



*Pitney Bowes® School Boundaries
Product Companion Guide*

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Further Information

Pitney Bowes Inc.,
35 Railroad Row
White River Junction,
Vermont, USA 05001

If you have any questions or concerns, you may contact our support team directly by calling **800.762.5158** or by emailing software.support@pb.com

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Providing Feedback

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Please register to use the Pitney Bowes® Feedback Platform by visiting:
<http://feedback.maponics.com/>

School Boundaries

Product Companion Guide

Product Description

School Boundaries is a comprehensive dataset of U.S. school points, school districts and school attendance zones. A dedicated team of editors work at the school district level to rooftop validate school points and create and update district and attendance zone polygons based on the latest definitions, sourced at the local level. The School Boundaries product includes a number of useful school related attributes and reference ID's from the NCES (National Center for Education Statistics) and GreatSchools® in order to join ratings information.

School Boundaries Build Methodology

School boundary construction starts with collecting GIS data, map images or address lists from school districts or individual school websites. These serve as the basis of our School Attendance Zone (SAZ) boundaries. School locations are rooftop validated based on satellite imagery. Additional attribution fields are populated with school data from the National Center for Education Statistics (NCES) as well as other third-party data sources.

Regional Compilation Variations

Across the U.S., school districts organize their attendance patterns in a myriad of ways – from representing sparse student population to the need to accommodate high concentrations of students in a small geographic area. Pitney Bowes strives to employ a consistent boundary creation methodology, however, in rare cases, alternative ways of constructing school geographies are used to best reflect the source information.

School Boundaries Geography

School Districts

School districts are the administrative entities that manage operations and budgeting of public schools in a geographic area.

Primary School Districts

Primary school districts administer one or more public schools serving students in grades Pre-kindergarten – 5 or Pre-kindergarten – 8.

Secondary School Districts

Secondary school districts administer one or more public schools serving students in grades 6 - 12 or 9 – 12.

Unified School Districts

Unified school districts administer one or more public schools serving students in grades Pre-kindergarten - 12.

Coextensive School Districts

Coextensive school districts can represent any of the above (Primary, Secondary, or Unified districts) administrative structures, however there is generally only one school per grade in the school district, serving the entire school district, with no overlap between grade ranges.

Overlapping School Districts

In some regions, elementary and secondary schools are administered by separate school districts; thus, multiple school districts share that area and overlap. This scenario is only applicable when there is not a unified district (covering grades Pre-kindergarten – 12) that covers the region.

School Attendance Zones

School Attendance Zones serve as the student catchment areas for public schools in a school district. SAZs help to apportion students within a school district based on address, student population, and available district/school resources.

Schools with More than One Attendance Zone

In some cases, it is necessary to create multiple school attendance zones for a public school because a school serves students spanning multiple education levels. For example, Lake City Community School in Lake City, CO serves students from grades Kindergarten thru 12th grade. In the Pitney Bowes School Boundaries product SAZ data layer, the Lake City Community School is represented with three separate boundaries; one serving the primary education level, one serving the middle school education level, and one serving the high school education level.

Much less frequently this can happen when a specific grade range in a school comes from a different geographic area than the rest of the school. Generally, this situation is encountered when students are being transitioned from one school to another, over a period of several years.

Multipart School Attendance Zones

School attendance zones may, in some cases, be represented by a multipart polygon. These multipart polygons share the same ID and function as any other single-part polygon.

Attendance Zones that Cross District Boundaries

School attendance zones may cross school district boundaries. This occurs when a high school serves the students from surrounding school districts or when there are different school districts for primary and secondary schools.

School Choice

School choice has become an increasingly common phenomenon in the US education system. Some of the most common examples of choice are:

- Zoned School Choice – Characterized by overlapping School Attendance Zones, where an additional process is utilized to determine the ultimate school to which the student is admitted.
- Complete School Choice – Students are allowed into any school within the district, as long as there is sufficient capacity at the school.
- Geographically Preferred School Choice – Students living in close proximity to the school are given preference over those students in the district living further away from the school.

For the purposes of the School Boundaries product, school choice means that students and families of students are able to choose, in one capacity or another, where they will attend public schools in their district.

Due to the wide array of systems school districts use to implement choice, Pitney Bowes offers an attribute, associated with the school point, that, over time, will allow our customers to identify those schools that participate in a school choice program. This true/false attribute field will be populated gradually, as we encounter choice schools during regular maintenance activities. Choice schools will not be represented in the attendance zone data layer.

School Points

Private Schools Serving Public School Students

While not a frequent occurrence, there are some private schools that fill the role of a public school within a school district. An example of this is Thetford Academy in Thetford, VT. Thetford Academy is a private school that accepts tuition for scholastic services, however, this school also serves as the public high school for the towns of Thetford and Strafford, VT, and Lyme, NH. In this role, Thetford Academy has contracted with these three communities and waives tuition for students living in Thetford, Strafford, or Lyme. Within the Pitney Bowes School Boundaries product these schools are generally represented in the public school data layer.

