



American Railway Engineering and  
Maintenance-of-Way Association

*Presents*

# RAILROAD SURVEYING 101

FUNDAMENTALS FROM THE RAILROAD PROFESSIONAL'S PERSPECTIVE

FOR

THE SOCIETY OF LAND SURVEYORS OF IOWA



SLSI ANNUAL Workshop

SCHEMAN CENTER – IOWA STATE UNIVERSITY (AMES, IA)

JANUARY 18, 2008



[www.f-w.com](http://www.f-w.com)



# Safety (AREMA C-24)

## MODULE 1

- Surveyor's Right of Entry vs. 49CFR214
- Why "On Track Safety"

- IOWA SURVEYOR RIGHT OF ENTRY NOT CLEAR WITH EXCEPTION FOR FEDERAL LEVEL AND RIGHT OF WAY SURVEYS (Iowa CH 542B, 354 & 355)

# Response to Iowa Statute Code

- IF the surveyor is there without the knowledge and permission of the railroad, he/she is a trespasser at the federal level under 49 CFR 214....You can only be a roadway worker, an operating employee or a trespasser under the federal regulations (no exceptions shown in the rule)
- What qualifies him as a “roadway worker” under 49CFR214? (NOT Railroad Rules qualified, no evidence of annual training by a railroad common carrier)
- Homeland Security issue / you became a threat to Interstate Transportation? (like RailFans?)
- OSHA has limited jurisdiction on RR R/W, FRA assumes lead role (If no OSHA rule, FRA rule then holds where appropriate.) Injury on RR R/W becomes a railroad statistic.)

8 HARVARD SUBDIVISION									
Scheduled trains between Chicago and Harvard are shown in Commander Operations Data Schedules Radio Dispatch - 5282									
Mile Post	SOUTH	STATIONS	NORTH	Sta. No.	Max. Speed	MPH	MP	MP	MP
319.8	CHICAGO	HEIDENBURG		149143	34.4	30	MP 91 to MP 87.5		
318.1		ROCK SPRING		149156	34.3	30	(Except as noted)		
148.8		HARDING		149130	34.0	30	MP 85 to MP 83.0		
148.3		CLINTON JCT		149099	33.9	30	MP 84 to MP 82.0		
147.1		HARVARD		149063	33.7	30			

9 HARVARD SUBDIVISION									
Business Trains									
Mile Post	SOUTH	STATIONS	NORTH	Sta. No.	Max. Speed	MPH	MP	MP	MP
147.1		HARVARD		149063	33.7	30	MP 91 to MP 87.5		
146.7		JANESVILLE		149089	33.6	30			
145.9		WOODSTOCK		149151	33.5	30			
145.1		CRYSTAL LAKE		149140	33.4	30			
144.3		CRYSTAL LAKE		149140	33.4	30			
143.5		CRYSTAL LAKE		149140	33.4	30			
142.7		CARY		149109	33.3	30			
141.9		FOX RIVER GROVE		149107	33.2	30			
141.1		ELGIN		149076	33.1	30			
140.3		TEH BARRINGTON		149051	33.0	30			
139.5		PALATKA		149027	32.9	30			
138.7		ARLINGTON PARK		149024	32.8	30			
137.9		ARLINGTON HEIGHTS		149021	32.7	30			
137.1		MT PROSPECT		149021	32.7	30			
136.3		SEEGLE		149028	32.6	30			
135.5		CUMBERLAND		149013	32.5	30			
134.7		DEAL		149012	32.4	30			
133.9		DES PLAINES		149011	32.3	30			
133.1		DEER BEND		149013	32.3	30			
132.3		PARK RIDGE		149014	32.2	30			
131.5		ELSTON PARK		149013	32.2	30			
130.7		NORWOOD PARK		149010	32.1	30			
129.9		GLAINSTONE PARK		149010	32.1	30			
129.1		JEFFERSON PARK		149009	32.0	30			
128.3		SAVING GREEN		149009	32.0	30			
127.5		IRVING PARK		149007	31.9	30			
126.7		CLUBBURN		149002	31.8	30			
125.9		CY		149002	31.8	30			
125.1		CLINTON ST		82600	31.7	30			
124.3		LAKE ST		82600	31.7	30			
123.5		CHICAGO		2A000	31.6	30			

