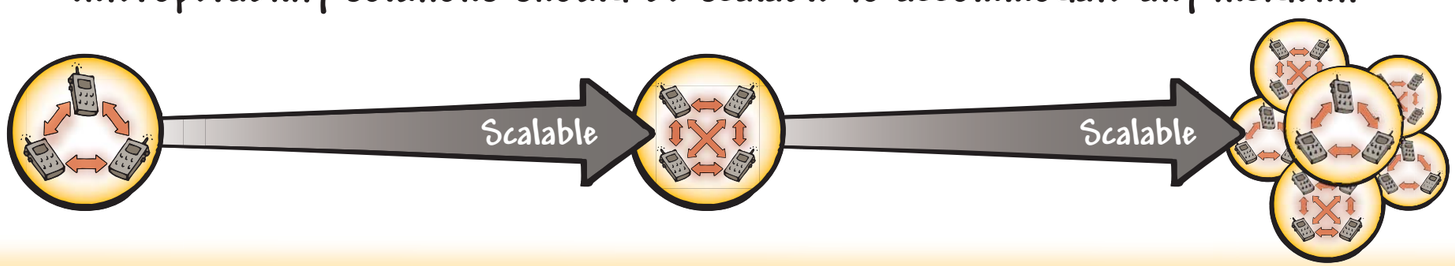
The Problem:

Local, tribal, state, and Federal responders cannot effectively communicate across agencies and disciplines.

Impacts:

- **Emergency responders' and civilians' lives at risk**
- **Property, data, and infrastructure at risk**
- **Risk for redundant, uncoordinated response**
- **Local economy at risk**

Interoperability solutions should be scalable to accommodate any incident.



