



---

## Emergency Communication Plans

---

It is important for everyone to have a communication plan in the occurrence of an emergency. Every household should have a plan to stay in contact with one another in the event you get separated so everyone's location is known and that individuals are safe. Everyone should know who to contact and have the same list of emergency contact information that includes phone numbers, email addresses and social media networks.

The following article provides information about options for communicating during an emergency, and points to consider in the development of a communication plan.

### **COMMUNICATE Acronym**

- Create a family plan – include programming primary contact as “ICE” in cell phones
- Options for communicating
- Make sure to get acquainted with spouse's work emergency plan, child's school emergency plan, assisted living or nursing care emergency plan
- Make a plan on where to meet if you can't get home
- Understand it takes time to ahold of all family members
- Needs of your pets must be considered
- Information – stay informed at all times
- Copy plans and keep available at all times
- Ask family members how they feel about the situation and the plan.
- Take family members to see meeting locations
- Emergency – talk about different types of emergency situation and levels of severity.



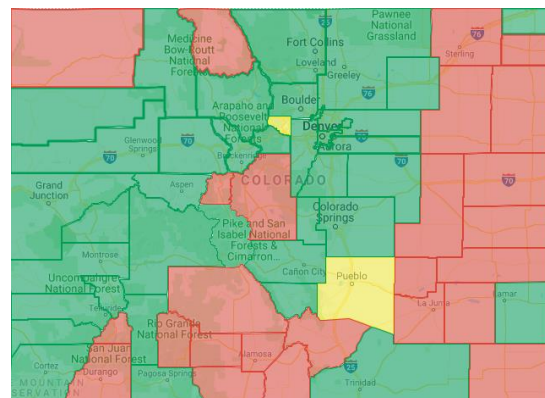
# Center for Inclusive Design and Engineering (CIDE)

COLLEGE OF ENGINEERING, DESIGN AND COMPUTING

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS

## Communication Methods

- Cell phone
  - Transmit power between  $\frac{3}{4}$  to 1 Watt
  - Calling
    - 3-6 miles from nearest cell tower
    - Dependent on power grid and central office operation
  - Texting
    - Works even with low signal
    - It takes an average of seven minutes to process a text-to-911 call, and only two minutes to process a voice 911 call.
    - Accuracy of location information varies greatly. Try to include location in initial text.
    - Use simple, plain English whenever possible with no abbreviations. Include as much detail as possible. Answer all questions completely and follow all instructions.
    - A computerized translation service may be used for non-English users.
    - Call if you can, text if you must.
    - Current availability:



October 2019

**RED** = Counties with no ability to receive text messages sent to 9-1-1. If text-to-911 is not available in your area you will receive a text message back advising you to make a voice call.



# Center for Inclusive Design and Engineering (CIDE)

COLLEGE OF ENGINEERING, DESIGN AND COMPUTING

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS

**YELLOW** = Some parts of the county have text-to-911 and others do not. Click on the county for more information.

**GREEN** = Counties with the ability to receive text messages sent to 9-1-1. (Note: Not all carriers may be in compliance.)

## **The following counties have text to 911 capabilities:**

Sedgwick, Prowers, Weld, Larimer, Routt, Rio Blanco, Garfield, Eagle, Summit, Grand, Clear Creek, Admas, Broomfield, Denver, Jefferson, Douglas, Elbert, El Paso, Teller, Pitkin, Mesa, Delta, Gunnison, Chaffee, Fremont, Custer, Los Animas, Archuleta, Hinsdale, Ouray, Montrose, San Miguel, Dolores, Montezuma

## **Some parts of the following counties can receive text to 911:**

Pueblo, Gilpin

## **These counties cannot receive text to 911:**

Moffat, Jackson, Logan, Philips, Yuma, Washington, Morgan, Kit Carson, Lincoln, Park, Lake, San Juan, La Plata, Saguache, Mineral, Rio Grande, Conejos, Alamosa, Costilla, Huerfano, Crowley, Cheyenne, Kiowa, Otero, Bent, Baca

- Text-to-911 Service in Colorado by Population as of 9/21/16
  - Available 76.8%
  - Unavailable 23.2%
- Text-to-911 Service in Colorado by Area as of 9/21/16
  - Available 36.4%