COWEN SUBDIVISION - CJ									
AUTHORIZED SPEED	MILE POST	STATION	TRACK DIAGRAM	AUTH FOR MOVE	TWC	NOTES			
20	BA 281.6	BERKELEY RUN JCT.	MOUNTAIN SD	ABS-261 (192)	YL	7			
25	BUC 0.0	BERKELEY RUN JCT.	CI DISP. 14.5 RD 08	CPS-261 (192)	YL	1			
	BUC 0.3		CI DISP. 14.2 RD - 08 GR - 08 YD - 28	ABS-261 (192)					
	BUC 3.0			ABS-261					
	BUC 4.0			ABS-261					
	BUC 4.6	EAST KNIGHT		CPS-261		2.8			
			SSDG 4.100 FT	ABS-261					
	BUC 5.5	WEST KNIGHT		CPS-261		2.8			
	BUC 5.6	KNIGHT TUNNEL		ABS-261		DTC BLOCK BERRY			
	BUC 5.7			ABS-261					
	BUC 8.5	LANE TUNNEL		ABS-261					
	BUC 8.9	EAST BERRYBURG		CPS-261		2			
			SSDG 7.485 FT	ABS-261					
25	BUC 11.1	BERRYBURG JCT	BERRYBURG T	CPS-261		2			
	BUC 13.4			ABS-261		DTC BLOCK PHIL			
20	BUC 14.6			ABS-261					
25	BUC 18.2			ABS-261					
20	BUC 18.2			ABS-261					
25	BUC 18.4			ABS-261					
	BUC 18.7	EAST TYGART		ABS-261		3			
	BUC 19.6	TYGART JCT	W. VA C. RR	ABS-261					
25	BUC 21.0			ABS-261					
20	BUC 23.4			ABS-261					
25	BUC 23.7	CENTURY JCT.	CENTURY T	CPS-261					
25	BUC 26.3			ABS-261					
20	BUC 26.5			ABS-261		DTC BLOCK PHIL			
25	BUC 31.1			ABS-261					
	BUC 31.6	EAST SMITH SUMMIT		CPS-261					
			SSDG 7.500 FT	ABS-261					
25	BUC 32.1	WEST SMITH SUMMIT		CPS-261		3			
	BUC 35.4			ABS-261		DTC BLOCK PICK			
15	BUC 36.2	BUCKHANNON		ABS-261					
	BUC 36.5			ABS-261					
	BUC 37.8			ABS-261					
20	BUC 38.1	UPSHUR		ABS-261					
	BUC 38.6			ABS-261					

# Right of Entry vs. Safety

- 49 CFR 214 “ON TRACK SAFETY”
- Railroad Property is PRIVATE Property
- Railroad Police (Special Agents) are licensed federal marshals (complete w/ guns and badges!)...can arrest YOU!
- You can be arrested for criminal trespass!
- You most likely are not insured to work on railroad rights-of-way... (special risk area)
- OSHA/FRA can fine you \$10,000 +



# The “Dirty Dozen”

The TOP 12  
STUMBLING BLOCKS, BLUNDERS,  
ASSUMPTIONS (BAD OR MISINFORMED)  
RAILROAD TECHNICAL PROFESSIONALS SEE  
ON AN ALMOST EVERYDAY BASIS

# “The “Dirty Dozen”

- #1 Railroad curves
- #2 If in doubt, the Assessor’s Map is WRONG!
- #3 Slope Chaining!
- #4 Center of Track in mainline curve is NOT center of right-of-way, there is no such thing as parallel spirals and 3-point on curve solution is VERBOTEN!!!
- #5 All railroad R/W’s are strip conveyances, right?
- #6 Pulling of a milepost (It’s got legs!!)



## The “Dirty Dozen” *continued*

#7 Misinterpreting Control Point

#8 Equations and scaled items (“sc.” and “pro”)

#9 Misinterpreting chaining and map calls

#10 T-Rails (Why was it set and where’s the actual point?)

