BuildingFootprintUSA

December 2020 API Release

Introduction:

The BuildingFootprintUSA API and Developer Portal is a new way for clients to access the billions of data points available from BuildingFootprintUSA. The platform is designed to make it easy for clients to:

- Explore our data and API at their own pace
- Learn about what's available and where
- Test how it will work in their applications
- Decide on the licensing level that fits their needs
- Power various business processes and applications

The API offers consistent access to the data needed to build solutions for insurance, financial services, telecommunications, commercial and residential real estate needs as well as many other industries. The fundamental ingredient to the underlying data is accurate building polygons that provide positioning, orientation, dimensions, elevation and height for more precise analysis. Tied to these polygons ("footprints") are thousands of attributes that facilitate answering hundreds of potential questions such as:

- Where exactly is this building located on the parcel?
- How close is this building to its neighbor?
- How far from the road is this structure?
- How many structures are there on this parcel?
- What is the primary construction material of this building?
- How much of this building is at risk of flood damage?
- How many businesses are in this building?
- What is the total estimated revenue of all of the businesses here?
- What are the characteristics like around this building complex?
- How many physical addresses are located within this building?
- What are the potential risks associated with this building?
- Is there line of sight between these buildings?

The API that provides access to this suite of data offers dozens of ways to interact with it from simple (tell me how many units there are at this address) to complex (tell me how many similar buildings there are within a half mile of this address) to extremely powerful (tell me about the level of fire risk for this set of buildings).

Key benefits for the developer:

1) One API opens access to everything BuildingFootprintUSA has to offer
2) One portal to find the core data required to build many solutions
3) One place for documentation, data dictionaries, API testing, support, examples and more

Key benefits for the business:

1) Full access to all data options with a-la-carte pricing to fit any budget
2) Full visibility into data usage, what is working and what is not to help drive better decisions
3) An open door to see new and cutting edge data from our growing partner network

What's available:

The API offers access to a broad set of building-centered geospatial and attribute data that may be used to solve a variety of business problems and enhance numerous applications and business processes.

Current Data Includes:

- **Address matching and geocoding**
  - Standardized addresses
  - Address units
  - Building rooftop geocoding
  - Intra-building geocoding
- **Addresses and identifiers**
  - Standardize and clean addresses
  - Determine all addresses and units at a location
  - Get identifiers to match addresses to other content
- **Structure information**
  - Building height
  - Identifiers
  - Land elevation
  - Property types
  - Structure points
- **Parcel information**
  - Area
  - Dimensions
  - Parking
  - Zoning
- **Assessment information**
  - Assessed values
  - Exemption information
  - Tax information
- **Building characteristics**
  - Construction
  - Rooms
  - Size and area
  - Utilities
- **Property sales**
  - Previous sales
  - Sales prices
  - Sales dates
- **Property owners**
  - Contact information
  - Owner names
  - Ownership type
- **Businesses**
  - Brand
  - Employee count
  - Expenses
  - Presence
  - Type

    - Revenue

- **Demographics**
    - Age
    - Education
    - Income
    - Net Worth
    - Occupation
- **Building polygons**
    - Individual polygons
- **Height and elevation**
    - Building height
    - Ground elevation
- **Risks and hazards**
    - Climate
    - Crime
    - Earthquakes
    - Fires
    - Floods
    - Hurricanes
    - Tornadoes
    - Weather
    - Wind
    - Volcanoes

What's on the horizon:

Additional content will continue to be integrated including unique, internally developed data, as well as data acquired from partnership and aggregated to BFUSA building polygons. We will continue to expose content and search capabilities that may include:

- Area lifestyle and segmentation data
- Residential and commercial property valuations
- Mortgage balance and lender data
- Trending for property values and sales
- Aggregate statistics on building characteristics
- Additional geographic boundaries
- Various distance calculations
- Additional area and property risk data
- Precise building, ingress and egress positioning
- Modeled building characteristics
- And many more attributes

What you can do with the API

The API was designed to support the following use cases and many more:

1) Geocode and standardize address information
2) Determine the addresses for a given property
3) Determine nearby properties with specific characteristics

4) Retrieve detailed parcel information for a given property
5) Retrieve detailed characteristics for specific properties
6) Determine property ownership information
7) Understand the most recent sales on any property
8) Determine the predominant demographics of an area
9) Understand the detailed characteristics of people in an area
10) Retrieve information about what businesses are in a building
11) Reveal specific attributes about the businesses in a building
12) Determine property tax rates, exemptions and amounts
13) Understand a property's assessed value
14) Retrieve the building footprint polygon for a specific structure
15) Retrieve building height and land elevation for a specific property
16) Determine the natural hazard risks associated with a building
17) Understand the crime risks and activities around a building
18) Determine the risks of fire and other potential dangers to a building
19) Augment property records with any of the thousands of attributes provided
20) Find records that match exact criteria with geospatial, text and numeric filtering options

Product Details:

The Developer Portal

You may access the developer portal at https://developer.buildingfootprintusa.com

You will find interactive API documentation, a full and searchable data dictionary, details about each content tier, explanations of the trial and commercial API license plans, an FAQ and other information to help you to understand and work with the API.

The Portal is designed to help both developers and business decision-makers to better understand the API, the Data and the Commercial terms associated with the various license plans.

For the Developer:

API Documentation - Interactive docs that allow you to review each method and test it within the portal. You may also search for specific capabilities to determine if the API provides the functionality you need. You may also view and download ("View Raw") the raw YAML or JSON specification for the API to import into your chosen developer tool.

Trial Sign-up - To test the API you will need a trial API Key which you can get by quickly signing up in one of over a dozen places in the portal. The trial license is designed to allow you to test and develop with the API for 30 days, limiting access for non-commercial usage.

Data Dictionary - Similar to the API documentation the data dictionary allows you to review the data attributes, structure, descriptions and data types. You can also search for specific content you may require to determine if it's available.

Getting Started - This step-by-step guide walks you through most of the important aspects of the portal, the API and the data. It also explains some of the terminology, commercial terms and plan details to help in the decision-making process.

Release Notes - This is the section where you found this document and where you'll continue to find updates as new methods, capabilities, data and features are released.

FAQs - We try to answer many of the questions we've received or expect to receive here but if a question is not answered then it's easy to reach us.

For the Business Person:

Content Tiers - This section describes how the content is structured in the API based on the type of content (e.g. public data, unique content, 3rd party data, etc.) and the value of that content. Each tier is priced based on the value of the content in it and all clients have access to all content. Clients only pay for what they access.

Usage Plans - There are multiple usage plans available to support various types of clients and usage. The free trial provides nn-commercial access for testing and development. The start-up plan provides commercial access with no minimum commitments. Both the business and enterprise plans provide enhanced levels of service, included transactions and volume and discounts off the standard "pay-as-you-go" fees.

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Signing Up

Portal visitors can sign up for a portal account and a trial access agreement within minutes. Click any link on the site that says "Get Started" or "FREE Trial" or "Try the API for FREE" and you will be able to create an account. One signed up you will receive an API key and a 30-day free trial. In the portal dashboard account holders will be able to see their company information, API key, the type of plan they're signed up for, a downloadable license agreement and the remaining time left on the license. It's also easy to upgrade from the account dashboard.

License Agreement

The Trial Agreement covers the terms specific to the initial trial period which allows for testing and development for 30 days or 1,000 transactions. The trial period provides flexibility to determine if the API provides what a company needs to solve their specific business problems. After the trail BuildingFootprintUSA staff can help an organization determine what plan and agreement best first their needs.

Support

There are numerous ways to request support from the portal but visitors may also ask questions or provide feedback using apisupport@buildingfootprintusa.com.

The API

There are currently 14 different content types within the API organized by the response resource (e.g. addresses, parcel, etc.). Many resources have multiple ways of interacting with them such as by address, by ID, etc. Some methods provide additional filtering capabilities like numeric filters (greater than, less than, equal to), text filters (enumeration values) and spatial filters (e.g. point and radius distance). In total there are currently 32 endpoints.

The top level methods are as follows:

- Address - Standardizes and geocodes a specific address input
- Addresses - Provides address information for a provided address or ID
- Structures - Provides information about the structures/buildings
- Parcels - Provides information related to the land parcel
- Assessments - Provides information related to the value and taxes
- Demographics - Provides information related to the people in the area
- Capabilities - Provides metadata about a method's search and filter capabilities
- Characteristics - Provides information about the property and building characteristics
- Sales - Provides information about real estate sales transactions on the property
- Owners - Provides locally filed ownership information for the property
- Businesses - Providers details about the businesses residing in a building
- Risks - Provides information about risks and hazards associated with a building

API Endpoints

The main API endpoint is available at https://api.buildingfootprintusa.com:443

Each method's endpoint is provided in the API test form in the portal.

API Key

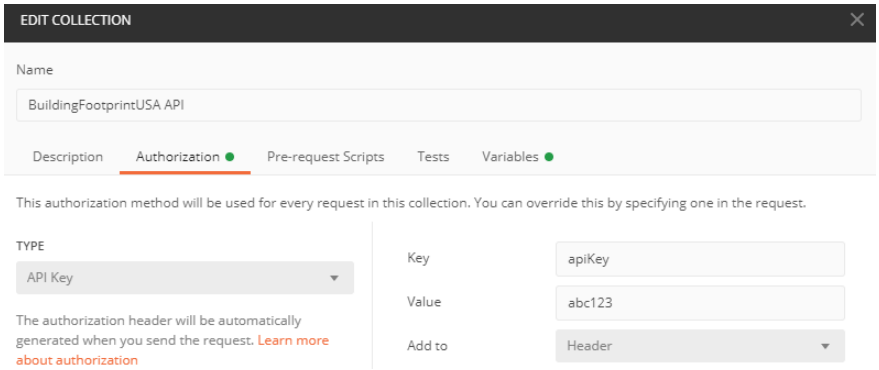
You will need an API key to test the API in the developer portal as well as to access the API directly. You may sign up from the portal and receive a trial API Key. Please note that it is the client's responsibility to use the API key securely and to protect it from unauthorized use. If the API Key is compromised please contact BuildingFoorprintUSA immediately so we may deactivate the key and issue a new one.

You may enter your key by clicking the **"Add Key"** button on any method in the developer portal in the **API Documentation** for testing.

Testing in Postman

If you wish to create a collection in Postman for testing purposes you may go to "**View Raw**" on the **API Documentation Page**, download the raw YAML or JSON and save the file to your machine.

Use the "Import" function in postman to import that file and a collection, called "BuildingFootprintUSA API", will be automatically created. Then, under Edit --> "Authorization" you may add your API Key.



Resources:

As described previously, there are 14 main content types and 32 methods that provide access to a variety of data resources using a number of search and filtering methods. These resources are described below in more detail.

Content Tier	Resource	Description
Geocoding	Address	Get a standardized address, precision geocode and set of IDs and metadata associated with an input address.
Essential	Addresses	Get address information, determine primary and sub-addresses. Get counts. Address entities may include: 1) Primary Address - represents the main address and will be the address associated with a structure. 2) Associated Address - additional addresses that may represent properties in a contiguous building 3) Sub-Address - represents the unit-level addresses that may be related to a primary address or associated addresses
Essential	Structures	Get structure information, height and elevation, structure polygons by ID retrieved from address search and by nearest to a point. Get counts and endpoint capabilities.
Essential	Parcels	Get parcel information associated with a parcel ID.
Essential	Assessments	Get assessment information associated with a parcel ID.

Enhanced	Characteristics	Get the building characteristics information associated with a parcel ID.
Enhanced	Sales	Get the last sale information including date, type and amount for a given property.
Enhanced	Owners	Get the latest owner information including name and address, relationship and owner type for a given parcel.
Enhanced	Businesses	Get the business or businesses related to a specific structure including name, classification, employee count, revenue and more for a given structure.
Enhanced	Demographics	Get the demographic characteristics of the ZIP+4 related to a structure.
Enhanced	Structures	Get the polygon (GeoJSON) associated with a structure ID.
Signature	Structures	Get the height and elevation information associated with a structure ID.
Signature	Risks	Get the risks and hazards associated with a specific structure including natural disasters, fires, man made hazards, weather and other potential perils.