NCES School and District IDs

Assigned and maintained by the NCES, the NCES School and District IDs are provided in the product to assist Pitney Bowes customers in joining school locations and school districts to NCES datasets. The NCES IDs are unique, however, they are not persistent, which means they can and do change from time to time. The NCES changes school or district IDs because of school or district name changes, district consolidation, district division, among other reasons.

In the case of school districts, the NCES ID is a unique, seven-digit ID. Public schools have a longer, unique, 12-digit ID, consisting of the NCES district ID, which constitutes the first 7-digits. The remaining 5-digits are the ID assigned to the school by the NCES. For example:

0602850	00215
NCES District ID	NCES School ID
Unique NCES School ID	060285000215

When a new school is identified for which the NCES does not yet have a record, Pitney Bowes manufactures a placeholder NCES ID using the NCES district component as well as a proxy ID. At such a time the NCES reflects the new ID the manufactured ID is retired and replaced with a standard NCES ID.

For example:

0902790	XXX02
NCES District ID	Proxy ID
Placeholder NCES School ID	0902790XXX02

Tip: The assigned state can be determined by looking at the first two digits of a public school/district NCES ID. For example, an ID starting with '06' would be located in California.

GreatSchools® IDs

Many companies that use school data choose GreatSchools as their provider for school testing data, classes offered, and contact information. Pitney Bowes has partnered with GreatSchools to provide a link from the School Boundaries data to the GreatSchools data to assist in integration processes. The GreatSchools information can be linked to the Pitney Bowes School Boundary data at the district level or at the school level using the Object ID. (see *"Retrieving the GreatSchools" in the Common Actions section of this document*)

Pitney Bowes School Rankings

The Pitney Bowes School Rankings product, available separately, represents statewide school performance rankings and test scores. Coupled with the public school point data, this information offers a comprehensive view of the public schools throughout the United States.

The School Ranking information may be joined to the public school point information using the school point Object ID.

Pitney Bowes School Ground Boundaries

Available as separate product, Pitney Bowes School Ground Boundaries offers the geographic extent of the school campus for public schools. The product, containing elementary, middle, and high school campus boundaries across the United States, provides accurate geo-fences that inform and drive public safety, social, notification, and advertising applications.

Common Actions– Pitney Bowes School Boundaries

1. Retrieving state information

Join the Census table to the school points Objects table (using the obj_id field). This join will provide all the Census information for the objects such as the State, Place, or County names the object falls within.

2. Retrieving the NCES ID

To retrieve the NCES ID of a school point object or an attendance zone object, join the Objects table to the Primary Attributes table, using the obj_id. This join will provide the NCES school ID, the NCES district ID, as well as many other attributes.

To retrieve the NCES ID for a school district object, the procedure is the same, however in this case, the school districts Object table would be used.

3. Retrieving the GreatSchools ID

Public Schools: To retrieve the GreatSchools school ID of the school point, join the Objects table to the Primary Attributes table, using the obj_id.

School Districts: To obtain the GreatSchools ID of the school district, join the Objects table to the Primary Attributes table, again, using the obj_id.

4. Join 1:Many tables to the Objects table

For the available database formats, an Inner Join operation should be used to relate all the records in the 1:Many table to the object with the matching obj_id. For SHP format, a relate operation should be used in the GIS software that the data is being used within.

Frequently Asked Questions

What if there is only one elementary or middle or high school in a district?

In these cases where there is only one school serving students at a certain education level or grade range, the attendance zone is coextensive with the school district. In product, we represent both the district boundary and an SAZ boundary that mirrors the district boundary.

What is a supervisory union?

A supervisory union provides administrative services to client districts through a common superintendent. For example, the School Administrative Unit (SAU) 29 in New Hampshire is comprised of seven independent school districts. In this example, the SAU29 is responsible for managing the collective budget of all districts, maintaining all facilities, coordinating the activities of the seven independent school boards, and supervising the educational program for the students in all seven districts.

In other areas, districts band together in supervisory unions in order to provide services they cannot offer or cannot afford on their own. Supervisory unions are very common in states like New Hampshire and Vermont. Note that not all supervisory unions are represented in the School Boundaries product, which only includes the few supervisory unions that directly operate schools.

Does Pitney Bowes have 100% coverage of School Attendance Zones (SAZs)?

No, Pitney Bowes does not have SAZs for all schools. While we research defining SAZs for all public schools, there are two primary situations where we are unable to do so:

1. We are unable to locate an official resource for the school boundary information from the district, the school, or local or state government. Without such official resources, we cannot create SAZs.
2. A School may be a “choice” school, meaning that it has no geographic area defining student attendance.

In addition, Pitney Bowes does not create attendance zones for private schools or other schools, such as juvenile detention centers, virtual schools, etc., that do not have geographic attendance areas associated with them.