**Potentially deadly blunders...** *“I’m a surveyor and I don’t need any permission to send my crews out on the tracks and besides: (1) the trains go slow here and I can always get a schedule”*

**- or -**

*“My insurance will cover me while working on the railroad”*

# The “Dirty Dozen” *continued*

#11 Fenceline = Right-of-Way Line?

#12 The only public record is found in the county courthouse?



# ICC Uniform Series of Accounts

## Mapping Instructions

- ICC General Order #1 (1914) mapping instructions
- ICC General Order #4 (1915) field survey parties
- ICC General Order #7 (1916) land schedules
- Please download David Pfeiffer's excellent research text at: <http://www.rrhistorical-2.com/rlhs/research.htm> (ALIAS RIP-91) Excellent description of what can be found at archives-2 (Rockville, MD).....
- Write this down! (CD file corrupt)



**PLEASE AVOID THE  
“STUPID ZONES”!**



# “Stupid Zones”

- New Roads and Highways Crossing Railroad Curves at Grade...
- Vertical Curves within 30 Ft. Of the Nearest Rail at an At-Grade Crossing (AASHTO/AREMA JOINT STANDARD)
- “FOULING” the std. clearance envelope
- Utilities too shallow or too close to railroad switches, bridges and structures
- Creating sight distance problems

# “Stupid Zones”

- New Roads and highways crossing railroad curves at grade...
- Vertical curves within 30 Ft. of the nearest rail at an at-grade crossing (AASHTO/AREMA JOINT STANDARD)



# “Stupid Zones”

- “FOULING” the standard clearance envelope
- Utilities too shallow or too close to railroad switches, bridges and structures
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# OK, where am I on the RR?

- Learn to communicate with the railroad in terms that they more readily understand

I'm interested in finding map data at:



State: \_\_\_\_\_ WYOMING

Region: \_\_\_\_\_ Northern

Division: \_\_\_\_\_ Powder River

Subdivision: \_\_\_\_\_ CASPER LS-5

Between: STATION and STATION : Casper (202.2) & Bishop (213.0)

Between: Milepost and Milepost MP 202 and MP (213)

Near Crossing: (DOT Number) \_\_\_\_\_ 064978M  
(1st Street in Casper)



# US-DOT/ AAR Crossing Numbering System

- Typical DOT number tag found attached to poles, cross-bucks, mast-mounted flashing lights/gate/bells, bridges and also stenciled on signal department instrument cases
- UP & BNSF Now include those numbers on the “Panic” signs found at all crossings (UP is 4” x 8” Blue & White, BNSF’s are 14” x 18” Black and White steel signs...

UP  
**188 759T**  
US-DOT/AAR



# US-DOT/ AAR Crossing Numbering System

UP  
**188 759T**  
US-DOT/AAR



- Tags can be gray-metal license plates (4”x 9”) and/or 5”x9” laminated cardboard tag
- DOT Numbers are unique to a particular crossing in the USA, Number is a 6-digit number and a check code letter....Tag also shows track owner !

# If All Else Fails, Before You Panic:

## EMERGENCY NUMBERS

- UNION PACIFIC 1-800-848-8715 Dispatcher  
1-800-877-7267 UP Police
- BNSF 1-800-832-5452 Emergency
- CN-IC 1-800-465-9239 Emergency
- CPR-Soo 1-800-551-2553 Emergency
- CSX 1-800-232-0144
- NS 1-800-453-2530
- IAIS 1-800-321-3891
- ICE /DM&E 1-800-339-1080

*ALL LISTED ON THE IOWA CONTACT SHEETS...  
INCLUDE IN JOB BRIEFING*

# Panic Signs Look Like...

Norfolk Southern



CSX



# Panic Signs Look Like...

## UNION PACIFIC



## BNSF





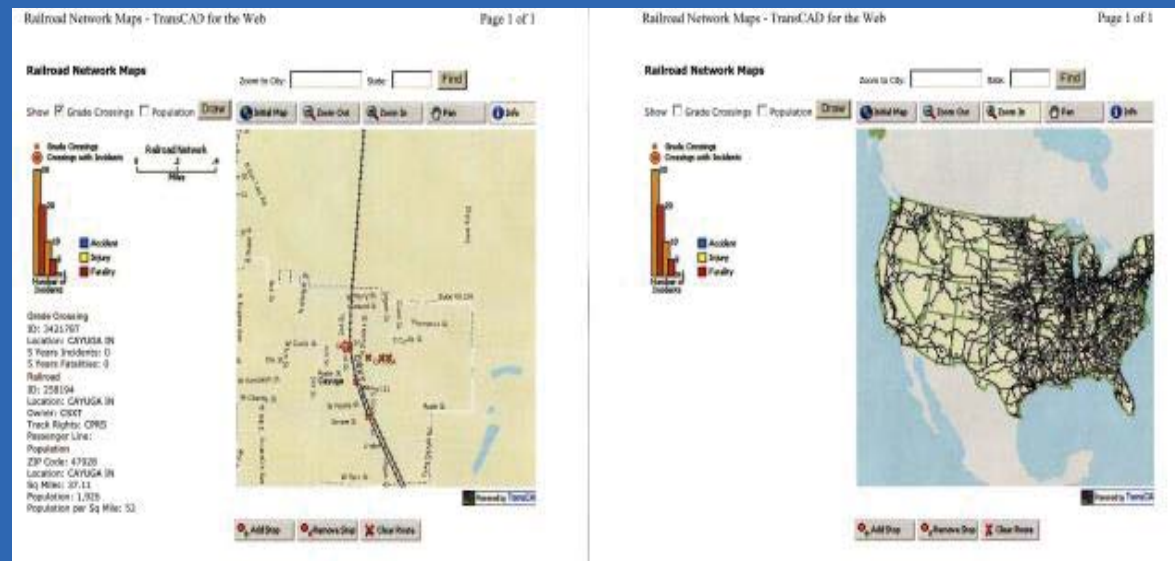
# DOT # Information from Panic Signs



<http://cabernet.caliper.com>

<http://safetydata.fra.dot.gov/officeofsafety/NewCrossing/Default.asp>

<http://safetydata.fra.dot.gov/OfficeofSafety/Default.asp>



*Example of web page*

# DOT # Information from Panic Signs

The screenshot shows the 'Office of Safety - Query by Location' page. It includes search filters for State, County, City, County/City, Street, and Railroad. Below the filters is a 'NOTE' indicating that state and county/city information is required. At the bottom, there is a 'Total Records: 20' and a table of results.

Pressage	St	Division	State/Division	Reason
3420152	IL	CHICAGO	CHICAGO	Street
3420153	IL	CHICAGO	CHICAGO	CH 400N
3420154	IL	CHICAGO	CHICAGO	CH
3420155	IL	CHICAGO	CHICAGO	CH
3420156	IL	CHICAGO	CHICAGO	CH
3420157	IL	CHICAGO	CHICAGO	CH
3420158	IL	CHICAGO	CHICAGO	CH
3420159	IL	CHICAGO	CHICAGO	CH
3420160	IL	CHICAGO	CHICAGO	CH
3420161	IL	CHICAGO	CHICAGO	CH
3420162	IL	CHICAGO	CHICAGO	CH
3420163	IL	CHICAGO	CHICAGO	CH
3420164	IL	CHICAGO	CHICAGO	CH
3420165	IL	CHICAGO	CHICAGO	CH
3420166	IL	CHICAGO	CHICAGO	CH
3420167	IL	CHICAGO	CHICAGO	CH
3420168	IL	CHICAGO	CHICAGO	CH
3420169	IL	CHICAGO	CHICAGO	CH
3420170	IL	CHICAGO	CHICAGO	CH

<http://cabernet.caliper.com>  
<http://safetydata.fra.dot.gov/officeofsafety/NewCrossing/Default.asp>  
<http://safetydata.fra.dot.gov/OfficeofSafety/Default.asp>



