

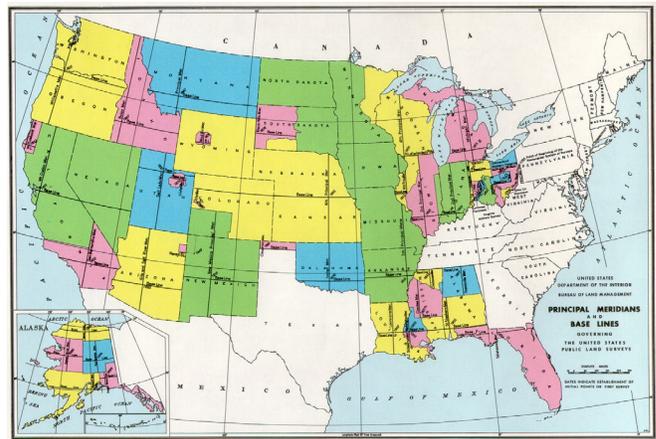
Public Land Survey System in Utah

Maps of landownership or even of rural road systems in Utah show that much of the state is divided into rectangles (like a checkerboard). Have you ever wondered why?

In 1784, Thomas Jefferson proposed to Congress that land be surveyed before any land was sold. He wanted a logical system to identify parcels of land and avoid the difficulties of the metes and bounds system that was in use. Several laws were adopted by Congress from 1836 to 1875 which provided that land be divided into rectangular parcels before it was sold. It is known as the US Public Land Survey System (PLSS). The system applies to most of the United States except the original 13 colonies, Texas, Hawaii, Kentucky, Tennessee, and West Virginia.

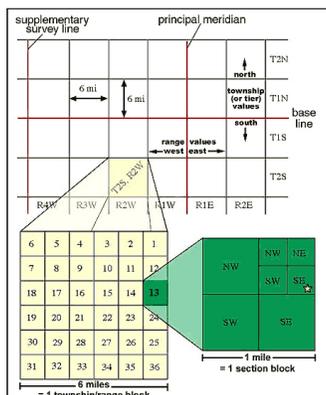
Each survey begins at an initial point (analogous to the origin of a Cartesian coordinate system). There are 38 of these points in the United States. Each has a name. From the initial point, a principal meridian line is run north and south (analogous to the Y-axis of the coordinate system) and a base line east and west (analogous to the X-axis).

The checkerboard grid for most of Utah¹ begins at an initial point located at the southeast corner of Temple Square in Salt Lake City. The north-south line from that point is known as Salt Lake Meridian. The area covered by Salt Lake Meridian stretches from Idaho to Arizona and from Utah to Colorado. From the initial point, 6 mile x 6 mile squares known as townships are laid out in each quadrant of the surveyed area. Townships are numbered north or south of the base line. Ranges (or a column of townships) are numbered east and west of the principal meridian. For example, Township 4 North, Range 5 East, Salt Lake Meridian, is the fourth row of townships north of the base line and the fifth column east of the prime meridian.



Map showing the 38 initial points in the United States

Each township is divided into 36 sections which are 1 mile x 1 mile and contain 640 acres. Numbering of sections begins at the northeast corner of the township and ends at the southeast corner. The numbers run in alternate lines east to west then west to east, etc.



Divisions and subdivisions of a township

Each section may be subdivided into smaller parcels (aliquot parts). For example, a 20-acre parcel could be described as S $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 5, Township 2 North, Range 3 East, Salt Lake Meridian. Translated that is the south half of the southeast quarter of the southeast quarter of Section 5 in Township 2 North, Range 3 East from the initial point. The Homestead Act of 1862 that granted 160 acres to a head of household was based on the Public Land Survey System. In other words you would get a quarter of a section ($\frac{1}{4}$ of 640 acres).

The resulting checkerboard is not perfect because north-south lines converge toward the north pole so corrections are generally made at least every 24 miles.

The area surveyed by the PLSS reflects the superimposed grid on the landscape. Road and highways often follow section and township boundaries as to property lines. With few exceptions, the grid is blind to natural features. Lines continued over mountain ranges, deserts and rivers. Even boundaries of national parks, forests and wilderness area frequently do not follow “natural” boundaries but instead follow PLSS survey lines.

¹ Portions of Duchesne, Uintah and Wasatch Counties have a different initial point in Duchesne County and known as Uintah Special Meridian.