Once you have made a request to the “Geocoding” or “Address” resource, you will have a set of IDs. Using the “structureID” you may retrieve structure information, risk information, business information and more. With the “parcelID” you can retrieve parcel information, assessment information, owner information, sales information and building characteristics.

The basic search types are by address, by point, by point and radius (nearest) and by ID.

You will find some specific input options on the nearest methods allowing you to specify the spatial reference identifier (SRID), the search distance and distance unit, the response distance unit and the spatial reference identifier for the response.

Some methods allow you to simply return record counts so you can determine how many records match your search criteria before retrieving the actual content.

Lastly, on the “Structures” resource you will find additional filter capabilities, specifically on the “nearest” search method. Here you may add specific filters to retrieve either counts or specific records that meet more complex search criteria.

Search By	Description
Address	Provide a fully formatted or parsed address
Address ID	Provide an address ID generated in a previous response
Structure ID	Provide a structure ID generated in a previous response
Parcel ID	Provide a parcel ID generated in a previous response
Nearest	Submit a latitude and longitude plus a desired radius to retrieve records within that radius
Nearest by Centroid	A high performing search for structures calculated using the distance to the centroid of the structure geometry.
Related To	Determine the related records from one type to another (e.g. structures related to an address).
Count	Generate record counts for a potential search to determine how many records may be returned with a filter set.

As we continue to build out the API, we will add resources, search methods, filters and more complex spatial capabilities enabling you to access precisely the records and content that matters.

Sample Addresses and IDs:

You may use the following addresses and IDs as a starting point for testing purposes.

Type	Address	addressID	structureID	parcelID
single family	2727 CAROLINA WAY, HOUSTON, TX, 77005	LeYVLwxy54rCeT0	76X6PH6H+JCH-4-2-5-3	48201-0601190110003
single family	6015 RUSTIC CREEK LN, KINGWOOD, TX	Lhnw0AQxf3usP10	86263V23+R9Q-6-4-4-3	48201-1177370110011
commercial	17400 SATURN LN, HOUSTON, TX, 77058	Le4vUAcGFYQM4P0	76X6HV4V+F7J-29-38-31-37	48201-0532780000003
commercial	3100 MAIN ST, HOUSTON, TX 77002	LeW3Egbf8JuD6g0	76X6PJRF+W43-12-15-14-14	48201-1236410000001
commercial	2625 COLQUITT ST, HOUSTON, TX 77098	LfRA5Qb5R1_XQg0	76X6PHMJ+R6R-7-10-4-10	48201-0381710000003
apartment	3255 LAS PALMAS ST, APT 329, HOUSTON, TX	Lel5vgXpN2WDim0Tvh8F0	76X6PHP4+JH3-16-23-14-25	48201-1164320010001

commercial	4200 SAN FELIPE ST	LeljMA-OSxQ8pR0	76X6PHW2+R68-4-15-5-16	48201-0451400010220
commercial	501 CRAWFORD ST, HOUSTON, TX	LeWa4Q2u3IGzs-0	76X6QJ4V+WVC-59-54-58-58	48201-0011020000001
single family	8724 CAVELL LN, HOUSTON, TX	Le3CzA9G5FFWZj0	76X6QFPW+FFP-4-3-4-4	48201-0810630000003
commercial	9100 WESTVIEW DR, HOUSTON, TX 77055	Le3CBAODoolL0f0	76X6QFVP+V5H-5-10-6-10	48201-0730330020007

Data Coverage:

The geographic coverage for the API is the United States. For a detailed data dictionary please review the **Data Dictionary**.

Data covers approximately 1,500 counties which represents about 85% of the total U.S. population.

https://www.buildingfootprintusa.com/buildingfootprintusa-credits

Contact Information:

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