

# Agenda Item # 12 Part 2

Exhibit C

**CAPCOG INTERLOCAL AGREEMENT FOR 9-1-1 GIS DATABASE MANAGEMENT**

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**Amendment 1 to Capital Area Council of  
Governments Interlocal Agreement for 9-1-1  
Geographic Information System Database  
Management**

The Capital Area Council of Governments ("CAPCOG") entered into an Interlocal Agreement (ILA) with Bastrop County on October 1, 2020. This amendment is authorized under Section 13.3 of the original ILA, which amendments by mutual agreement. The purpose of this amendment is to update the scope of work and data requirements related to the transition to Next-Generation 9-1-1 (NG9-1-1) that is expected to occur between September 30 and December 31, 2021, and to extend the performance period and add funding to cover the costs of performing work during these months.

**AMENDMENT**

**Section 4: Effective Date and Term of Contract is amended as follows:**

4.1: This contract takes effect October 1, 2020, and terminates on ~~September 30~~ December 31, 2021, unless terminated sooner under Section 10.

**Section 5: Contract Price and Payment Terms is amended as follows:**

5.1: For work performed under this agreement, CAPCOG agrees to compensate Bastrop County an amount not to exceed \$173,838.74.

5.2: Bastrop County agrees to invoice CAPCOG for ~~one quarter~~ of the amounts listed under section 5.1 within five business days of the end of each of the following quarters and as directed by CAPCOG for work performed during these quarters:

October 1 – December 31, 2020: \$34,634.75, due by close of business, Friday, January 8, 2021;

January 1 – March 31, 2021: \$34,634.75, due by close of business, Wednesday, April 7, 2021;

April 1 – June 30, 2021: \$34,634.75, due by close of business, Thursday, July 8, 2021;

July 1 – September 30, 2021: \$34,634.75, due by close of business, Thursday, October 7, 2021;  
and

October 1 – December 31, 2021: \$35,299.74, due by close of business, Monday, January 10, 2022.

**Attachment A: Scope of Work is amended as indicated in Attachment A to this document.**

**Attachment B: Technical Requirements is amended as indicated in Attachment B to this document.**

Amendment 1 to CAPCOG ILA for 9-1-1 GIS Database Management

Bastrop County

CAPITAL AREA COUNCIL OF GOVERNMENTS

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Betty Voights

Title \_\_\_\_\_

Executive Director

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date of County Governing Body Approval:

\_\_\_\_\_

# Attachment A: Scope of Work

## Overview

The goal of this scope of work is to facilitate the exchange of geospatial information between CAPCOG and the PUBLIC AGENCY to help ensure that efficient and accurate response to emergency calls and text messages in all areas of the Capital Area Emergency Communications District. In order to accomplish this:

1. Calls and texts must be routed to the correct public safety answering point (PSAP);
2. The correct emergency service provider must be dispatched to the appropriate location; and
3. The emergency responders must be able to know the most efficient route to reach that location.

## Definitions

### Core 9-1-1 GIS data terminology:

1. **9-1-1 GIS Database:** The geospatial database maintained and updated by the PUBLIC AGENCY that includes, at a minimum, all address points (SSAPs), road centerlines (RCLs), PSAP boundaries, Emergency Service Boundaries (ESBs), Emergency Service #Zone (ESZ) boundaries, and city limit (municipal) boundaries for the PUBLIC AGENCY's provisioning boundary
2. **Data Layer:** Also known as a Feature Class, is a group of geographic features that reside in a table of information with corresponding locations on the earth (map) represented as either points, lines, or polygons.
3. **Address Points (SSAPs):** A data layer of points identifying sites or structures associated with a street address, or the location of access to a site or structure, but may also represent landmarks.
4. **Road (Street) Centerlines (RCLs):** A data layer of lines estimating the centerline of a roadway that contains information such as road name, road classification, and address range
5. **City Limit (Municipal) Boundary:** A polygon data layer representing the geographic extent of a city's administrative boundary, not including any extra-territorial jurisdiction. Updates to City Limit boundaries are used to update PSAP, ESB, and ESZ boundaries.
6. **Automatic Location Information (ALI) Database:** A tabular database of landlines telephone numbers with associated location information used to route 9-1-1 calls to a PSAP.
- 5-7. **Master Street Address Guide (MSAG) Database:** A tabular database of street names and house number ranges within their associated communities defining ESZs and their associated Emergency Service Numbers (ESNs) to enable proper routing of 9-1-1 calls.

### Specialized NG9-1-1 GIS terminology:

1. **Provisioning Boundary:** The authoritative polygon data layer that defines the PUBLIC AGENCY's geographic area of 9-1-1 GIS responsibility. This should be the entire extent of the PUBLIC AGENCY's administrative boundary, plus any other adjacent areas or minus areas within its administrative boundaries as agreed to between the PUBLIC AGENCY and another city or county. Provisioning boundaries may only be modified with express written concurrence between the PUBLIC AGENCY, adjacent PUBLIC AGENCIES, and CAPCOG.

Note:



The provisioning boundary should include the area that the PUBLIC AGENCY assigns address points and road names under its own authority, plus any other areas that the PUBLIC AGENCY does not have such authority, but with which it has entered into an exclusive agreement to obtain this information for the 9-1-1 GIS database. Situations that may warrant a change to a provisioning boundary include (but are not limited to): municipal annexations, disannexations, consolidation of two or more municipalities, formation of new municipalities, changes in PSAP service areas, and changes in emergency responder service areas.

2. Public Safety Answering Point (PSAP) boundary: The authoritative polygon data layer representing the geographic area within a provisioning boundary served by a single 9-1-1 call center (a PSAP), to which all emergency requests are initially routed.
3. Emergency Service Boundary (ESB): A polygon data layer that represents the geographic area of responsibility for emergency response providers within the geographic extent of the provisioning boundary. Each 9-1-1 GIS database includes, at a minimum, a law ESB layer, a fire ESB layer, and an Emergency Medical Services (EMS) ESB layer.
4. Emergency Service Zone (ESZ): A polygon data layer representing the area within a provisioning boundary served by a unique combination of law, fire, and EMS responders. ESZs are optional for inclusion in the NG9-1-1 GIS database.
5. Database Schema: Also known as Data Model, is the database structure with regard to field properties, including data type, field value constraints, etc. Converting one database schema to another involves field-matching (field-mapping) and other compatibility considerations.
- ~~5-6.~~ Geo-MSAG: A geospatially-based database that replaces the MSAG and is created and managed using a road centerline GIS dataset. A city or county must first transition from a traditional tabular MSAG to a Geo-MSAG before it can transition to NG9-1-1. In order to qualify to initiate the transition to a Geo-MSAG, a county must achieve at least 98% match between ALI to RCL records as described later in this document.
- ~~6-7.~~ Globally Unique IDs (GUIDs): A unique identifier that is assigned to each record (feature) in an PUBLIC AGENCY's 9-1-1 GIS database; a GUID uniquely identifies a feature both within the PUBLIC AGENCY's 9-1-1 GIS database provisioning boundary and across all 9-1-1 GIS databases.

#### Quality Control terminology:

1. Enterprise Geospatial Data Management System (EGDMS): A cloud-based quality control platform provided by AT&T/Intrado used for identifying critical errors that affect call and dispatch routing that will ultimately be used by the PUBLIC AGENCY ~~that to provisions~~ (determines acceptable) data ~~for to~~ CAPCOG's NG9-1-1 system in the near future. EGDMS cannot assess "significant" errors that affect dispatch.
2. Data Hub: a cloud-based quality control platform provided by GeoComm that, in addition to being able to identify critical errors, can also identify "significant" and "other" errors in an PUBLIC AGENCY's 9-1-1 GIS database. DataHub is the system that will provide data to a call taker's map display in the near future.
3. New Error: Any error present in the PUBLIC AGENCY's 9-1-1 GIS database update for the first time.
4. Legacy Error: Any error in the PUBLIC AGENCY's 9-1-1 GIS database update that was also present in a preceding update

5. **Accuracy Rate:** The percentage of features that have been assessed by EGDMS, DataHub, or both, as being free of errors or matching a related database.
- 5.6. **Error Rate:** The ~~ratio of total number of~~ percentage of features that have been assessed as having a critical error, significant error, or as not matching a related database, ~~errors to total number of features (records) within a specific data layer, or in aggregate for a defined geographic area~~
- 6.7. **Critical Error:** Any error in the PUBLIC AGENCY's 9-1-1 GIS database ~~update found by the AT&T/Intrado Enterprise Geospatial Database Management (assessed by~~ EGDMS) or GeoComm's DataHub ~~quality control software~~ that cause, or have a potential of causing, a critical fault in the routing of a 9-1-1 emergency service request call or text to the correct PSAP; the EGDMS system prevents data with critical errors from being uploaded to the NG9-1-1 system. Examples include (but are not limited to) gaps and overlaps between several of the data layers described above.
- 7.8. **Significant Error:** Any error in the PUBLIC AGENCY's 9-1-1 GIS database update found by GeoComm's Data Hub quality control software that cause, or have a potential of causing, a critical fault in Computer-Aided Dispatch (CAD) mapping platforms or other related systems.
- 8.9. **Other Error:** Any error in the PUBLIC AGENCY's 9-1-1 GIS database identified by GeoComm's Data Hub quality control software other than a "critical" or "significant" error.

## Task 1: Basic Work

Task 1 Involves information gathering and data preparation needed for the 9-1-1 GIS database but does NOT involve updating the 9-1-1 GIS database directly.

Task 1.A: PUBLIC AGENCY shall submit to CAPCOG, at least once a month, a comprehensive record of 9-1-1 related information needed for complete and updated 9-1-1 GIS database records for all areas within the PUBLIC AGENCY's Provisioning Boundary consisting of:

1. Street Addresses
2. Roads
3. City limit boundaries
4. PSAP boundaries
5. Law ESB
6. Fire ESB
7. Emergency Medical Service ESB
- 7.8. ESZs
- 8.9. Other pertinent information

Data submitted by PUBLIC AGENCY must adhere to requirements laid out in Attachment B.

Task 1B: PUBLIC AGENCY shall enter into and maintain agreements with all other local governments with the authority to assign address points, assign road names and address ranges, ~~alter PSAP boundaries, or alter ESB boundaries~~ alter municipal boundaries, or change the geographic coverage of emergency service providers in order to ensure that these entities provide such data to PUBLIC AGENCY in a timely manner. When such changes occur, PUBLIC AGENCY shall provide CAPCOG with adequate advance notice of any substantive changes that could or should affect PSAP boundaries, ESB boundaries,



provisioning boundaries, or any sub-contracting in order for an orderly transition as a result of any pending new agreement, amendment, or agreement termination.

Task 1C: PUBLIC AGENCY shall be responsible for conveying any relevant information deriving from CAPCOG regarding 9-1-1 GIS database integrity to other local governments and governmental entities partially or wholly within its provisioning boundary.

Task 1D: PUBLIC AGENCY shall provide to CAPCOG information from any County Commissioners' Court meetings or City Council meetings that would affect PUBLIC AGENCY's performance of this contract, including (but not limited to) changes to PSAPs, ESBs ~~/ESZs~~, annexation, or subcontracting. PUBLIC AGENCY's Project Representative is expected to keep track of County Commissioners Court and City Council meeting agendas to determine if an item may affect the performance of this contract, and notify CAPCOG's project representative of any such issues as soon as possible, but no later than 2 days prior to the Commissioners Court or City Council meeting. Such information includes, but is not limited to, annexation notices, disannexation notices, and interlocal agreements related to emergency services and coverage areas. To the extent possible, CAPCOG will use the ESB and ESZ data submitted by the PUBLIC AGENCY in the 9-1-1 system. However, CAPCOG reserves the right to make adjustments to these data and/or reinstate prior versions if the data submitted by PUBLIC AGENCY are found to have errors. PUBLIC AGENCY is responsible for downloading and using the latest authoritative version of the ESZ/ESB files used in the 9-1-1 system from CAPCOG at the beginning of each month to avoid repetition of errors if they have occurred.

Task 1.E: PUBLIC AGENCY shall send at least one representative to each scheduled quarterly 9-1-1 GIS User Group meetings ~~(GMUG)~~ and at least one training workshop hosted by CAPCOG during the performance period of this agreement.

## Task 2: GIS Work

Task 2 involves GIS work needed for directly maintaining and updating the 9-1-1 GIS database. This is work that CAPCOG would need to perform if the PUBLIC AGENCY did not do so. CAPCOG's expectation is that this work would be by a person, either on staff or subcontracted by the PUBLIC AGENCY, with responsibilities, knowledge, skills, education, and experience comparable to the state's "Geographic Information Specialist II" job description.<sup>1</sup> PUBLIC AGENCY must maintain at least one ESRI's ArcGIS software license as specified in Attachment B in order to carry out this work. Task 2 includes the following sub-tasks:

Task 2.A: PUBLIC AGENCY shall submit all information required under Task 1.A that corresponds to GIS data layers in the 9-1-1 GIS database. This will be provided in ESRI File geodatabase format (.gdb) pursuant to CAPCOG guidance at least once a month to CAPCOG, or more frequently as specified by CAPCOG once PUBLIC AGENCY has completed the transition to NG9-1-1. PUBLIC AGENCY shall first submit data to EGDMS and Data Hub in order to address any mismatches between the ALI database and PUBLIC AGENCY's RCL and address point data, "critical" ~~errors, or~~ "significant" errors. These quality control systems require the 9-1-1 GIS database to match the standardized database schema (data model) for these systems through field-matching (field-mapping) procedures and other standards. Based on the recommendations of CAPCOG's GIS Planning Committee, CAPCOG staff will develop performance

<sup>1</sup> Available online at: <http://www.hr.sao.texas.gov/CompensationSystem/JobDescriptions/>

standards for target error rates, and will communicate these performance standards to PUBLIC AGENCY at a later date through guidance.

Task 2.B: PUBLIC AGENCY shall address any errors identified by EGDMS and Data Hub validation checks (reports) or CAPCOG Quality Control reports from those systems as soon as possible, but no later than the following conventional monthly submission to CAPCOG. This includes coordination with adjacent PUBLIC AGENCIES and CAPCOG where necessary.

Task 2.C: PUBLIC AGENCY shall address any other discrepancies identified by authorized stakeholders including, but not limited to, PSAP 9-1-1 call-takers.

Task 2.D: At least once a month, PUBLIC AGENCY shall back up the 9-1-1 GIS database and store it in a secure place. PUBLIC AGENCY shall include a record of the dates the database was backed up in the activity reports that are required to be submitted with quarterly invoices.

Task 2.E: In addition, PUBLIC AGENCY shall maintain the ~~automatic location information (ALI)~~ and MSAG databases within the PUBLIC AGENCY's provisioning boundary. This includes, but is not limited to, correcting telephone number database errors, maintenance and quality-control of an accurate 9-1-1 call location map, and providing ~~Master Street Address Guide (MSAG)~~ updates and corrections to the database vendor. If PUBLIC AGENCY has met the required 98% match between ALI to RCLs determined by Intrado and transitioned to a GeoMSAG, MSAG database updates and management will be made through uploads of the RCL GIS feature class to EGDMS.

## Content of Quarterly Reports

Along with each quarterly invoice, PUBLIC AGENCY will submit an activity report that contains all of the following information related to activities that occurred in the quarter:

- For each applicable governmental entity with administrative boundaries within PUBLIC AGENCY's provisioning boundary, PUBLIC AGENCY shall provide a summary of actions taken each month relevant to the 9-1-1 GIS database ~~or certify that no action was taken relevant to the 9-1-1 GIS database, including any new records added since the last update and errors corrected.~~
- ~~If applicable, the~~ The date and time of the PUBLIC AGENCY's last backup of its 9-1-1 GIS database each month of the quarter.
- Dates and basic summaries (such as total number of features) of data submissions to CAPCOG.
- A summary of any work that involved resolution of boundary issues with other entities, correction of errors and resolution of any other issues related to this contract
- An explanation for any performance issues ~~in the prior month~~ during the quarter and corrective action that will be taken to address and prevent such issues in the future, including:
  - Late or incomplete data submissions;
  - ~~Submission of data with legacy errors;~~
  - ~~Submission of data with new errors;~~
  - Failure to meet performance expectations for ALI to RCL match accuracy rates, critical error accuracy rates, and/or significant error rates; and
  - Any other issue identified by CAPCOG in a performance report.

CAPCOG will provide PUBLIC AGENCY the template to use for activity reports.

### **CAPCOG Guidance and Direction**

In addition to the Performance Reports identified in Task 2.B, CAPCOG may issue technical guidance or direction to PUBLIC AGENCY's Project Representative that provides further clarification, interpretation, and details. Failure to follow any such guidance would constitute a performance deficiency for this agreement.

Prior to transitioning PUBLIC AGENCY to NG9-1-1, CAPCOG will issue an addendum with a modified scope of work that will cover expectations once a transition to NG9-1-1 occurs. CAPCOG also anticipates issuing updated performance goals for critical error accuracy rates, significant error accuracy rates, and frequency of database updates once a local government has transitioned to NG9-1-1 following the 7/23/2021 GISPC meeting.





## CAPCOG NG9-1-1 Transitional GIS Data Requirements Version 2.0-3 (2017-2021)

### 1 Summary

The following geospatial data and corresponding attribute specifications are required to be regularly maintained by each county for Mapped Automated Location Information (ALI) and use in a Next Generation 9-1-1 system which relies on GIS for call and dispatch routing through the Location Validation Function (LVF) and Emergency Call Routing Function (ECRF).

This document is referenced in the Capital Area Council of Governments Interlocal Agreement for 9-1-1 Geographic Information System Database Management Capital Area Emergency Communications District Interlocal Contract for Geographic Information System Data and the Capital Area Emergency Communications District Interlocal Contract for Next Generation 9-1-1 Database Program documents and is commonly called "Attachment B Requirements".

The GIS Data requirements in this document are a condensed version of, and based upon, data standards created by NENA (National Emergency Number Association) standards as they are developed and evolve over time. We are in a lengthy transitional period to Next Generation 9-1-1 (NG9-1-1). These data model standards should be more thoroughly reviewed in the "NENA Standard for NG9-1-1 GIS Data Model" document. Specifics regarding address point placement methodologies should be reviewed in the "NENA Information Document for Development of Site/Structure Address Point GIS Data for 9-1-1" document. There are other useful resources and training, as well, that CAPCOG has created and will can provide, several of these on its own Web Site.

As per "Task 1.A and Task 2.A" in "Attachment A: Scope of Work", please provide monthly updates of the 9-1-1 datasets referenced in this document in ESRI file geodatabase format to the GeoComm GIS Data Hub, Intrado EGDMS, and CAPCOG FTP location by close of business the 1<sup>st</sup> business day of each month. This ensures that data is available for the PSAPs by close of the 7<sup>th</sup> business day of that month. Submissions may be sent up to five business days before the 1<sup>st</sup> business day of the next month, but ideally would be sent on the 1<sup>st</sup> business day as CAPCOG wants to capture as many edits as possible that happen over the course of a given month. Incomplete datasets or other data abnormalities related to requirements may be returned to the county for correction, and must be returned by close of business the 5<sup>th</sup> business day, however, this does not guarantee that the submission will be included in the dataset provided to the PSAPs. If there is a situation in which a submission is not possible by the end of the 1<sup>st</sup> business day of the month, CAPCOG must be made aware and will work with county to obtain that month's data. To be included in that month's PSAP update, the data must be returned to CAPCOG by the 5<sup>th</sup> business day of that month.

CAPCOG will update, create, and otherwise manage the PSAP and Provisioning Boundaries for each local jurisdiction and provide these data layers to jurisdiction for Task 2: GIS Work. CAPCOG will also provision these datasets to both quality-control systems for their use in call and dispatch routing as well as map display and reference. As described in "Task 1B, county shall enter into and maintain agreements with all other local governments with the authority to assign address points, assign road names and address ranges, alter municipal boundaries, or change the geographic coverage of emergency service providers in order to ensure that these entities provide such data to county in a timely manner. When such changes occur, local jurisdiction shall provide CAPCOG with adequate advance notice of any substantive changes that could or should affect PSAP boundaries, ESB/ESZ boundaries, provisioning boundaries, or any sub-contracting in order for an orderly transition as a result of any pending new agreement, amendment, or agreement termination.

To the extent possible, CAPCOG will use the ESB and ESZ data submitted by the local jurisdiction in the 9-1-1 system. However, CAPCOG reserves the right to make adjustments to these data and/or reinstate prior versions if the data submitted are found to have errors. The local jurisdiction is responsible for downloading and using the latest authoritative version of the ESZ/ESB files used in the 9-1-1 system from CAPCOG at the beginning of each month to avoid repetition of errors if they have occurred. Note



that regardless of any such changes made by local governments within their provisioning boundary, those changes will not be made in the 9-1-1 system until this information is provided to CAPCOG. CAPCOG accepts the information, and makes the corresponding changes in the 9-1-1 system.

Regarding database fields and data types, each is very specific and must follow the exact guidelines outlined below. ~~For example, the "L\_ESN" field must be Text type with a character width of 5.~~ Remember to keep the field names in your database the same as those listed, and in the same order, and that all entries for every field must be in UPPER CASE. The complete attribute definitions shown in the GIS data tables are described and defined in the "Database Format" sections for each dataset. The data fields shown as **Mandatory** and **Conditional** must be present in the data. In the tables below, the column **M/C/O** is to indicate whether the attribute values is **Mandatory (M)**, **Conditional (C)**, or **Optional (O)**.

- **Mandatory** signifies an attribute value must exist
- **Conditional** signifies that if the attribute information exists in the real world, it must be included. If no value exists for the feature, the individual value is left blank without an empty space (if text), or 0 (if numeric)
- **Optional** signifies an attribute value may or may not be included in the data field

In the GIS data tables below, the **TYPE** column indicates the data type used for the data field.

- **TEXT** – string of alphanumeric characters including any combination of alphabetical letters A-Z and numbers 0-9
- **DATE** – Date and time using ISO 8601 compliant formats which are in the format of YYYY-MM-DD HH:MM:SS
- **DOUBLE** – double precision floating point numeric values with decimals

**LONG** – whole numeric values ranging from -2,147,483,648 to 2,147,483,647 without

~~decimals~~decimals in the GIS data tables below, the **WIDTH** column indicates the number of allowable characters within each field.

## 2 Road Centerlines (RCL)

This line data represents road networks in the CAPCOG region. This layer includes the street names and address ranges used to assign an address.

### 2.1 Graphic (Spatial) Edits

Each named street needs to be represented in the GIS graphically and include attribution for all database fields listed below. All unnamed streets included in the street centerline layer are required to have the designation "DRVW" entered in the 'street name (ST\_NAME)' field and have any other relevant attribute information completed, including the 'CLASS' field. When a street centerline is created or edited, several sources and methods can be used, including current aerial imagery, georeferenced survey plats, computer-aided design (CAD) files, parcels, mapping-grade GPS units in the field, or other authoritative sources or methods. The positional accuracy of addressed structures should be within +/- 5 feet of the center of the roadbed (the part on which vehicles travel) noting that when roadways are divided (i.e by a median) the roadbeds on each side should have a centerline drawn. In all cases each new street centerline will need to be split, or checked for gaps, at each jurisdiction and ESN line/boundary intersection. Street segment direction must be correct as well. These items and other geometric relationships are referred to as "topology", and especially important for NG9-1-1 purposes.

### 2.2 Database Format

<u>FIELD NAME</u>	<u>M/C/O</u>	<u>TYPE</u>	<u>WIDTH</u>	<u>DESCRIPTION/ VALID ENTRIES</u>
SOURCE	M	TEXT	75	Agency that last updated the record, i.e. FAYETTE, TRAVIS
PROVIDER	M	TEXT	75	The name of the regional 911 authority CAPCOG will populate
LAST_MOD	M	DATE	26	Date of last update using ISO 8601 format
EFF_DATE	O	DATE	26	Date the new record information goes into effect in ISO 8601 format
SEGMENTID	<b>OM</b>	LONG	DEFAULT	Unique segment ID CAPCOG will populate <u>prior to uploading to PSAP.</u> <u>May also serve as a placeholder field to populate SITEUNQID field</u>
RCL_UNIQID	M	TEXT	100	<u>ID for each road segment — CAPCOG will populate Globally Unique ID for each road segment. Ex. 894RCL@co.blanco.tx.us</u>

COUNTRY	M	TEXT	2	Country name represented by two capital letters
L_STATE	M	TEXT	2	Left state name by two letters defined by USPS publication 28
R_STATE	M	TEXT	2	Right state name by two letters defined by USPS publication 28
L_COUNTY	M	TEXT	40	Fully spelled county name on the left side of the road
R_COUNTY	M	TEXT	40	Fully spelled county name on the right side of the road
L_MUNI	M	TEXT	100	Name of municipality on Left, if none populate with "UNINCORPORATED"
R_MUNI	M	TEXT	100	Name of municipality on Right, if none populate with "UNINCORPORATED"
L_MUNI_DIV	C	TEXT	100	Name of municipality division on Left, i.e. "WARD 5 FRIENDSHIP DISTRICT"
R_MUNI_DIV	C	TEXT	100	Name of municipality division on Right i.e. "WARD 5 FRIENDSHIP DISTRICT"
L_NBRHOOD	O	TEXT	100	Name of neighborhood or subdivision on Left
R_NBRHOOD	O	TEXT	100	Name of neighborhood or subdivision on Right
L_RNG_PRE	C	TEXT	15	Part of an address preceding the numeric address on Left
R_RNG_PRE	C	TEXT	15	Part of an address preceding the numeric address on Right
LF_ADDR	M	LONG	DEFAULT	Left address number at the FROM node
LT_ADDR	M	LONG	DEFAULT	Left address number at the TO node
RF_ADDR	M	LONG	DEFAULT	Right address number at the FROM node
RT_ADDR	M	LONG	DEFAULT	Right address number at the TO node
L_PARITY	M	TEXT	1	E, O, B, Z for Even, Odd, Both, or Zero (if the range is 0 to 0)
R_PARITY	M	TEXT	1	E, O, B, Z for Even, Odd, Both, or Zero (if the range is 0 to 0)
L_POST_COM	C	TEXT	40	City name for the ZIP of an address, as given in the USPS on Left
R_POST_COM	C	TEXT	40	City name for the ZIP of an address, as given in the USPS on Right
L_ZIP	C	TEXT	5	5-digit numeric postal code area on Left
R_ZIP	C	TEXT	5	5-digit numeric postal code area on Right
L_ESN	M	TEXT	5	5-digit Emergency Service Number as identified by <b>MSAG-ESN</b> on Left. If the ESN number only has 2-3 digits, it must be preceded by zeros
R_ESN	M	TEXT	5	Emergency Service Number as identified by <b>MSAG-ESN</b> on Right. Must be preceded by zeros if less than 5 digits, i.e. "00088" for ESN 88
L_MSAG	M	TEXT	30	Valid service community as identified by MSAG on Left
R_MSAG	M	TEXT	30	Valid service community as identified by MSAG on Right
PRE_MOD	O	TEXT	15	Word or phrase separate from type and direction that precedes PRE_DIR i.e. Access, Alternate, Business, Connector, Extension, Scenic, Spur, Ramp Underpass, Overpass
PRE_DIR	C	TEXT	2	Leading directional prefix N, S, E, W, NE, NW, SE, SW
PRE_TYPE	C	TEXT	20	Spelled out word or phrase that precedes and identifies a type of thoroughfare
ST_NAME	M	TEXT	60	<u>Legal</u> street name as assigned by local addressing authority
ST_TYPE	C	TEXT	4	Type of street following the street name, valid entries on USPS Pub 28
POST_DIR	C	TEXT	2	Trailing directional suffix N, S, E, W, NE, NW, SE, SW
POST_MOD	C	TEXT	12	Word or phrase separate from type and direction that follows ST_NAME
FULL_NAME	M	TEXT	125	Full street name, should be a concatenation of 4 fields : PRE_DIR, ST_NAME, ST_TYPE and POST_DIR with no trailing or leading spaces
ST_ALIAS	C	TEXT	125	Entire alias street name assigned to street segment
ONE_WAY	O	TEXT	2	B, FT, TF for Both, FROM node to TO node, TO node to FROM node
SP_LIMIT	O	LONG	DEFAULT	Posted speed limit in MPH
CLASS	M	TEXT	4	Street type designation code (See ROC Codes below)
RDCLS_TYP	O	TEXT	15	See valid Road Class Types below
NOTES	O	TEXT	75	Additional information

## 2.2 ROC Codes ('Street Type' Designation)

IH – Interstate

US – US highways



SH – State highways  
 FM – Farm to Market, Ranch Road, Ranch to Market  
 LS – City Street, County Road, Park Road, Recreational, Frontage Road  
 AC – Access Road, Crossover  
 PVT- Private Road  
 TR – Toll Road  
 RAMP- On-ramp, Off-ramp  
 DW – Driveways

### 2.3 Road Class Types

Primary  
 Secondary  
 Local (City, Neighborhood, or Rural Road)  
 Ramp  
 Service (usually along a limited access highway)  
 Vehicular Trail (4WD, snowmobiles)  
 Walkway (Pedestrian Trail, Boardwalk)  
 Alley  
 Private (service vehicles, logging, oil fields, ranches, etc.)  
 Parking Lot  
 Trail (Ski, Bike, Walking / Hiking Trail)

## 3 Site / Structure Address Points (AP)

This point data represents addressable sites, structures, or property entrances that exist within the CAPCOG region.

### 3.1 Graphic (Spatial) Edits

All addressed site/structures must be represented in the address point layer. When a site/structure point is created or edited, several sources and methods can be used, including aerial imagery, georeferenced survey plats, computer-aided design (CAD) files, parcels, mapping-grade GPS units in the field, or other authoritative sources and methods. When the actual structure location is known, the symbol should represent the general center of the structure. In other cases, please refer to the "NENA Information Document for Development of Site/Structure Address Point GIS Data for 9-1-1" document. In any case, the positional accuracy of structures or designated site locations should be within +/- 25 feet of their true location or intended designation.

### 3.2 Database Format

FIELD NAME	M/C/O	TYPE	WIDTH	DESCRIPTION/ VALID ENTRIES
SOURCE	M	TEXT	75	Agency that last updated the record, i.e. HAYS, WILLIAMSON
PROVIDER	M	TEXT	75	The name of the regional 911 authority CAPCOG will populate
LAST_MOD	M	DATE	26	Date of last update using ISO 8601 format
EFF_DATE	O	DATE	26	Date the new record information goes into effect in ISO 8601 format
SITE_ID	<del>MO</del>	LONG	DEFAULT	Unique site ID CAPCOG will populate prior to uploading to PSAP. May also serve as a placeholder field to populate SITEUNQID field
SITEUNQID	M	TEXT	100	Globally Unique/unique ID for each address site or structure. Ex. 2545AP@co.lee.tx.us—CAPCOG will populate
COUNTRY	M	TEXT	2	Country name represented by two capital letters
STATE	M	TEXT	2	State name by two letters defined by USPS publication 28
COUNTY	M	TEXT	40	County name or equivalent fully spelled out
MUNICIPAL	M	TEXT	100	Name of municipality, if none populate with "UNINCORPORATED"
MUNI_DIV	C	TEXT	100	Name of municipality division i.e. "WARD 5 FRIENDSHIP DISTRICT"
NBRHOOD	C	TEXT	100	Name of neighborhood or subdivision where the address is located
ADDNUM_PRE	O	TEXT	15	Part of an address leading the numeric address
ADDR_NUM	M	LONG	DEFAULT	Numeric identifier of a location along a thoroughfare
ADDNUM_SUF	C	TEXT	15	Part of an address following the address number i.e. ½, B





PRE_DIR	C	TEXT	2	Leading directional prefix N, S, E, W, NE, NW, SE, SW
PRE_TYPE	O	TEXT	20	Spelled out word or phrase that precedes and identifies a type of thoroughfare
ST_NAME	M	TEXT	60	<u>Legal</u> street name as assigned by local addressing authority
ST_TYPE	C	TEXT	4	Type of street following the street name, valid entries on USPS Pub 28
POST_DIR	C	TEXT	2	Trailing directional suffix N, S, E, W, NE, NW, SE, SW
POST_MOD	O	TEXT	12	Word or phrase separate from type and direction that follows ST_NAME
FULL_NAME	M	TEXT	125	Full street name, must be identical to the site's related road FULL_NAME
ST_ALIAS	C	TEXT	125	Entire alias street name assigned to related street segment
FULL_ADDR	M	TEXT	170	Full address, should be a concatenation of ADDNUM_PRE + ADDR_NUM + ADDNUM_SUF + FULL_NAME with no extra, leading and trailing spaces
ESN	M	TEXT	5	Emergency Service Number associated with the address and community name Preceded by '0' if digits are less than 5
MSAG_COM	M	TEXT	30	Valid service community associated with the location of the address
POSTAL_COM	M	TEXT	40	City name for the ZIP of an address, as given in the USPS
ZIP	C	TEXT	5	5-digit numeric postal code area
ZIP4	O	TEXT	4	ZIP plus 4 code without the dash
BLDG	O	TEXT	75	One among a group of buildings that have the same address
FLOOR	O	TEXT	75	A floor, story or level within a building
UNIT	O	TEXT	75	A suite or group of rooms within a building that share the same entrance
ROOM	O	TEXT	75	A single room within a building
SEAT	O	TEXT	75	A place where a person sits within a building i.e. cubicle
LANDMARK	O	TEXT	150	The name by which a prominent feature is publicly known or Vanity address
MILEPOST	C	LONG	DEFAULT	A posted numeric measurement from a given beginning point
SITE_TYPE	C	TEXT	50	Type of feature identified by the address i.e. residential, office, store, school
POINT_X	O	DOUBLE	DEFAULT	Longitude of point in decimal degrees using EPSG: 4326
POINT_Y	O	DOUBLE	DEFAULT	Latitude of point in decimal degrees using EPSG: 4326
NOTES	O	TEXT	254	Additional location information, which is not a building, floor, unit, room or seat
ELEVATION	O	DOUBLE	DEFAULT	Height above Mean Sea Level in meters

## 4 Emergency Service Zones (ESZ)

This polygon data consists of the intersection of law enforcement, fire district, and emergency medical service and telephone exchange boundaries in the CAPCOG region.

### 4.1 Graphic (Spatial) Edits

These areas need to accurately reflect the boundaries of each geographically unique combination of fire, law and EMS responder zones. This layer is created and maintained by overlaying with some combination of street centerlines, municipal (i.e. city limit) boundaries, parcels boundaries, or other data to determine each jurisdiction's emergency response service areas. As new emergency response services are added to, or change in an area, this boundary file will need to be modified accordingly. Communications must be regularly preserved with all fire, law, and emergency medical responders to obtain the information required to maintain updated ESZ boundaries. These ESZ boundaries should be within +/- ~~50~~3 feet of their true location with no gaps or overlaps. These items and other geometric relationships are referred to as "topology", and especially important for NG9-1-1 purposes. **In addition, it is very important that all features with identical attribute information are merged into one multipart polygon.**

#### 4.2 Database Format

FIELD NAME	M/C/O	TYPE	WIDTH	DESCRIPTION/ VALID ENTRIES
SOURCE	M	TEXT	75	Agency that last updated the record, i.e. BASTROP, BURNET
PROVIDER	M	TEXT	75	The name of the regional 911 authority CAPCOG will populate
LAST_MOD	M	DATE	26	Date of last update using ISO 8601 format
EFF_DATE	O	DATE	26	Date the new record information goes into effect in ISO 8601 format
ES_UNQID	M	TEXT	100	ID for each emergency service polygon - CAPCOG will populate
LAW	M	TEXT	60	Name of law service provider
FIRE	M	TEXT	60	Name of fire service provider
MEDICAL	M	TEXT	60	Name of medical service provider
COUNTRY	M	TEXT	2	Country name represented by two capital letters
STATE	M	TEXT	2	State name by two letters defined by USPS publication 28
COUNTY	M	TEXT	40	County name fully spelled out
URI	M	TEXT	254	URN/URL for routing. Example: <a href="mailto:sip:sos.law@city.eoc.tx.us">sip:sos.law@city.eoc.tx.us</a> <a href="mailto:sip:sos@ausxtkem1.travis.tx.us">sip:sos@ausxtkem1.travis.tx.us</a>
URN	M	TEXT	50	The URN for the Emergency Service or other Well-Known Service*
ESN	M	TEXT	5	ESN of the responding agency preceded by '0' if number of digits < 5
TANDEM	M	TEXT	3	911 Selected Router Code
TANDEM2	C	TEXT	3	911 Selected Router Code
ESSID	M	TEXT	2	Unique tandem routing code CAPCOG will populate
ESNGUID	M	TEXT	8	Concatenation of ESN and ESSID separated by a single forward slash '/' CAPCOG will concatenate
AVCARDURI	C	TEXT	254	URI for the vCARD of contact information

\* Example: "urn:service:sos" for a PSAP or "urn:service:sos.ambulance" for an ambulance service

## 5 Emergency Service Boundaries (ESB)

This polygon data consists of Emergency Service Boundary layers that define the geographic area for the primary providers of response services in the CAPCOG region.

### 5.1 Graphic (Spatial) Edits

Each of these layers is used by the ECRF to perform a geographic query to determine which Emergency Service Providers are responsible for providing service to a location in the event a selective transfer is desired, to direct an Emergency Incident Data Document to a secondary PSAP for dispatch, or to display the responsible agencies at the PSAP. In addition, Emergency Service Boundaries are used by PSAPs to identify the appropriate entities/first responders to be dispatched. Each Emergency Service Boundary layer may contain one or more polygon boundaries that define the primary emergency services for that geographic area. As new emergency response services are added to, or change in an area, this boundary file will need to be modified accordingly. Communications must be regularly preserved with all fire, law, and emergency medical responders to obtain the information required to maintain updated boundaries. These Emergency Service Boundaries should be within +/- 3 feet of their true location with no gaps or overlaps and can be created by dissolving the Emergency Service Zones polygon data. These items and other geometric relationships are referred to as "topology", and especially important for NG9-1-1 purposes. In addition, it is very important that all features with identical attribute information are merged into one multipart polygon.

There MUST be a separate Emergency Service Boundary layer for each type of service. The set of Emergency Service Boundaries MUST include, at a minimum, the following:

- Law Enforcement
- Fire
- Emergency Medical Services (EMS)

Other Emergency Service Boundaries MAY include, but are not limited to:

- [Poison Control](#)
- [Forest Service](#)
- [Coast Guard](#)
- [Animal Control](#)

## 5.2 Database Format

FIELD NAME	M/C/O	TYPE	WIDTH	DESCRIPTION/ VALID ENTRIES
<a href="#">DISCRPAGID</a>	M	<a href="#">TEXT</a>	75	<a href="#">Agency that last updated the record, i.e. BASTROP, BURNET</a>
<a href="#">DATEUPDATE</a>	M	<a href="#">DATE</a>	26	<a href="#">Date of last update using ISO 8601 format</a>
<a href="#">EXPIRE</a>	O	<a href="#">TEXT</a>	26	<a href="#">Unique tandem routing code CAPCOG will populate</a>
<a href="#">EFFECTIVE</a>	O	<a href="#">TEXT</a>	26	<a href="#">The date and time when the information in the record is no longer considered valid.</a>
<a href="#">ES_NGQUI</a>	M	<a href="#">TEXT</a>	254	<a href="#">Globally unique ID for each emergency service boundary polygon – Ex. 210EMS@blanco.co.tx.us</a>
<a href="#">STATE</a>	M	<a href="#">TEXT</a>	2	<a href="#">State name by two letters defined by USPS publication 28</a>
<a href="#">AGENCYID</a>	M	<a href="#">TEXT</a>	100	<a href="#">A Domain Name System (DNS) domain name which is used to uniquely identify an agency. Ex. austintexas.gov</a>
<a href="#">SERVICEURI</a>	M	<a href="#">TEXT</a>	254	<a href="#">URN/URL for routing. Example: sip:sos@ausxtxm1.travis.tx.us</a>
<a href="#">SERVICEURN</a>	M	<a href="#">TEXT</a>	50	<a href="#">The URN for the Emergency Service or other Well-Known Service*</a>
<a href="#">SERVICENUM</a>	M	<a href="#">TEXT</a>	15	<a href="#">The numbers that would be dialed on a 12-digit keypad to reach the emergency service appropriate for the location. Ex: 911</a>
<a href="#">AVCARDURI</a>	C	<a href="#">TEXT</a>	254	<a href="#">URI for the vCARD of contact information</a>
<a href="#">DISPLAYNAME</a>	M	<a href="#">TEXT</a>	60	<a href="#">Name of the service provider that offers services within the area of an Emergency Service Boundary</a>

## 5.6 Municipal Boundary

This polygon data represents municipal boundaries in the CAPCOG region.

### 5.16.1 Graphic (Spatial) Edits

When city limits change due to annexations, metes and bounds surveys or other related information must be acquired to update the city limit boundaries. Coordinate geometry (COGO) – is one of the preferred methods for calculating coordinate points from surveys and can be used to update the city limit boundaries in the GIS within ~~+-or~~ 50-3 feet of their true location with no gaps or overlaps

### 5.26.2 Database Format

FIELD NAME	M/C/O	TYPE	WIDTH	DESCRIPTION/ VALID ENTRIES
SOURCE	M	<a href="#">TEXT</a>	75	Agency that last updated the record, i.e. CALDWELL, LLANO
PROVIDER	M	<a href="#">TEXT</a>	75	The name of the regional 911 authority CAPCOG will populate
LAST_MOD	M	<a href="#">DATE</a>	26	Date of last update using ISO 8601 format
EFF_DATE	O	<a href="#">DATE</a>	26	Date the new record information goes into effect in ISO 8601 format
POLY_ID	<del>QM</del>	<a href="#">LONG</a>	DEFAULT	Numeric Polygon ID CAPCOG will populate <u>prior to uploading to PSAP. May also serve as a placeholder field to populate MUNIUNQID field</u>
MUNIUNQID	M	<a href="#">TEXT</a>	100	Globally Unique ID for each municipality - <u>Ex. 98471NCM@austintexas.gov CAPCOG will populate</u>



COUNTRY	M	TEXT	2	Country name represented by two capital letters
STATE	M	TEXT	2	State Name (eg: TX)
COUNTY	M	TEXT	40	County name fully spelled out
MUNI_NM	M	TEXT	100	Name of municipality i.e. "AUSTIN"

#### **Attachment B, Part 2:**

#### **Guidance Document for CAPCOG Next-Generation 9-1-1 GIS Data (Version 2, 2020)**

### **Guidance Document for CAPCOG Next-Generation 9-1-1 Geographic Information System (GIS) Data Version 2: April 2020**

#### **Introduction:**

As the Transition Workflow Cycle of the Next-Generation 9-1-1 Database Program Interlocal Agreement (ILA) describes, our region is moving closer and closer to deploying a Next-Gen 9-1-1 system that enables emergency calls to route to the correct PSAP based on GIS data. This transition begins the process of moving away from our traditional MSAG-based (tabular database) routing system to one that will be faster, more reliable, and enable multimedia such as pictures and videos to be sent to 9-1-1 call takers. However, in order to move to this new system, several changes need to be made to our workflows and data. Perhaps the biggest change is that we will be utilizing new cloud-based software packages to assist with quality control (QC). One of these solutions will also ultimately become the mechanism by which 9-1-1 GIS data is supplied to PSAPs, which could ultimately be done at any time throughout the month as opposed to just once.

The intention of this document is to serve as a guide for county coordinators in the preparation of this transition, and to provide detailed technical information regarding how to prepare the 9-1-1 GIS data submission. CAPCOG reserves the right to unilaterally update this guidance document at any time.

#### **Summary of Changes:**

Below is a list of items we need to accomplish, as outlined in the Transition Workflow Cycle of the ILA.

- ◆ Create globally unique IDs (GUIDs) for all features in all feature classes of the GIS database in order to track changes to data over time
- ◆ Utilize the "Last Modified" date field in order to track new and legacy data
- ◆ Incorporate emergency service boundaries into data or determine a process to create and manage them
- ◆ Determine if changes to PSAP boundary coverage areas need to be made
- ◆ Determine if changes to provisioning boundaries need to be made
- ◆ Participate in training opportunities for the EGDMS and Data Hub QC platforms
- ◆ Field map and upload data to EGDMS and Data Hub
- ◆ Retrieve errors from QC software and correct them

#### **Globally Unique IDs (GUIDs):**

In a Next-Gen 9-1-1 system, a new requirement has been set by NENA (National Emergency Number Association) that stipulates data must include Globally Unique IDs, or GUIDs. GUIDs are created by constructing unique feature IDs using a format as described in the associated document provided by CAPCOG.

Each GUID should remain unchanged for the life span of the GIS data so that it supports the resolution of errors through quality control discrepancy reporting, and allows for us to track changes to data over time.

#### Using the "LAST\_MOD" Field:

Attachment B of the ILA, entitled "CAPCOG NC9 1-1 Transitional GIS Data Requirements" describes a "LAST\_MOD" or Last Modified date field in each of the GIS data layers and is marked as mandatory for completion. In order for CAPCOG to begin tracking what is 'new' data and what is 'legacy' data, we need this field to be completed in each of the data layers. Our goal in differentiating between these two datatypes is so that we can determine if progress is being made in data error correction. Use of this field will also be monitored and included in the performance reports that CAPCOG will send out each month.

If there is a GIS feature that was created prior to October 1, 2019 and the LAST\_MOD field is NULL or otherwise not known, this field should be populated with a date of 10/1/2019 and will be counted as legacy data. One way to have this field updated automatically when editing or creating features is to use 'editor tracking' on the feature class. This can be done by right-clicking the feature class in ArcCatalog and then selecting 'Properties'. When the Feature Class Properties dialog box opens, select the 'Editor Tracking' tab. The below image shows how this can be set up:

The screenshot shows the 'Feature Class Properties' dialog box with the 'Editor Tracking' tab selected. The 'Enable editor tracking' checkbox is checked. Under 'Update these fields when a feature is created', the 'Create Date Field' is set to '<none>'. Under 'Update these fields when a feature is edited', the 'Edit Date Field' is set to 'LAST\_MOD'. At the bottom, 'Record Dates in:' is set to 'Database Time'. The 'OK', 'Cancel', and 'Apply' buttons are at the bottom right.

- Check the 'Enable editor tracking' box
- Set the 'Edit Date Field' to LAST\_MOD
- Select 'Database Time' to record dates



#### New Quality Control (QC) Platforms:

The Capital Area Emergency Communications District (CAECD) has purchased two all-new quality control systems for our counties to use. These will be used as a means to not only quality control GIS data and return the results of errors but, in the case of the Enterprise Geospatial Database Management System (EGDMS), will actually provide data to the functional elements of a NG9-1-1 environment. Again, in NG9-1-1, GIS data is the driver of call routing!

#### Enterprise Geospatial Database Management System (EGDMS)

Vendors: AT&T and Intrado

The Enterprise Geospatial Database Management System (EGDMS) is a web application that serves as the front-end user interface for the NENA Spatial Interface (SI) requirement. GIS data submitted through EGDMS is validated, coalesced, and used for provisioning to NG9-1-1 (sometimes referred to as i3) systems which are called the ECRF and LVF. These stand for Emergency Call Routing Function and the Location Validation Function. Both of these elements are major components in the NG9-1-1 environment.

One of the biggest advantages in moving to this system is that it will enable counties the ability to update PSAP map data much more frequently than our current workflow of just once a month.

EGDMS includes the following features:

- Secure 2-factor authentication
- A file upload user interface that enables customers to identify the contents of the upload
- Acceptance of file geodatabase files and shapefiles (although no one should be using shapefiles!)
- Attribute field mapping configuration that is customer-driven
- Automated schema change detection and error notification
- Automated email notification for upload and processing status
- GIS data validation report retrieval

As a QC platform, EGDMS will find "critical" errors as outlined in [Transition Workflow Cycle Attachment A: Scope of Work of the ILA](#). Critical errors have the potential to negatively affect the call routing process and, as such, need to be corrected. Please review the EGDMS user guide for detailed

*A note: CAPCOG will provide a spreadsheet that shows the fields used by EGDMS and the corresponding CAPCOG data model fields. This will aid in the field mapping portion of configuring your agency EGDMS account.*

Each coordinator, and in some cases staff, will be provided a username by Intrado in order to login. Previous Entrust tokens can still be used. Those that do not have Entrust tokens will be provided one by CAPCOG. Entrust tokens are key fobs that provide a unique number that is to be used when accessing EGDMS.

After an initial upload of GIS data has been submitted to EGDMS, Intrado will then provide a subsequent training session in which they will discuss how to retrieve errors from the system.

~~\*\*EGDMS also provides the user with the ability to mark features as exceptions, however only in the road centerline Feature Class. This is because EGDMS does not look for critical errors in address point, ESZ, or city limits data\*\*~~

~~Note: due to technical issues with EGDMS that have not yet been resolved as of February 28, 2020, County will only be required to start using EGDMS after it receives notification from CAPCOG's project representative to do so.~~

~~GeoComm GIS Data Hub~~

~~Vendor: GeoComm~~

~~The GeoComm GIS Data Hub is a robust web-based GIS data management solution that helps transform, quality check (QC), report, aggregate, and provision GIS data using predefined, standardized processes to ensure the timely delivery of GIS data to your 9-1-1 system. Offering virtually unlimited quality control tools, GIS Data Hub ensures greater accuracy of the data and helps you meet your obligated GIS responsibilities for NG9-1-1. The GIS Data Hub is designed to simplify the user experience. Your system administrator grants access to only content specific to your role, project and/or client. As a System User, your primary role is submitting GIS data for validation.~~

~~Data Hub is able to do the following:~~

- ~~• Provide GIS data insights through rigorous quality control and reporting processes~~
- ~~• Transform disparate GIS datasets into a common schema (which is based on the NENA GIS data model)~~
- ~~• Aggregates GIS datasets into a seamless coverage area~~
- ~~• Provides map data packages formatted to meet 9-1-1 mapping and Computer Aided Dispatch (CAD) systems~~

In addition to also being able to find critical errors like EGDMS, Data Hub will also find "significant" and "other" errors as d-As described in the Transition Workflow Cycle of the ILA Attachment A: Scope of Work, significant error types are those that negatively impact dispatch systems and other systems used for routing of emergency vehicles. As such, they should be corrected. ~~Other error types are those that while they may not impact system functionality are recommended to be corrected to maintain~~

~~\*\*This QC platform also offers users the ability to create an exceptions field in their GIS data that can be used to keep Data Hub from continuously reporting errors that are not actual (or legitimate) errors\*\*~~

~~Please review the Data Hub user guide to find detailed information about the system and what all it is capable of doing.~~

~~New GIS Data:~~

~~In addition to the traditional GIS data submitted to CAPCOG, there will be some new Feature Classes that will be required for data submissions to EGDMS, Data Hub, and CAPCOG.~~

~~Provisioning Boundary:~~

~~This polygon layer defines the area of GIS data provisioning responsibility, with no unintentional gaps or overlaps. It should contain (include) all your agency's data within it. The Provisioning Boundary must be~~



agreed to by all adjoining data provisioning providers. When submitting GIS data, a 9-1-1 Authority (or 9-1-1 Authority designee) MUST only include GIS data for their geographic area of responsibility (provisioning boundary) and MUST ensure the data includes coverage for the entire extent of that area. CAPCOG will provide Provisioning Boundaries to all counties with the expectation that we will all work together should they need to be altered. These boundaries are continually updated and as they are finalized, CAPCOG will make updated versions available to all partner 9-1-1 authorities to use in the subsequent month's data upload, and quality checks should be made only against the provisioning boundaries provided by CAPCOG.

#### Emergency Service Boundaries:

Not to be confused with Emergency Service Zones (ESZs, sometimes referred to as ESNs) which are polygon layers that represent unique combinations of fire, law, and EMS responder zones for a geographic area, Emergency Service Boundaries are **individual** GIS data layers that define the geographic area for **single** response service types. This means that instead of one polygon layer representing all responder types, there are now three separate GIS layers for Law, Fire, and EMS. Each of these layers is used by the NG9-1-1 system to perform a geographic query to determine which Emergency Service Providers are responsible for providing service to a location. Emergency Service Boundaries are used by PSAPs to identify the appropriate entities/first responders to be dispatched.

There MUST be a **SEPARATE** Emergency Service Boundary layer for each type of service.

The set of Emergency Service Boundaries MUST include the following:

- ◆ Law Enforcement (LAW)
- ◆ Fire
- ◆ Emergency Medical Services (EMS)

The addition of ESBs does not mean that our traditional ESZ (sometimes referred to as ESN) layer will be discontinued. CAPCOG still expects counties to maintain and submit ESZ layers as they have. Counties MAY maintain the Emergency Service Boundary layers as a combined or single layer for each emergency service, however, when exchanging emergency service boundary information in an NG9-1-1 environment, Emergency Service Boundaries MUST be exchanged as individual layers for each emergency service type (e.g. one for law, one for fire, and one for EMS).

ESB maintenance is described in detail in the CAPCOG document titled "Globally Unique IDs (GUIDs)".

Note, these new layers must be in the correct schema which CAPCOG will also provide. The schema that will be used is also shown in the associated "EGDMS Field Mapping to CAPCOG" spreadsheet.

**\*Expected Field Values:** With the addition of the ESBs to our workflow, there are a couple of new fields that come with these layers that have haven't used before. Please consult the associated field mapping documentation for further information. The new fields are:

◆ **Service URI:** In the case of ESBs, this field corresponds to the PSAP covering that area and should only be completed if the responding agency is also a PSAP

○ **Ex:** The Leander PD polygon in the LAW ESB for Williamson County would get the associated Service URI for the Leander PD PSAP. However, the polygon for Granger PD's coverage area would NOT get a Service URI as it is not a PSAP. A list of Service URIs for

*each PSAP can be found in the Transitional Guidance folder CAPCOG uploaded to the FTP site.*

- ◆ **Discrepancy Agency ID:** This is the name of the data source. It will be the name of the county submitting the upload.
- ◆ **Agency ID:** Domain name of the agency (county) uploading. A list of these domains can be found in the "How to Create Globally Unique IDs (GUIDs)" document

#### **PSAP Boundaries:**

PSAP boundaries are a single GIS layer that is comprised of polygons (in some cases just a single polygon) that show the geographic coverage area for PSAPs within your county. The primary use for this layer is to route and deliver 9-1-1 calls to the correct PSAP, thus making it the **most important layer**. It is critical that there are **no gaps or overlaps** between external (at county borders) and internal (borders within the county). This layer will be managed and edited by CAPCOG but it is absolutely imperative that county coordinators work with CAPCOG to ensure things are correct.

CAPCOG will provide to the counties PSAP boundaries we have created and will continually make updates to them as needed and send to county coordinators. Coordinators will need to review this layer and send CAPCOG any suggested edits or questions. CAPCOG created these using the city limits layer submitted by each county. Coordinators should use the latest PSAP boundaries provided by CAPCOG for the subsequent month's data upload. Quality checks should be made only against the provisioning boundaries provided by CAPCOG.

**Exhibit D**  
**USPS Publication 28 Appendix C**

**C1 Street Suffix Abbreviations**

The following table lists examples of suffix forms that are primary street suffix names, common street suffixes or suffix abbreviations, and recommended official Postal Service standard suffix abbreviations.

Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Postal Service Standard Suffix Abbreviation
ALLEY	ALLEE	ALY
	ALLEY	
	ALLY	
	ALY	
ANEX	ANEX	ANX
	ANNEX	
	ANNX	
	ANX	
ARCADE	ARC	ARC
	ARCADE	
AVENUE	AV	AVE
	AVE	
	AVEN	
	AVENU	
	AVENUE	
	AVN	
	AVNUE	
BAYOU	BAYOO	BYU
	BAYOU	
BEACH	BCH	BCH
	BEACH	
BEND	BEND	BND
	BND	
BLUFF	BLF	BLF
	BLUF	



	BLUFF	
BLUFFS	BLUFFS	BLFS
BOTTOM	BOT	BTM
	BTM	
	BOTTM	
	BOTTOM	
BOULEVARD	BLVD	BLVD
	BOUL	
	BOULEVARD	
	BOULV	
BRANCH	BR	BR
	BRNCH	
	BRANCH	
BRIDGE	BRDGE	BRG
	BRG	
	BRIDGE	
BROOK	BRK	BRK
	BROOK	
BROOKS	BROOKS	BRKS
BURG	BURG	BG
BURGS	BURGS	BGS
BYPASS	BYP	BYP
	BYPA	
	BYPAS	
	BYPASS	
	BYPS	
CAMP	CAMP	CP
	CP	
	CMP	
CANYON	CANYN	CYN

	CANYON	
	CNYN	
CAPE	CAPE	CPE
	CPE	
CAUSEWAY	CAUSEWAY	CSWY
	CAUSWA	
	CSWY	
CENTER	CEN	CTR
	CENT	
	CENTER	
	CENTR	
	CENTRE	
	CNTER	
	CNTR	
	CTR	
CENTERS	CENTERS	CTRS
CIRCLE	CIR	CIR
	CIRC	
	CIRCL	
	CIRCLE	
	CRCL	
	CRCLE	
CIRCLES	CIRCLES	CIRS
CLIFF	CLF	CLF
	CLIFF	
CLIFFS	CLFS	CLFS
	CLIFFS	
CLUB	CLB	CLB
	CLUB	
COMMON	COMMON	CMN
COMMONS	COMMONS	CMNS
CORNER	COR	COR

	CORNER	
CORNERS	CORNERS	CORS
	CORS	
COURSE	COURSE	CRSE
	CRSE	
COURT	COURT	CT
	CT	
COURTS	COURTS	CTS
	CTS	
COVE	COVE	CV
	CV	
COVES	COVES	CVS
CREEK	CREEK	CRK
	CRK	
CRESCENT	CRESCENT	CRES
	CRES	
	CRSENT	
	CRSNT	
CREST	CREST	CRST
CROSSING	CROSSING	XING
	CRSSNG	
	XING	
CROSSROAD	CROSSROAD	XRD
CROSSROADS	CROSSROADS	XRDS
CURVE	CURVE	CURV
DALE	DALE	DL
	DL	
DAM	DAM	DM
	DM	
DIVIDE	DIV	DV
	DIVIDE	
	DV	



	DVD	
DRIVE	DR	DR
	DRIV	
	DRIVE	
	DRV	
DRIVES	DRIVES	DRS
ESTATE	EST	EST
	ESTATE	
ESTATES	ESTATES	ESTS
	ESTS	
EXPRESSWAY	EXP	EXPY
	EXPR	
	EXPRESS	
	EXPRESSWAY	
	EXPW	
	EXPY	
EXTENSION	EXT	EXT
	EXTENSION	
	EXTN	
	EXTNSN	
EXTENSIONS	EXTS	EXTS
FALL	FALL	FALL
FALLS	FALLS	FLS
	FLS	
FERRY	FERRY	FRY
	FRRY	
	FRY	
FIELD	FIELD	FLD
	FLD	
FIELDS	FIELDS	FLDS
	FLDS	
FLAT	FLAT	FLT