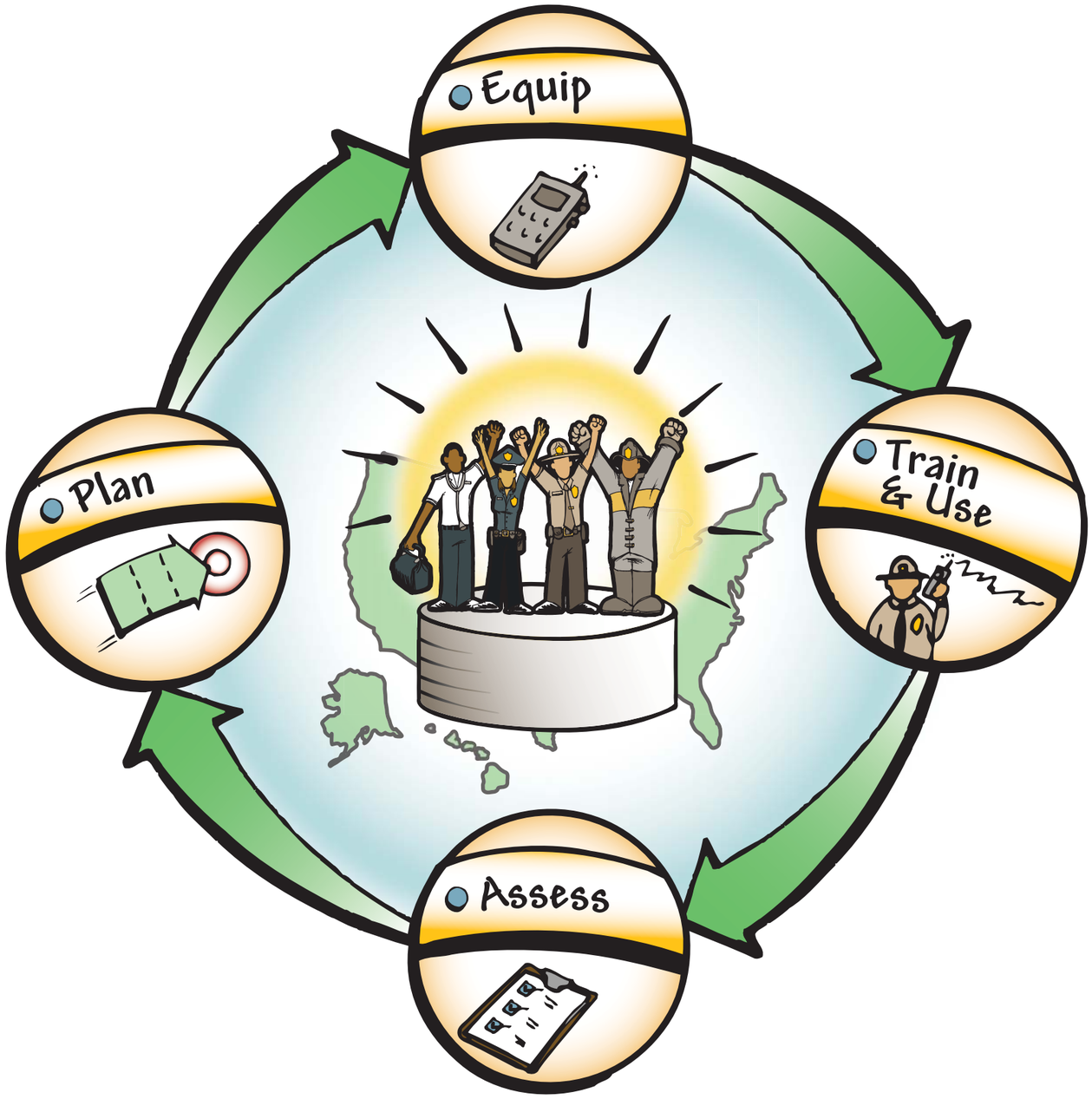
Acronyms

Terms

EMS - Emergency Medical Services

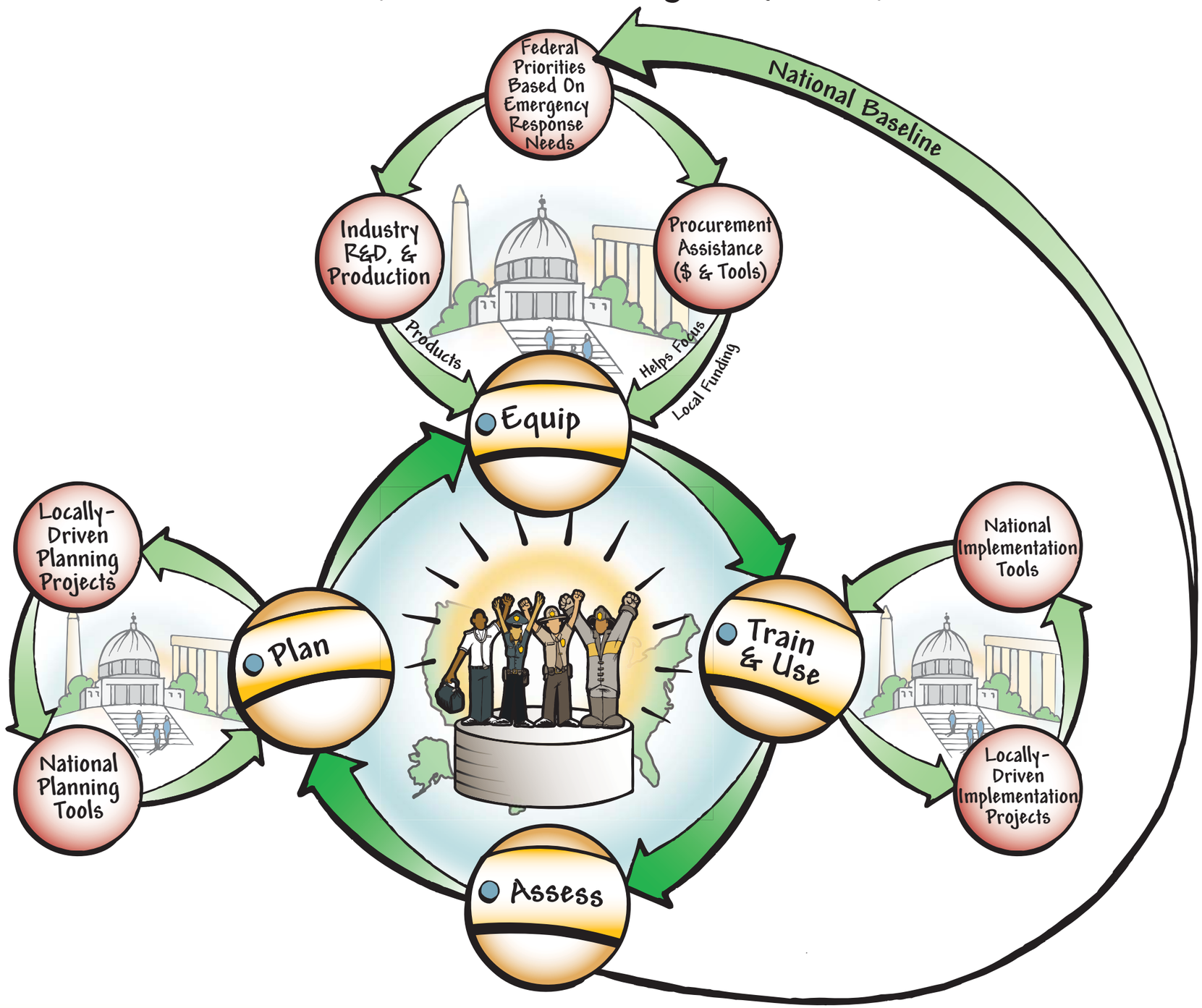
This model represents the local emergency responder cycle for planning and implementing interoperability solutions. It is at the heart of the national strategy for achieving interoperability. The Federal role is not to interfere with this cycle, but to support and enhance local activities in each of these phases.

The Local Community in Action: The Heart of the Interoperability Universe



Federal Impact on Emergency Responders

The local emergency responder cycle for planning and implementing interoperability is at the heart of the national strategy for achieving interoperability. Coordinated Federal interoperability programs support and enhance activities in each of these phases. This support provides emergency responders with tools and guidance to ensure agencies and localities have the best information and resources available to improve interoperability today and plan for tomorrow.



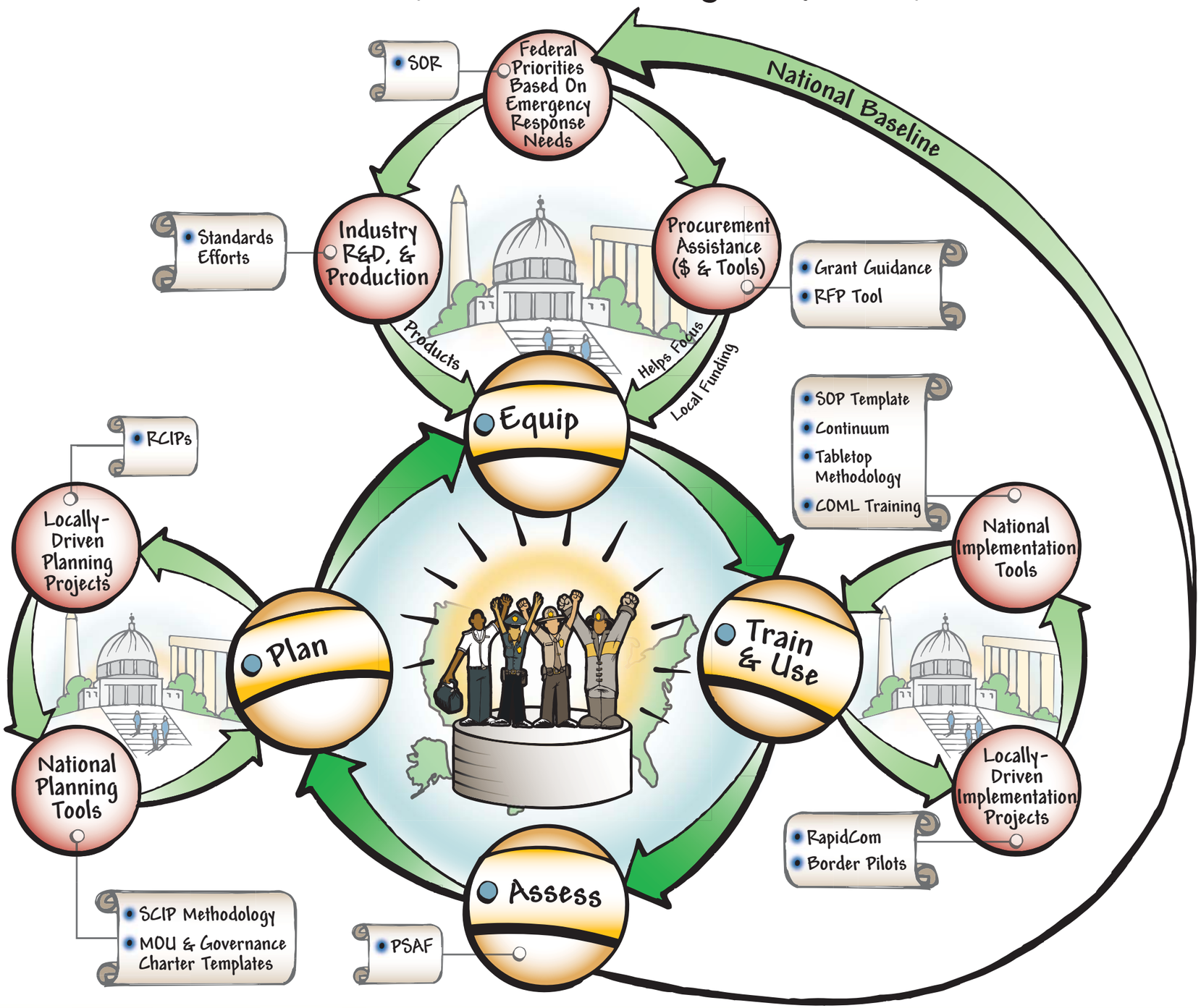
Acronyms

Terms

R&D - Research and Development

SAFECOM Impact on Emergency Responders

This graphic depicts how SAFECOM efforts and programs support and enhance emergency responder activities.



Agency Key:

- SAFECOM

Acronyms

Terms

COML - Communications Unit Leader

MOU - Memorandum of Understanding

SOP - Standard Operating Procedures

R&D - Research and Development

Program, Projects, and Tools

PSAF - Public Safety Architecture Framework

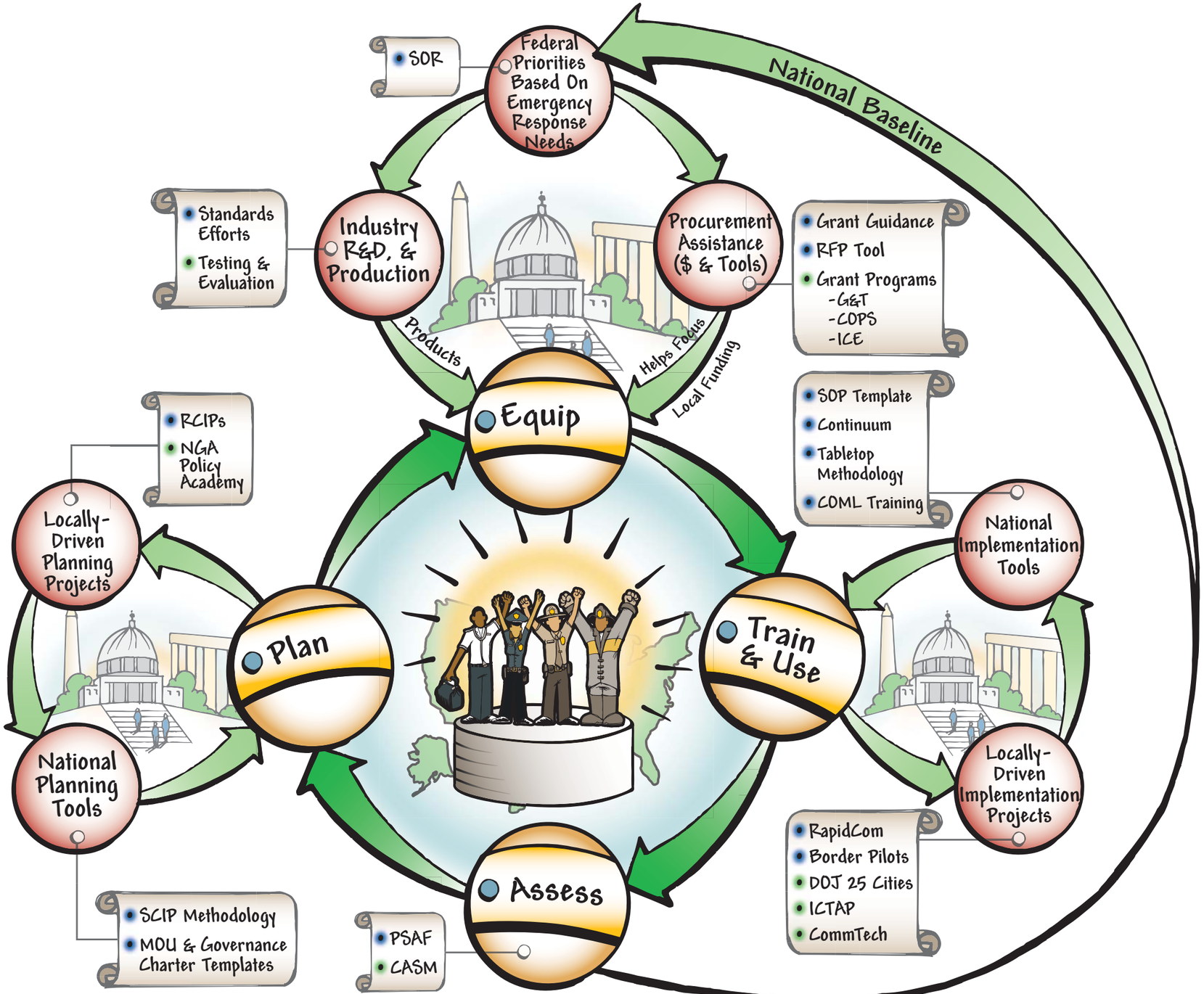
RCIPs - Regional Communications Interoperability Pilots