# Center for Inclusive Design and Engineering (CIDE)

COLLEGE OF ENGINEERING, DESIGN AND COMPUTING

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS

- Unavailable 63.6%
- Landline phone
  - Better connectivity calling out of state than local
- Satellite phone
  - Expensive
  - Don't rely on local cell networks
  - Operational if local cell network goes down
  - Works in more remote areas
- Additional Contacts
  - Inside affected area
  - Outside the area (long distance is better)
- Internet
  - Web Email to cell phones
  - Apps
    - Life360 App
  - Twitter
  - Facebook
- Family Radio Service (FRS) Radio
  - Uses UHF frequency band and modulated for FM
  - Power restriction limited to ½ Watt
  - No antenna restrictions, can only use stub (non-detachable\_ antenna provided with unit
  - Only good for about one mile
  - Line-of-sight
  - No license or testing required
  - Can get overwhelmed if large numbers are using them
  - Family members can have own radio
- General Mobile Radio Service (GMRS) Radio
  - Uses UHF frequency band and modulated for FM
  - Requires license and must 18 years or older
    - Good for whole family
    - No testing required
  - Power restriction limited to five Watts



# Center for Inclusive Design and Engineering (CIDE)

COLLEGE OF ENGINEERING, DESIGN AND COMPUTING

UNIVERSITY OF COLORADO **DENVER** | **ANSCHUTZ MEDICAL CAMPUS**

- Antenna restricted to 20 feet above ground or the structure it is mount to
  - Can use high-gain antennas for greater range
- Typical usable range is six to twelve miles
- Some channels can be used as repeaters
- Shares channels for FRS
- Line-of-sight
- Interference due to limited channels and high number of possible users
- Multiple User Radio Service (MURS)
  - Uses VHF frequency and modulated for FM
  - Has six available channels
  - No license or testing required
  - Power restrictions limited to two Watts
  - Antenna cannot go more than 20 feet about structure or 60 feet above ground
  - Typical usable range is three to ten miles
  - VHF frequencies have better ability to get around forests & small hills
  - Can send data as well as voice
  - Restricted by line-of-sight
- Citizen Band (CB) Radio
  - Transmit in HF frequency band
  - Good for a about four miles with power restriction of 4 Watts for AM
  - Good for about 30-40 miles with power restriction of 12 Watts for SSB
  - No antenna restrictions, but longer and require more space
  - Very susceptible to noise and interference
  - SSB difficult to use; incompatible with AM
- Amateur Radio Service (HAM) Radio
  - Has several frequency bands (HF, VHF, UHF); with typical modulation types (AM & SSB – HF; FM – VHF & UHF)
  - Requires license



# Center for Inclusive Design and Engineering (CIDE)

COLLEGE OF ENGINEERING, DESIGN AND COMPUTING

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS

- Testing required
- Typical power outage is 1500 Watts (HF); 50 Watts (VHF); 40 Watts (UHF); 5 Watts (HT)
- Antenna restrictions by city ordinances and FAA specs
- Typical usable range 5 to 40 miles and up to 100+ with access to a repeater
- Greater flexibility with antenna design and placement
- Greater availability of repeaters to use
- Can use higher wattage with a greater cost

## What to say

- Your name and if anyone else is with you
- Are you ok or injured
- Where you are going and when you are leaving or if you are staying in place and the location
- How long it will take you to get where you are going and if you are walking or riding
- When you will call again

## Gathering Places

- Home
  - What routes will you take
  - Mark on map ahead of time
- Away from home
  - Visit ahead of time
  - Know alternate routes to get there
- Virtual Meeting Place
  - Online “room” through website host
  - Allows people to “meet” from anywhere
  - Share information and network in real-time
  - Can be instant-message chat, audio chat, or video
  - Apps available

<http://preparednessmama.com/how-to-communicate-with-family-in-an-emergency/>



# Center for Inclusive Design and Engineering (CIDE)

COLLEGE OF ENGINEERING, DESIGN AND COMPUTING

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS

## Tips for Communicating in Disasters

- Text is best! Keep voice calls short. Wait at least 10 seconds between calls.
- Conserve your battery – reduce screen brightness, turn down volume, place phone in airplane mode, close apps you do not need, limit watching videos and playing games.
- Have back up batteries and chargers. Portable USB cell phone chargers are cheap insurance; get some.
- Do no text or call while driving.
- Maintain a household landline phone.
- If you have call forwarding, make sure to send call to your cell if you evacuate.
- If internet is available, make use of email and social media to communicate that you are OK.
- If you do not have a cell phone, keep a pre-paid phone card on hand.
- Look into other communication systems to keep in touch with family during a disaster – Family Radio Service (FRS) and Amateur (“ham”) Radio.

### For more information contact:

**Center for Inclusive Design and Engineering (CIDE)**

**1201 5<sup>th</sup> St, Suite 240**

**Denver, CO 80204**

**303.315.1280 office**

**CIDE@ucdenver.edu**

[www.ucdenver.edu/centers/cide](http://www.ucdenver.edu/centers/cide)

This publication may be reproduced without the written permission of Assistive Technology Partners provided that the source is appropriately credited.

Also available in: Braille, large print, audio tape, disk and Spanish formats

Fast Facts made possible by NIDRR Grant #H224A40014



Center for Inclusive Design and Engineering (CIDE)

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS