

Approved: 3/1/95
Date

MINUTES OF THE SENATE COMMITTEE ON GOVERNMENTAL ORGANIZATION

The meeting was called to order by Chairperson Al Ramirez at 1:30 p.m. on February 16, 1995 in Room 531-N of the Capitol.

All members were present except:

Committee staff present: Julian Efird, Legislative Research Department
Fred Carman, Revisor of Statutes
Jacqueline Breymeyer, Committee Secretary

Conferees appearing before the committee: Dennis Shreves, Regional Director, National Society of Professional Surveyors
Murray L. Rhodes, Wyandotte County Surveyor

Others attending: See attached list

Chairman Ramirez called the meeting to order at 1:37 p.m. The agenda for the day was:

SB 251--Kansas state plane coordinate system

The Chairman called on Dennis Shreves, National Society of Professional Surveyors, to begin his presentation. Mr. Shreves distributed copies of his testimony. (Attachment 1) Mr. Shreves stated that for large scale surveys it becomes necessary to consider the curvature of the earth. To solve the problem of working over large areas, the State Plane Coordinate System was developed by the US Coast and Geodetic Survey (today the National Geodetic Survey). Mr. Shreves listed six reasons in his testimony for adopting the use of state plane coordinates.

In conclusion, Mr. Shreves stated that 46 states have enacted statutes that legally adopt and define the name of the State Plane Coordinate System used within their borders.

In response to a question from one of the committee, Mr. Shreves stated the practice in use now was started in the 1850s. There are still set rules to follow in the methods of locating property. The original monument still has to be looked for, and if it can be found, determine the state plane coordinates. Fifty years from now it should be easier for the next person to find the monument. Mr. Shreves responded that this would in no way change a person's property; a surveyor cannot do that.

Mr. Shreves was asked the impact of deleting the "Kansas coordinate system 1927 north zone" and adding "Kansas coordinate system 1983 south zone." He replied that the 1983 system is based on stronger data that has been determined by satellites. The '27 system which was developed in 1933 was very good from the 1930s through the 1970s, but technology has improved to the point that where they are now, the '27 points are off a little bit.

Mr. Shreves was asked what the impact of the bill was relative to these individuals - surveyors, mappers, and engineers.

Mr. Shreves replied that it gives a solid base to work from; these points are incurred in using geodetic techniques that are as close as we can possibly get using existing technology. Using the piece of limestone as the point, if that piece of limestone can be found and put the state plane coordinates on it, it makes it even better.

Mr. Shreves was asked if the individuals involved would have to buy a new system. He replied that they are not required to do so. He also replied that passage of this act would utilize this system in the State of Kansas.

Another question asked of Mr. Shreves was, are the GIS people already using this. He replied some are and some are not; those that are not should be.

CONTINUATION SHEET

MINUTES OF THE SENATE COMMITTEE ON GOVERNMENTAL ORGANIZATION Statehouse, at 1:30 p.m. on February 16, 1995.

In response to the question if he knew of anyone who would be opposing this, Mr. Shreves responded that he did not think so, although the UTM people in the national parks think they have a better system.

Mr. Shreves was asked how this would affect abstracts and how they are presently done. He replied that most descriptions in Kansas do not reflect any type of coordinate system. It will be the same abstract language. The coordinates are used to do the job better.

Murray Rhodes, Wyandotte County surveyor, addressed the bill. He read from his testimony (Attachment 2) He referred to land corners from which land title stemmed and stated the repositioning of these corners tends to be subjective by individual surveyors. The state coordinate system would provide a repeatable framework for the position of each corner established. There are many positions established from a corner from individual surveyors, or by surveyors with no accountability as to where they came from; that is the problem. The state plan coordinate system would give accountability to the geographic position of corners established by surveyors. This type of system would provide a solid framework for Geographic Information Systems and Land Information Systems.

Mr. Rhodes stated that the most profound issue here is that this kind of system would be a supplemental framework to what already exists. It is not going to disturb anything that is already in place.

Mr. Rhodes stated that 46 states already have this type of legislation.

Mr. Rhodes was asked if anyone had contacted the abstract people and the title people. The commercial process should not be slowed down to make it easier for the surveyors. Mr. Rhodes replied that this has nothing to do with that at this point.

The United States Public Land Survey system will always be the legal system; this just gives it a better reference framework.

In reply to the question of why Kansas is finally getting this after the eastern states, Mr. Rhodes replied that what is driving this right now is bringing us into the twenty-first century; this will bring more credibility.

Wyandotte and Shawnee Counties are the only counties that have elected official surveyors. In 1854 when the first territorial offices were created, these were one of the first offices created. In the early 60s these offices were legislated out of existence. This was mainly because there were other areas in the law that allowed for county surveyors to be appointed.

George Barbee, Kansas Consulting Engineers, spoke of concerns with the bill. He commented on the "pins" used in location and asked what would be used - something invisible or a pin in the establishment of a coordinate.

In replying to Mr. Barbee's question, Mr. Rhodes used the example of a bomb being dropped on the city of Topeka, wiping out all the property corners, but the state plane coordinate system was in effect. Because all those property corners were already positioned against those coordinates, those positions could be replaced exactly where they were in their identical spot. Without this system it would be very difficult.

The Chairman stated that the bill would be on next Thursday's agenda. All interested parties should get together and iron out their concerns with the Revisor, including any amendments.

The question was asked, why haven't those states that haven't adopted this system, adopted it. The response was that naivete probably plays a part, but what is driving this is the Property Valuation Department.

It was commented that flights have identified properties in Kansas that are not on the tax roles.

One of the Committee used an example of establishment and the system. It can be assumed that it has been established that there is a stake in the ground. The system establishes where that stake actually is. The stake can be taken out of the ground and thrown away. A person could go back the next year and place a stake in the exact position.

The Chairman asked the interested parties to be prepared when the bill is taken up again next week.

The meeting was adjourned at 2:15 p.m.

The next meeting is scheduled for February 20, 1995.



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February 16, 1995

To: Senate Committee on Governmental Affairs
From: Professor Dennis D. Shreves, PLS
Regional Director
National Society of Professional Surveyors
RE: SB-251

Mister Chairman and members of the committee. My name is Dennis Shreves, and I am the Regional Director for the National Society of Professional Surveyors. I also teach the subject of surveying at Kansas State University - Salina. I am here this afternoon to urge your support for Senate Bill 251.

The majority of surveys performed by the practicing surveyor cover a relatively small area, and the work can easily be performed using the assumption that the earth is flat. Plane coordinate systems are used for the design and layout of subdivisions, construction staking, traverse plotting, and boundary computations. Surveyors and mappers are normally very familiar with plane coordinate systems and their applications to surveys.

For large scale surveys it becomes necessary to consider the curvature of the earth. This is normally done by means of geodetic surveying in which relative positions are expressed by geodetic coordinates (latitude and longitude). Calculations for this type of survey involve the use of spherical (ellipsoidal) trigonometry and tend to be tedious and involved, even with a computer. For the practicing surveyor geodetic calculations and surveying techniques require more effort than they tend to be worth.

To solve the problem of working over large areas, the State Plane Coordinate System was developed by the US Coast and Geodetic Survey (today the National Geodetic Survey). This system eliminates the need for an extensive knowledge of geodesy. Using the state plane coordinate system computations can be made using standard coordinate geometry formulas. The USGS developed the SPCS for each state, beginning with North Carolina in 1933.