Maponics to Pitney Bowes School Boundaries Field Map

Public School Points

Maponics Field Name	Pitney Bowes Field Name	Pitney Bowes School Boundaries Table
mx_id	n/a	n/a
nces_disid	nces_disid	School Points Primary Attributes Table
nces_schid	nces_schid	School Points Primary Attributes Table
district	obj_name	School District Objects Table
sch_name	obj_name	School Point Objects Table
ed_level	ed_level	School Points Primary Attributes Table
sch_type	school_typ	School Points Primary Attributes Table
mail_addr	n/a	n/a
mail_city	n/a	n/a
mail_state	n/a	n/a
mail_zip	n/a	n/a
phone	phone	School Points Location Table
location	address	School Points Location Table
loc_city	city	School Points Location Table
loc_state	state_prov	School Points Location Table
loc_zip	post_code	School Points Location Table
lat	lat	School Points Objects Table
lon	lon	School Points Objects Table
relver	reldate	School Points Objects Table

Private School Points

Maponics Field Name	Pitney Bowes Field Name	Pitney Bowes School Boundaries Table
mx_id	n/a	n/a
emptycol1	n/a	n/a
emptycol2	n/a	n/a
sch_name	obj_name	School Points Objects Table
ed_level	ed_level	School Points Primary Attributes Table
sch_type	school_typ	School Points Primary Attributes Table
address	address	School Points Location Table
city	city	School Points Location Table
state	state_prov	School Points Location Table
zip	post_code	School Points Location Table
phone	phone	School Points Location Table
lat	lat	School Points Objects Table
lon	lon	School Points Objects Table
relver	reldate	School Points Objects Table

School Attendance Zones

Maponics Field Name	Pitney Bowes Field Name	Pitney Bowes School Boundaries Table
mx_id	n/a	n/a
nces_disid	nces_disid	School Attendance Zones Primary Attributes Table
nces_schid	nces_schid	School Attendance Zones Primary Attributes Table
sch_name	obj_name	School Attendance Zones Objects Table
ed_level	ed_level	School Points Primary Attributes Table
relver	reldate	School Attendance Zones Objects Table
color	n/a	n/a

School Districts

Maponics Field Name	Pitney Bowes Field Name	Pitney Bowes School Boundaries Table
mx_id	n/a	n/a
nces_disid	nces_disid	School Districts Primary Attributes Table
suprv_id	supr_id	School Districts Primary Attributes Table
distname	obj_name	School Districts Objects Table
distwbsite	dist_url	School Districts Primary Attributes Table
dist_type	dist_typ	School Districts Primary Attributes Table
dist_schs	dist_schs	School Districts Primary Attributes Table
dist_enrl	dist_enrl	School Districts Primary Attributes Table
coextensiv	coextensive	School Points Primary Attributes Table
part_cov	n/a	n/a
color	n/a	n/a
state	n/a	n/a
statefips	n/a	n/a

Core Attributes

Maponics Field Name	Pitney Bowes Field Name	Pitney Bowes School Boundaries Table
mx_id	n/a	n/a
nces_disid	nces_disid	School Points Primary Attributes
nces_schid	nces_schid	School Points Primary Attributes
urbanrural	n/a	n/a
students	students	School Points Primary Attributes
teachers	teachers	School Points Primary Attributes
kinder	kg	School Points Primary Attributes
first	first	School Points Primary Attributes
second	second	School Points Primary Attributes
third	third	School Points Primary Attributes
fourth	fourth	School Points Primary Attributes
fifth	fifth	School Points Primary Attributes
sixth	sixth	School Points Primary Attributes
seventh	seventh	School Points Primary Attributes
eighth	eighth	School Points Primary Attributes
ninth	ninth	School Points Primary Attributes
tenth	tenth	School Points Primary Attributes
eleventh	eleventh	School Points Primary Attributes
twelfth	twelfth	School Points Primary Attributes
low_grade	low_grade	School Points Primary Attributes
high_grade	high_grade	School Points Primary Attributes
gender*	gender*	School Points Primary Attributes
state	state	School Points USA Census Table
statefips	statefips	School Points USA Census Table
county	county	School Points USA Census Table
mcd	mcd_ccd	School Points USA Census Table
mcdfips	mcdfips	School Points USA Census Table
place	place	School Points USA Census Table
placefips	placefips	School Points USA Census Table
relver	reldate	School Points Objects Table

**Gender is associated with private schools only*

GreatSchools School IDs

Maponics Field Name	Pitney Bowes Field Name	Pitney Bowes School Boundaries Table
mx_id	n/a	n/a
nces_schid	nces_schid	School Points Primary Attributes Table
statefips	statefips	School Points Location Table
grtschl_id	grtschl_id	School Points Primary Attributes Table
relver	reldate	School Points Objects Table

GreatSchools District IDs

Maponics Field Name	Pitney Bowes Field Name	Pitney Bowes School Boundaries Table
mx_id	n/a	n/a
nces_disid	nces_disid	School Districts Primary Attributes Table
statefips	statefips	School Points USA Census Table
grtschl_id	grtschl_id	School Points Primary Attributes Table
relver	reldate	School Points Objects Table