Example of web page





# New Signs to Look for...





# Information on New or Modified Crossings

- The ONLY arbiter of what crossing is public or private in Indiana is the **IOWA DOT** under its application/ decision process. ( Ia CH. 327G.15)

*(You cannot turn a private crossing into a public crossing w/o IaDOT's OVERVIEW!!!)*

- The ONLY agency that can permit placement of, change width of or dictate change type of crossing protection of a public crossing is the **IOWA DOT Railroad Section**. (Local entities can, w/ IDOT inclusion, run “town hall meeting” style agreements with ALL parties in agreement (Ia CH 327G.16 & 327G.17 )

- Iowa DOT Railroad Section now administers the DOT Crossing Number database for Iowa (Issues new numbers and does record corrections)



# IOWA STATUTE

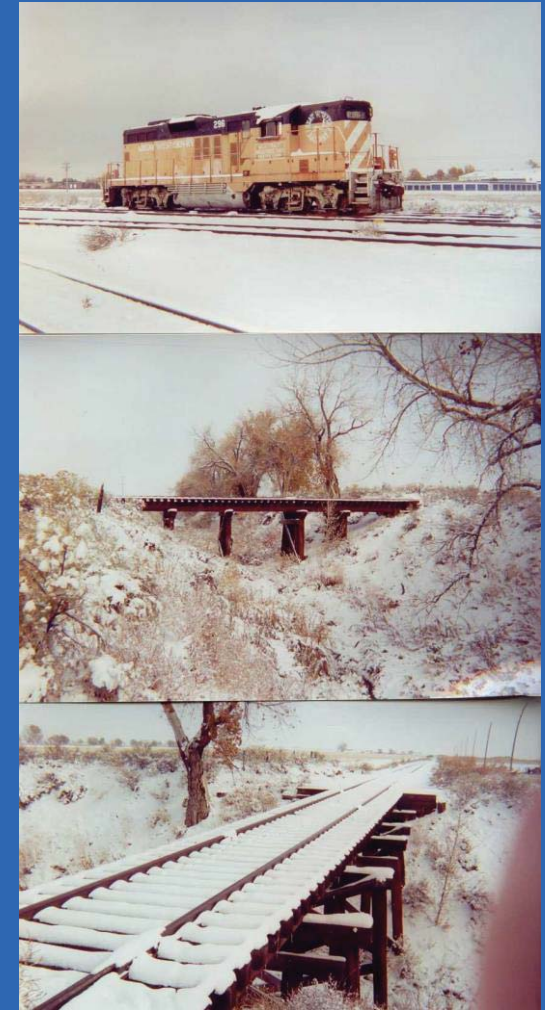
- 327G.15 Railway and highway **crossing** at grade.
- Wherever a railway track crosses or shall hereafter cross a highway, street or alley, the railway corporation owning such track and the department, in the case of primary highways, the board of supervisors of the county in which such **crossing** is located, in the case of secondary roads, or the council of the city, in the case of streets and alleys located within a city, may agree upon the location, manner, vacation, physical structure, characteristics and maintenance of the **crossing** and flasher lights or gate arm signals at the **crossing** and allocation of costs thereof. The department shall become a party to the agreement if grade **crossing** safety funds are to be used. Up to seventy-five percent of the maintenance cost of flasher lights or gate arm signals at the **crossing** and an unlimited portion of the cost of installing flasher lights or gate arm signals at the **crossing** may be paid from the grade **crossing** safety fund.
- Notwithstanding other provisions of this section, maintenance of flasher lights or gate signals installed or ordered to be installed before July 1, 1973, shall be assumed wholly by the **railroad** corporation.
- Payments from the grade **crossing** safety fund shall be made by the treasurer of state upon certification by the department that the terms of the agreement have been followed.
- The department shall promulgate rules according to chapter [17A](#) for processing claims to the grade **crossing** safety funds.
- The provisions of this section shall not apply to the repair of the grade **crossing** surface.
- [R60, §1321, 1322; C73, §1262, 1263; C97, §2017, 2018; §SS15, §2017; C24, 27, 31, 35, 39, § **8020, 8024, 8025**; C46, §478.21, 478.25, 478.26; C50, 54, 58, 62, 66, 71, 73, 75, §478.21; C77, 79, 81, §327G.15]
- 327G.16 Disagreement - application - notice.
- If the persons specified in section [327G.15](#) cannot reach an agreement, either party may make written application to the department requesting resolution of the disagreement. The department shall request the department of inspections and appeals to set a date for hearing. The department of inspections and appeals shall give ten days' written notice of the hearing date.
- [SS15, §2017; C24, 27, 31, 35, 39, § **8021**; C46, 50, 54, 58, 62, 66, 71, 73, 75, §478.22; C77, 79, 81, §327G.16; 81 Acts, ch 22, §19]
- 89 Acts, ch 273, §35
- 327G.17 Hearing - order.
- The department of inspections and appeals shall hear the evidence of each party to the controversy and shall make an order, which may include, pursuant to chapters [6A](#) and [6B](#), authority to condemn, resolving the controversy. The order shall include the portion of the expense to be paid by each party to the controversy. In determining what portion of the expense shall be paid by each party the department of inspections and appeals may consider the ratio of the benefits accruing to the **railroad** or the governmental unit or both, to the general public use and benefit.
- The order of the department of inspections and appeals is subject to review by the state department of transportation. The decision of the state department of transportation is the final agency action.
- [SS15, §2017; C24, 27, 31, 35, 39, § **8022**; C46, 50, 54, 58, 62, 66, 71, 73, 75, §478.23; C77, 79, 81, §327G.17; 81 Acts, ch 22, §22]