*Senate Governmental Org.
Attachment 1*

2-16-95

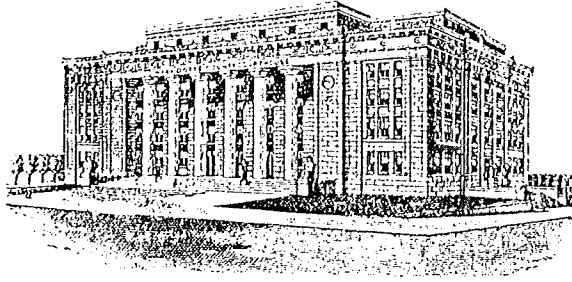
The State Plane Coordinate System provides a common reference datum for horizontal control over large areas. This system can easily be adopted by all surveyors and mappers. Currently, in any given locality we tend to find many surveys each using assumed and unrelated coordinate systems. Its easy to imagine the benefits that could be derived if all surveyors and mappers used the same system. Highway construction projects could be tied to property surveys; mapping projects could be related to subdivision work; utility companies could locate their underground services with the same system used by counties, cities and the state. The list goes on. Several municipalities and agencies already require the use of this system.

A list of reasons for adopting the use of state plane coordinates would include the following:

- 1) These systems provide surveyors and mappers with a network of control established by geodetic surveying. These points can be used for the coordination of surveys, checking the work, and the reestablishment of lost points.
- 2) Once state plane coordinates are applied to a property corner, that corner can never be lost. In effect, it has been keyed in to the network established by the National Geodetic Survey.
- 3) Long traverses can close on distant control stations that use the same system.
- 4) Independent surveys using the same coordinate system can easily be tied to each other. If, for example, a public utility used state plane coordinates to locate its pipe lines any other government or private agency using the same system would have little difficulty locating those same lines.
- 5) The use of grid north has several distinct advantages over geodetic north, not the least of which is that its easier for clients and the non-surveying public to understand.
- 6) In general, the use of coordinate geometry for solving mathematical applications in surveying and mapping is more efficient that using traditional trigonometric techniques.

Forty-six states have enacted statutes that legally adopt and define the name of the State Plane Coordinate System used within their borders. In those states, land descriptions are possible which refer to the system by name, and call out the coordinates of specific points within the parcel.

Thank you for allowing me to address you regarding this bill.



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STATEMENT TO THE
SENATE COMMITTEE ON GOVERNMENTAL
ORGANIZATION
SENATOR AL RAMIREZ, CHAIRMAN

by

MURRAY L. RHODES, WYANDOTTE COUNTY
SURVEYOR

FEBRUARY 16, 1995

RE: SENATE BILL No. 251 - AN ACT relating to the Kansas state
plane coordinate system.

Mr. Chairman and Members of the Committee: My name is Murray L Rhodes. I am a licensed professional land surveyor and am the current Vice chairperson of the Kansas State Board of Technical Professions. In addition, I am the president of Rhodes Surveyors, PA and the Executive Director of the Wyandotte County Base Mapping Program, a parcel level land information system. I come before you today as the Wyandotte County Surveyor an elected official. Thank you for the opportunity to present testimony on Senate Bill No. 251.

The United States Public Land Survey System in the state of Kansas is the source of title to all land in our state. When the original corners were established in the 1850's and 1870's no geographic positions were established for these important land corners from which land title stemmed.

The repositioning of these corners tends to be subjective by individual surveyors. The state coordinate system would provide a repeatable framework for the position of each corner established.

*Senate Governmental Organization
Attachment 2
2-16-95*

With the advent of new technology i.e. Global Positioning Systems, positions of public land corners can be located with 5 (five) centimeters. This type of coordination will provide a solid spacial framework for the public land survey system. Now the public is at the mercy of the opinion of individual land surveyors concerning the retracement of these corners which control the title to land. The state plane coordinate system would give accountability to the geographic position of corners established by surveyors.

In addition, this type of system would provide a solid framework for Geographic Information Systems and Land Information Systems. These systems have been developed and are being developed by cities and counties throughout the State of Kansas without repeatable solid frameworks. This legislation would give accountability to the public of Kansas concerning the foundation of these systems.

Accordingly, accompanying this statement is a proposed amendment to Senate Bill No. 251.

As a public official I appreciate the opportunity to appear before you today. Thank you for your consideration of my comments.