SCIP Methodology - Statewide Communications Interoperability Planning Methodology

SOR - Statement of Requirements

All Federal Interoperability Efforts Impact on Emergency Responders

This graphic depicts how all Federal interoperability efforts and programs support and enhance emergency responder activities.



Agency Key:

- SAFECOM
- Other Government Agencies

Acronyms

Agencies

COPS – Community Oriented Policing Service

DOJ – Department of Justice

G&T – Office of Grants and Training

ICE – Interoperable Communications Equipment

ICTAP – Interoperable Communication Technical Assistance Program

NGA – National Governor's Association

Terms

COML – Communications Unit Leader

MOU – Memorandum of Understanding

SOP – Standard Operating Procedures

R&D – Research and Development

Program, Projects, and Tools

CASM – Communications Assets Survey and Mapping

PSAF – Public Safety Architecture Framework

RCIPs – Regional Communications Interoperability Pilots

SCIP Methodology – Statewide Communications Interoperability Planning Methodology

SOR – Statement of Requirements

Achieving interoperability requires more than technology. Shifting all the elements requires a comprehensive, coordinated strategy. Interoperability is about technological, strategic, tactical, and cultural change.

Strategic Shifts

	PAST Pre-'04	PRESENT '04-'06	FUTURE '07-'11
Shift in Focus	Sole focus on technology for improved interoperability	Interoperability Continuum is shifting focus to all key factors	Comprehensive view of interoperability
Definition of Emergency Responder	Limited focus on traditional emergency responders (police, fire, EMS)	Recognition that planning & response involves multiple agencies	Holistic view of emergency response
Usage of Interoperability	View that interoperability is only needed for special events	Shift towards increased usage in some communities	View that daily use of interoperability is optimal
Collaborative Planning/Governance	Communities plan independently	SCIP Methodology encourages collaborative statewide interoperability planning	Regional interoperability planning across the Nation
Funding	Fragmented funding & little guidance	Coordinated grant guidance included in major interoperability grants	Coordinated grant guidance in all packages to encourage regional planning & informed technology acquisitions
Training & Exercises	Communities train & exercise independently	Some communities have conducted multi-agency tabletop & functional exercises	Joint training packages and regular regional exercises across the Nation
Technology	Fragmented, uncoordinated solutions	Patching devices & shared radio channels allow communications across some local areas	System of systems to allow for anyone, anywhere to communicate
Standards	Limited standards complete & published	Accelerating P25 standards	Open architecture non-proprietary standards
Industry	Strained relationships between industry, government, & emergency response community	Currently working together to develop solutions that meet emergency responder community's needs	Coalition to improve emergency response communications & interoperability
Spectrum	Limited & fragmented spectrum	Ongoing spectrum needs assessment	In 2009, additional spectrum on the 700 MHz band