# Basics of Railroad Survey Control

HIERARCHY (best to least)

- (1) T-Rails (called out in mapping)
- (2) Crossing frogs
- (3) Bridges & Tunnel Portals (including stone arches)
- (4) Pipes, Culverts & Treated Timber Boxes
- (5) Headblock/ Point of Switch (Turnouts)
- (6) Centerline of road crossings
- (7) Signage
- (8) Map Calls to land lines (PRO & SC Standard Warning)



# Understanding What Railroads Are

## (Crash course condensed version)

- Charters
  - (A) Initial Regulation
- Regulation (pre & post Staggers Act, 1983)
- Common Carriers Defined (Class 1's, Regionals, Shortlines, Industrials)
  - (A) ICC vs. AAR Classification
- Interurban & Transit
- Logging & Mining Railroads
- Funiculars / Inclined Railways
- Mileage of all gauges in the US “tops out” between 1915-1923 (254,000 miles in 1916)
  - Current mileage is just short of 183,000 miles (check figure, Standard & Poors’)
- Railroad genealogy / Chain of Title (Understanding History & Finance)



# Railroad Operating Structure

## Typical, Military Origins to Today

- **Operating**
  - Trainmaster, Yardmaster, Superintendent, Train Crews, Dispatcher, Management Asset Management, LAW, Lease & Contract, Accounting, Billing
- **Maintenance / Engineering (M/W)**
  - Division Engineer, Roadmaster, Chief Engineer, Trackman, Field Engineer, Signal and Communication Functions
- **Equipment / Mechanical**
  - Mechanical Foremen, Carmen, Shops

# Railroad Orientation

## MODULE 5

- Timetable vs. Geographic / Compass Direction
- District / Division / Subdivision / Line Segment
- Railroad Slang (Skip)
- Safety Rules / Testing / Requirements

# Evidence and Official Record

- Looking Beyond the Courthouse
- Surveyors collect, examine & evaluate “EVIDENCE”, they are not “Judge and Jury” (Even though at times we ought to be)
- The assessors map is “a best guess estimate” - It should not be gospel !
- Official record does not automatically imply that it will be found in the local courthouse!