	FLT	
FLATS	FLATS	FLTS
	FLTS	
FORD	FORD	FRD
	FRD	
FORDS	FORDS	FRDS
FOREST	FOREST	FRST
	FORESTS	
	FRST	
FORGE	FORG	FRG
	FORGE	
	FRG	
FORGES	FORGES	FRGS
FORK	FORK	FRK
	FRK	
FORKS	FORKS	FRKS
	FRKS	
FORT	FORT	FT
	FRT	
	FT	
FREEWAY	FREEWAY	FWY
	FREEWY	
	FRWAY	
	FRWY	
	FWY	
GARDEN	GARDEN	GDN
	GARDN	
	GRDEN	
	GRDN	
GARDENS	GARDENS	GDNS
	GDNS	
	GRDNS	

GATEWAY	GATEWAY	GTWY
	GATEWY	
	GATWAY	
	GTWAY	
	GTWY	
GLEN	GLEN	GLN
	GLN	
GLENS	GLENS	GLNS
GREEN	GREEN	GRN
	GRN	
GREENS	GREENS	GRNS
GROVE	GROV	GRV
	GROVE	
	GRV	
GROVES	GROVES	GRVS
HARBOR	HARB	HBR
	HARBOR	
	HARBR	
	HBR	
	HRBOR	
HARBORS	HARBORS	HBRs
HAVEN	HAVEN	HVN
	HVN	
HEIGHTS	HT	HTS
	HTS	
HIGHWAY	HIGHWAY	HWY
	HIGHWY	
	HIWAY	
	HIWY	
	HWAY	
	HWY	
HILL	HILL	HL



	HL	
HILLS	HILLS	HLS
	HLS	
HOLLOW	HLLW	HOLW
	HOLLOW	
	HOLLOWS	
	HOLW	
	HOLWS	
INLET	INLT	INLT
ISLAND	IS	IS
	ISLAND	
	ISLND	
ISLANDS	ISLANDS	ISS
	ISLNDs	
	ISS	
ISLE	ISLE	ISLE
	ISLES	
JUNCTION	JCT	JCT
	JCTION	
	JCTN	
	JUNCTION	
	JUNCTN	
	JUNCTON	
JUNCTIONS	JCTNS	JCTS
	JCTS	
	JUNCTIONS	
KEY	KEY	KY
	KY	
KEYS	KEYS	KYS
	KYS	
KNOLL	KNL	KNL
	KNOL	

	KNOLL	
KNOLLS	KNLS	KNLS
	KNOLLS	
LAKE	LK	LK
	LAKE	
LAKES	LKS	LKS
	LAKES	
LAND	LAND	LAND
LANDING	LANDING	LNDG
	LNDG	
	LNDNG	
LANE	LANE	LN
	LN	
LIGHT	LGT	LGT
	LIGHT	
LIGHTS	LIGHTS	LGTS
LOAF	LF	LF
	LOAF	
LOCK	LCK	LCK
	LOCK	
LOCKS	LCKS	LCKS
	LOCKS	
LODGE	LDG	LDG
	LDGE	
	LODG	
	LODGE	
LOOP	LOOP	LOOP
	LOOPS	
MALL	MALL	MALL
MANOR	MNR	MNR
	MANOR	
MANORS	MANORS	MNRS

	MNRS	
MEADOW	MEADOW	MDW
MEADOWS	MDW	MDWS
	MDWS	
	MEADOWS	
	MEDOWS	
MEWS	MEWS	MEWS
MILL	MILL	ML
MILLS	MILLS	MLS
MISSION	MISSN	MSN
	MSSN	
MOTORWAY	MOTORWAY	MTWY
MOUNT	MNT	MT
	MT	
	MOUNT	
MOUNTAIN	MNTAIN	MTN
	MNTN	
	MOUNTAIN	
	MOUNTIN	
	MTIN	
	MTN	
MOUNTAINS	MNTNS	MTNS
	MOUNTAINS	
NECK	NCK	NCK
	NECK	
ORCHARD	ORCH	ORCH
	ORCHARD	
	ORCHRD	
OVAL	OVAL	OVAL
	OVL	
OVERPASS	OVERPASS	OPAS
PARK	PARK	PARK



	PRK	
PARKS	PARKS	PARK
PARKWAY	PARKWAY	PKWY
	PARKWY	
	PKWAY	
	PKWY	
	PKY	
PARKWAYS	PARKWAYS	PKWY
	PKWYS	
PASS	PASS	PASS
PASSAGE	PASSAGE	PSGE
PATH	PATH	PATH
	PATHS	
PIKE	PIKE	PIKE
	PIKES	
PINE	PINE	PNE
PINES	PINES	PNES
	PNES	
PLACE	PL	PL
PLAIN	PLAIN	PLN
	PLN	
PLAINS	PLAINS	PLNS
	PLNS	
PLAZA	PLAZA	PLZ
	PLZ	
	PLZA	
POINT	POINT	PT
	PT	
POINTS	POINTS	PTS
	PTS	
PORT	PORT	PRT
	PRT	

PORTS	PORTS	PRTS
	PRTS	
PRAIRIE	PR	PR
	PRAIRIE	
	PRR	
RADIAL	RAD	RADL
	RADIAL	
	RADIEL	
	RADL	
RAMP	RAMP	RAMP
RANCH	RANCH	RNCH
	RANCHES	
	RNCH	
	RNCHS	
RAPID	RAPID	RPD
	RPD	
RAPIDS	RAPIDS	RPDS
	RPDS	
REST	REST	RST
	RST	
RIDGE	RDG	RDG
	RDGE	
	RIDGE	
RIDGES	RDGS	RDGS
	RIDGES	
RIVER	RIV	RIV
	RIVER	
	RVR	
	RIVR	
ROAD	RD	RD
	ROAD	
ROADS	ROADS	RDS

	RDS	
ROUTE	ROUTE	RTE
ROW	ROW	ROW
RUE	RUE	RUE
RUN	RUN	RUN
SHOAL	SHL	SHL
	SHOAL	
SHOALS	SHLS	SHLS
	SHOALS	
SHORE	SHOAR	SHR
	SHORE	
	SHR	
SHORES	SHOARS	SHRS
	SHORES	
	SHRS	
SKYWAY	SKYWAY	SKWY
SPRING	SPG	SPG
	SPNG	
	SPRING	
	SPRNG	
SPRINGS	SPGS	SPGS
	SPNGS	
	SPRINGS	
	SPRNGS	
SPUR	SPUR	SPUR
SPURS	SPURS	SPUR
SQUARE	SQ	SQ
	SQR	
	SQRE	
	SQU	
	SQUARE	
SQUARES	SQRS	SQS



	SQUARES	
STATION	STA	STA
	STATION	
	STATN	
	STN	
STRAVENUE	STRA	STRA
	STRAV	
	STRAVEN	
	STRAVENUE	
	STRAVN	
	STRVN	
	STRVNUE	
STREAM	STREAM	STRM
	STREME	
	STRM	
STREET	STREET	ST
	STRT	
	ST	
	STR	
STREETS	STREETS	STS
SUMMIT	SMT	SMT
	SUMIT	
	SUMITT	
	SUMMIT	
TERRACE	TER	TER
	TERR	
	TERRACE	
THROUGHWAY	THROUGHWAY	TRWY
TRACE	TRACE	TRCE
	TRACES	
	TRCE	
TRACK	TRACK	TRAK

	TRACKS	
	TRAK	
	TRK	
	TRKS	
TRAFFICWAY	TRAFFICWAY	TRFY
TRAIL	TRAIL	TRL
	TRAILS	
	TRL	
	TRLS	
TRAILER	TRAILER	TRLR
	TRLR	
	TRLRS	
TUNNEL	TUNEL	TUNL
	TUNL	
	TUNLS	
	TUNNEL	
	TUNNELS	
	TUNNL	
TURNPIKE	TRNPK	TPKE
	TURNPIKE	
	TURNPK	
UNDERPASS	UNDERPASS	UPAS
UNION	UN	UN
	UNION	
UNIONS	UNIONS	UNS
VALLEY	VALLEY	VLY
	VALLY	
	VLLY	
	VLY	
VALLEYS	VALLEYS	VLYS
	VLYS	
VIADUCT	VDCT	VIA

	VIA	
	VIADCT	
	VIADUCT	
VIEW	VIEW	VW
	VW	
VIEWS	VIEWS	VWS
	VWS	
VILLAGE	VILL	VLG
	VILLAG	
	VILLAGE	
	VILLG	
	VILLIAGE	
	VLG	
VILLAGES	VILLAGES	VLGS
	VLGS	
VILLE	VILLE	VL
	VL	
VISTA	VIS	VIS
	VIST	
	VISTA	
	VST	
	VSTA	
WALK	WALK	WALK
WALKS	WALKS	WALK
WALL	WALL	WALL
WAY	WY	WAY
	WAY	
WAYS	WAYS	WAYS
WELL	WELL	WL
WELLS	WELLS	WLS
	WLS	



## Exhibit E

# Acronyms and Definitions

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### Acronyms

**ALI** – Automatic Location Identification

**ANI** – Automatic Number Identification

**AP** – Address Point

**CAPCOG** – Capital Area Council of Governments

**CAECD** – Capital Area Emergency Communications District

**E9-1-1** – Enhanced 9-1-1

**EMS** – Emergency Medical Service

**ESB** – Emergency Service Boundary

**ESN** – Emergency Service Number

**ESRI** – Environmental Systems Research Institute

**ESZ** – Emergency Service Zone

**GIS** – Geospatial Information System

**GUID** – Globally Unique Identification

**MSAG** – Master Street Address Guide

**NENA** – National Emergency Number Association

**NG9-1-1** – Next Generation 9-1-1

**NRF** – No Record Found

**PSA** – Public Safety Agency

**PSAP** – Public Safety Answering Point

**RCL** – Road Centerline

**SSAP** – Site/Structure Address Point

**TN** – Telephone Number

**USPS** – United States Postal Service

**URI** – Uniform Resource Identifier

**URN** – Uniform Resource Name

## **Definitions**

**9-1-1 GIS Database** – is the geospatial database maintained and updated by the County that include, at a minimum, address points, road centerlines, Public Safety Answer Point (PSAP) boundaries, Emergency Service Boundaries (ESBs), and city limits (municipal) boundaries for the County's provisioning boundary.