Acronyms

Terms

EMS - Emergency Medical Services

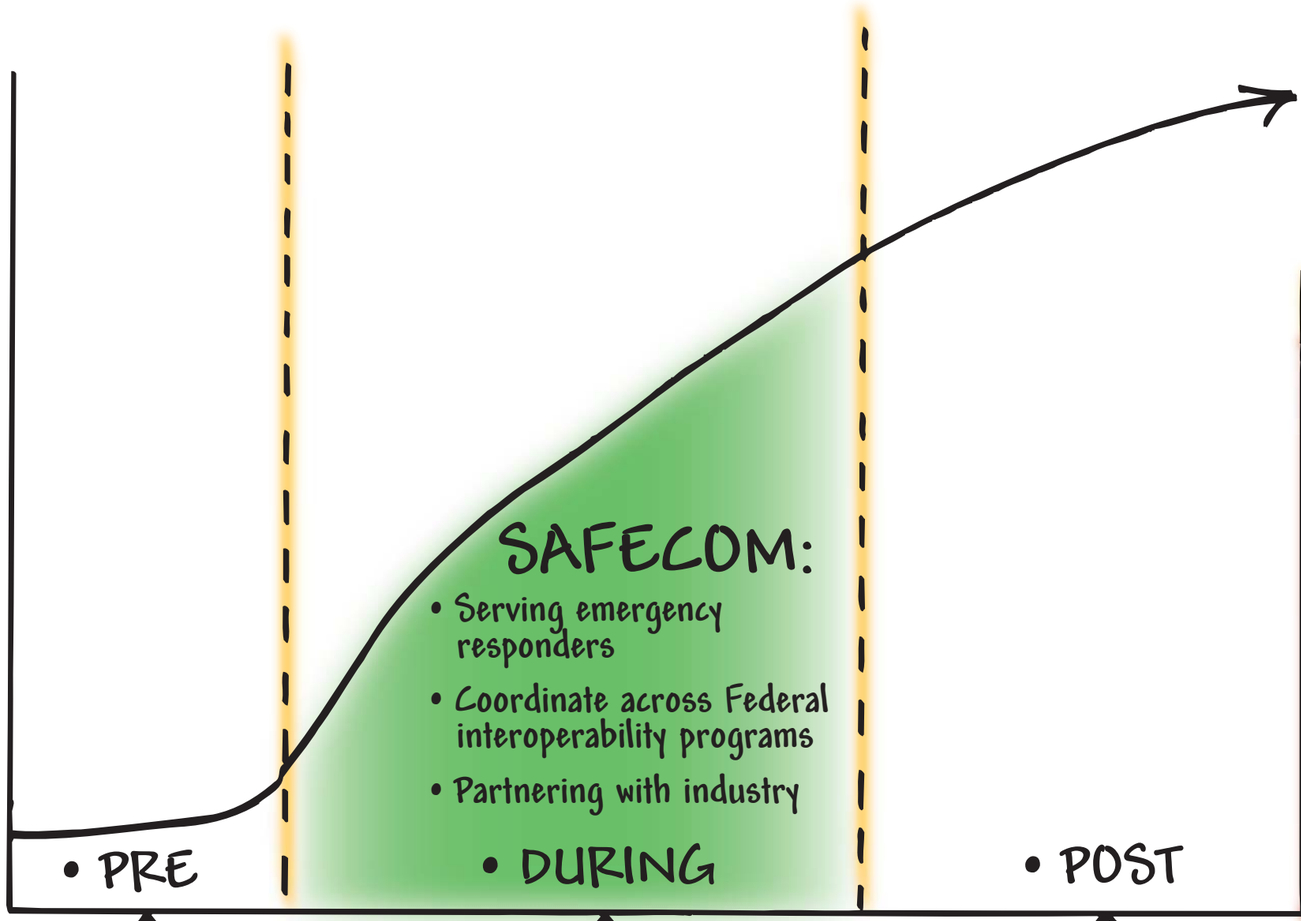
MHz - Megahertz

Program, Projects and Tools

SCIP Methodology - Statewide Communications Interoperability Planning Methodology

Before SAFECOM, interoperability efforts were uncoordinated and spread across a variety of Federal agencies. SAFECOM was introduced as an intervention and driver for change. The program is a catalyst to accelerate change and improve interoperability. Interoperability will continue to improve beyond the life of the SAFECOM program. The program's work will be complete when the continuum maturity model is a standard for achieving optimal levels of interoperability and when high natural disaster and terrorism targets are fully equipped to respond.

Making Interoperability the NORM!!



Notional Exit Criteria for SAFECOM

1. All US regions and jurisdictions use the SAFECOM Continuum Capability Maturity Model to choose the appropriate target interoperability level, define the gap between where they are and where they need to be, and chart a course to close the gap.

2. States at high risk for natural disasters (e.g., Southern California and the Gulf States) have developed reliable interoperable solutions to minimize loss of life and property during flood and fire disasters.

3. High-threat metropolitan areas (e.g., New York, District of Columbia, and Los Angeles) have fully deployed and are routinely using interoperable voice and data capabilities.

- The problem is REAL!!
- Intervention!!
- Interoperability continues to increase!!

SAFECOM

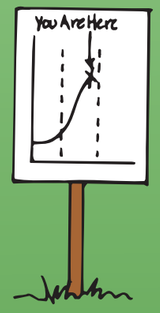
Guiding Principles

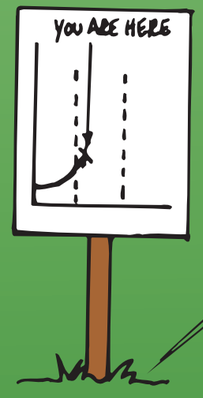
- Practitioner-Driven
- System of Systems Philosophy
- Emergency Responders Government and Industry as a Coalition
- Open Architecture, Non-Proprietary Standards

MISSION

SAFECOM works with its Federal partners to provide research, development, testing and evaluation, guidance, tools, & templates on communications-related issues to local, tribal, state, and Federal emergency response agencies.

- Interoperability is norm and not exception
- Continuum maturity model drives progression towards interoperability
- Emergency Responders, Govt, & Industry working as a partnership
- High natural disasters & terrorism targets equipped





- *Joint Problem solving*
- *Collaborative planning*

	Conversations	Resources	Tools
	Help industry understand and respond to collective practitioner needs for interoperability.	*Help industry develop a broadly accepted open architecture.*	*Help industry develop standards-based equipment that meet emergency responder needs.*
	Help emergency responders by providing *them with a unified voice to communicate their interoperable needs to industry and government*	*Help emergency responders focus local and Federal funding with coordinated grant guidance.*	*Help emergency responders by providing tools that meet their operational needs.*
	Help government communicate with emergency responders by coordinating efforts to reduce confusion.	Help develop grant guidance that drives open architecture procurements.	1) Accelerate standards development efforts. 2) Eliminate inefficiencies and duplication to provide coordinated tools to emergency responders.
	• Industry	• Emergency Responders	• Government

SAFECOM

2011 and beyond
- Seamless Interoperability

2007-11 Milestones
- Regional planning nationwide
- Additional spectrum on 700 MHz band
- Open architecture non-proprietary standards

2005-06 Milestones
- Apr 05 - Interoperability Continuum adopted as organizing structure for DHS G&T's TIC Plan required of all urban areas
- May 06 – Administered Baseline Survey across the Nation

2004 Milestones
- Apr - Published first national emergency response statement of requirements
- May - Improved emergency command-level interoperability capabilities in 10 high-threat urban areas with RapidCom
- Oct – Published SCIP Methodology; used by three State Interoperability Directors (VA, NV, KY) to establish and lead state planning efforts that are now funded

2003 Milestones
- May – SAFECOM Grant Guidance adopted in DOJ COPS and FEMA grants
- June - Held first Federal Interoperability Summit with more than 60 entities
- Dec – Led first ever emergency response strategic planning session

April 2006

Acronyms

Agencies

COPS - Community Oriented Policing Service

DHS - Department of Homeland Security

DOJ - Department of Justice

FEMA - Federal Emergency Management Agency

G&T - Office of Grants and Training

Terms

MHz - Megahertz

Program, Projects, and Tools

SCIP Methodology - Statewide Communications Interoperability Planning Methodology