**Address Characteristics** – are the logical, grammatical order of physical address elements which follow the National Emergency Number Association (NENA) and United States Postal Service (USPS) standards: Address Number, Pre-Directional, Street Name, Street Suffix, Secondary Unit Designator, Secondary Unit Number.

Example, the address characteristics of 525 E. Kneenah St., Apt. 2105 are:

<u>ADDRESS EXAMPLE</u>	<u>ADDRESS ELEMENT</u>	<u>ELEMENT DESCRIPTION: VALID 9-1-1 DATABASE ENTRIES</u>
525	Address Number	Numeric component of the street address.
E	Pre-Directional	Leading directional prefix: N, S, E, W, NE, NW, SE, SW.
Kneenah	Street Name	Official street name approved by the local government authority.
St	Street Suffix	Abbreviation of street type. Refer to <a href="#">USPS Pub. 28 Appx. C1</a> .
	Post-Directional	Trailing directional suffix: N, S, E, W, NE, NW, SE, SW.
Apt	Secondary Unit Designator	Additional Location information. Refer to <a href="#">USPS Pub. 28 Appx C2</a> .
2105	Secondary Unit Number	Alphanumeric designation associated with add'l location information.

**Address Location Identifier (ALI)** – is the automatic display at the Public Safety Answering Point (PSAP) of the caller's telephone number (TN), the address/location of the telephone and supplementary emergency services information of the location from with a 9-1-1 call originates.

**Address Number Identifier (ANI)** – is the telephone number associated with the call origination, originally associated with the access line of the 9-1-1 caller.

**Address Point (AP)** – refer to Site/Structure Address Point.

**Call Misroute** – is the term used to describe when a 9-1-1 call is routed to an incorrect Public Safety Answering Point (PSAP) due to a network or database discrepancy.

**Capital Area Council of Governments (CAPCOG)** – is a regional planning commission and political subdivision of the State of Texas organized and operating under the Texas Regional Planning Act of 1965, as amended, chapter 391 of the Local Government Code. The Executive Committee is the agency's governing body.

**Capital Area Emergency Communications District (CAECD)** – is a regional emergency communications district of the State of Texas organized and operating under Chapter 772,

Subchapter G of the Health and Safety Code, as amended. The CAPCOG Executive Committee serves as the district's Board of Managers.

**City Limit Boundary** – refer to Municipal Boundary

**Emergency Service Boundary (ESB)** – is a polygon data layer that represents the geographic area of responsibility for a Public Safety Agency within the geographic extent of the County's provisioning boundary. Each 9-1-1 GIS database includes, at a minimum, a law ESB layer, a fire ESB layer, and an emergency medical service (EMS) ESB layer.

**Emergency Service Number (ESN)** – is a number that is designated in the Master Street Address Guide (MSAG) based on physical address. 9-1-1 Call Centers (PSAPs) receive a display of the ESN information which shows which police, fire and rescue agency serves the telephone number calling 9-1-1.

**Emergency Service Responder** – refer to Public Safety Agency.

**Emergency Service Response Provider** – refer to Public Safety Agency.

**Emergency Service Zone (ESZ)** – is a polygon data layer representing the area within a provisioning boundary served by a unique combination of law, fire, and EMS responders. ESZs are optional for inclusion in the NG9-1-1 GIS database.

**Enhanced 9-1-1 (E9-1-1)** – is a telephone system which includes network switching, database and Public Safety Answering Point premise elements capable of providing automatic location identification data, selective routing, selective transfer, fixed transfer, and a call back number.

**Environmental Systems Research Institute (ESRI)** – is an international supplier of geographic information system (GIS) software, web GIS and geodatabase management application.

**Functional Classification** – is a system which define the role a street, or roadway, plays in the overall transportation system.

**First Responder** – is a peace officer, fire protection personnel, volunteer firefighter, emergency medical services personnel, emergency response operator, emergency services dispatcher or other emergency response personnel employed by an agency.

**Geospatial Information System (GIS)** – is an integration of hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

**GIS Data Layer** – is a group of geographic features that reside in a table of information with corresponding locations on the earth (map) represented as either points, lines, or polygons. Also known as a feature class.



**Globally Unique Identification (GUID)** – is a unique identifier that is assigned to each record (feature) in the COUNTY's 9-1-1 GIS database; a GUID uniquely identified a feature both within the COUNTY's 9-1-1 GIS database provisioning boundary and across all 9-1-1 GIS databases.

**Law Enforcement Agency (LE)** – is an agency of the State of Texas, or an agency of a political subdivision of the State authorized by law to employ peace officers.  
Refer: Texas Code of Criminal Procedure Section 59.01(5)

**Master Street Address Guide (MSAG)** – A database of street names and address ranges defining emergency service zones for 9-1-1 purposes. Maintained by county address coordinators via the database provider's portal.

**Metadata** – is a summary document which provides content, quality, type, creation, and spatial information about a dataset. It can be stored as a text file (TXT), extensible Markup Language (XML), or database record.

**Municipal Boundary** – is a polygon data layer representing the geographic extent of a city's administrative boundary, not including any extra-territorial jurisdiction

**National Emergency Number Association (NENA)** – is the national 9-1-1 Association which serves the public safety community as the only professional organization solely focused on 9-1-1 policy, technology, operations, and education issues.

**Next Generation 9-1-1 (NG911)** – is a system comprised of Emergency Services IP networks (ESInets), IP-based Software Services and Applications, Databases and Data Management processes that are interconnected to Public Safety Answering Point premise equipment. The system provides location-based routing to the appropriate emergency entity. The system uses additionally available data elements and business policies to augment PSAP routing. The system delivers geodetic and/or civic location information and the call back number.

The system supports the transfer of calls to other NG9-1-1 capable PSAPs or other authorized entities based on and including accumulated data. NG9-1-1 provides standardized interfaces for call and message services, processes all types of emergency calls including non-voice (multi-media) messages, acquires and integrates additional data useful to call routing and handling for appropriate emergency entities. NG9-1-1 supports all E9-1-1 features and functions and meets current and emerging needs for emergency communication from caller to Public Safety entities.

**NG9-1-1** – refer to Next Generation 9-1-1.

**No Record Found (NRF)** – is the condition where no Automatic Location Identifier (ALI) information is available for display at the Public Safety Answering Point (PSAP).

**Parity** – is the odd or even property of an integer. In address matching, parity, is used to locate a geocoded address on the correct side of the street (such as odd numbers on the south or east side and even numbers north or west side.)

**Primary Street Name** – is an essential street name element which is considered to be the parent name of the street.

**Provisioning Boundary** – is the authoritative polygon data layer that defines the COUNTY's geographic area of 9-1-1 GIS responsibility. This should be the entire extent of the COUNTY's administrative boundary, plus any other adjacent areas or minus areas within its administrative boundaries as agreed to between the COUNTY and another city or county. Provisioning boundaries may only be modified with express written concurrence between the COUNTY, adjacent PUBLIC AGENCIES, and CAPCOG.

**Public Safety Answering Point (PSAP) boundary** – is the authoritative polygon data layer representing the geographic area within a provisioning boundary served by a single 9-1-1 call center (PSAP) to which all emergency requests are initially routed.

**Public Safety Answering Point (PSAP)** – is a continuously operated communications facility that is assigned the responsibility to receive 9-1-1 calls and, as appropriate, to dispatch public safety services or to extend, transfer or relay 9-1-1 calls to appropriate public safety agencies.

**Public Safety Agency (PSA)** – is the division of a public agency that provides telecommunications/dispatch, law enforcement, firefighting, medical, or other emergency services, or a private entity that provides emergency medical or ambulance services. Also referred to as emergency service response providers or first responders.

**Road Centerline (RCL)** – is a data layer of lines estimating the centerline of a roadway that contains information such as road name, road classification, and address range.

**Site/Structure Address Point (AP)** – is a data layer of points identifying sites or structures associated with a street address, or the location of access to a site or structure, but may also represent landmarks.

The address number is the numeric component of a street address which proceeds the primary street name (example: 100 GRANITE DR).

The house number suffix or secondary number is an alphanumeric component of a street address that describe an apartment, room, suites, or other secondary addressing unit that is part of the property description by the house number. (Example: 256 WARD ST, APT A; 256 WARD ST #A.)

**Street Centerline** – refer to Road Centerline.

**Street Name** – is an identifying name given to a street that consists of one or more street name elements.

**Street Name Elements** – in proper logical order are the prefix directional primary street name, street suffix, and the post directional.

**Street Name Prefix Directional** – is a street name element which precedes the primary street name to indicate the primary direction of the street. For 9-1-1 purposes, the prefix directional is limited to a two-character maximum and shall be one of the eight NENA approved abbreviated directional indicators (i.e., N, E, W, S, NW, SW, NE, and SE).

**Street Post Directional** – is a street name element which describes the travel limited to a two-character maximum and describes travel direction (i.e., NB, EB, SB, and WB). Only major highways and their service roads have post directional.

**Street Suffix** – is a street name element which indicates the road type (e.g., ST, DR, AVE, etc.). For 9-1-1 purposes, the street suffix should be abbreviated according to [USPS Publication 28 Appendix C: C1 Street Suffix Abbreviations](#).

**United States Postal Service (USPS)** – is an independent agency charged with processing and delivering mail and with protecting the mails from loss, theft, or abuse in accordance with U.S. postal laws.

**Uniform Resource Identifier (URI)** – is a predictable formatting of text used to identify a resource on a network.

**Uniform Resource Name (URN)** – is a location independent identifier that is designed to be unique and persist over extended periods of time.