TIC Plan - Tactical Interoperable Communications Plan

Overcoming Challenges to Collaborate and Interoperate Across Communities

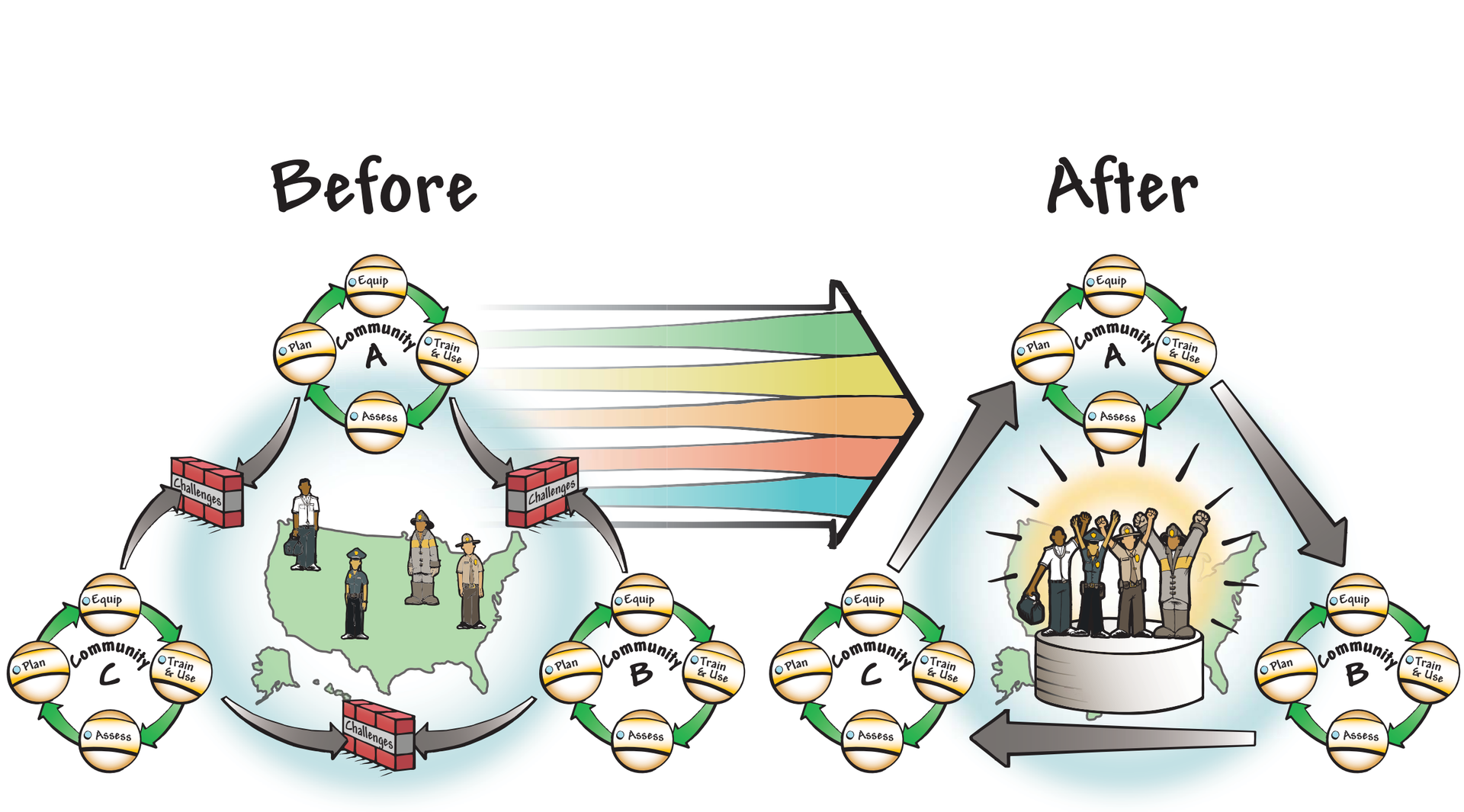
Ideally, communities should align their cycles for planning and implementing interoperability solutions. However, there are common challenges that communities must overcome to collaborate and work towards regional interoperability. The SAFECOM Interoperability Continuum helps communities address all key aspects of the problem and overcome challenges. Some common challenges are listed below:

Common Leadership Challenge: Policy makers are not aligned with the needs for a region's interoperability requirements and therefore do not commit the resources required.

Common Governance Challenge: Independent disciplines and jurisdictions have difficulty giving up authority in favor of a regional governing body.

Common Standard Operating Procedures Challenge: Lack of established protocol leads to confusion during incidents.

Common Technology Challenge: There is often limited coordination across disciplines and jurisdictions on technology procurement and ongoing life-cycle management and support.

Common Training and Exercise Challenge: Familiarity with using interoperability equipment is not second nature to emergency responders because training and exercises are not conducted broadly or frequently enough.

Common Usage Challenge: Emergency responders from different jurisdictions and disciplines often do not interact on a daily basis.