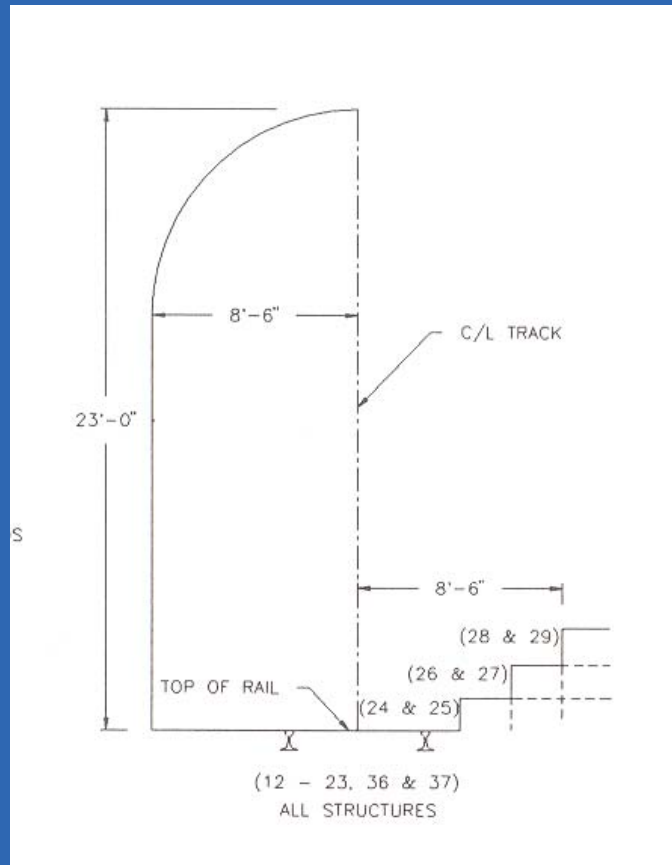
# Federal Laws and Regulations



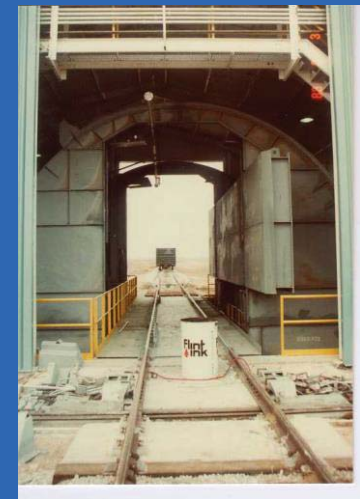
Falter Behrens photo; L.L. Williams collection.

- Acts of 1862, 1866, 1872, 1875
- Interstate Commerce Act of 1913
- Staggers Act of 1980
- ICCTEA and TEA-21
- Titles 16, 43 and 49 of the Federal Revised codes (CFR's)

# State Laws



- Fence & Livestock (Discussed Earlier, IA CH 327G.3-327G.10)
- Statute Side Clearance (Iowa oddly has no state law, railroad determines)
- AREMA Chapter 28 (Clearance Tables by state)
- The Ag Industry Issue (Ethanol Plants, etc.)



# ICC Uniform System of Accounts

## 49CFR1201

- This single government regulation gave today's surveyor the following to use as evidence:
  - ICC CADASTRE (Valuation maps, station, R/W, Land & other maps)
- VAL map index maps and overview to railroad in 1918
- ICC Valuation Order #7 ...land schedules
- ICC Corporate structure valuation statements (family tree)
- ICC Field notes (title, improvements, audits, appraisal)
- Uniform standards between railroads
- Collection of applicable maps & records of the time

# ICC Uniform System of Accounts

## 49CFR1201

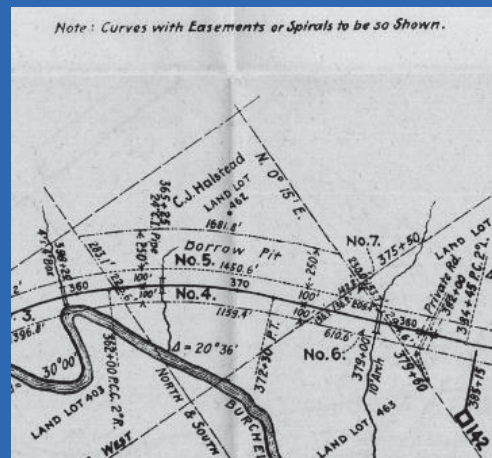
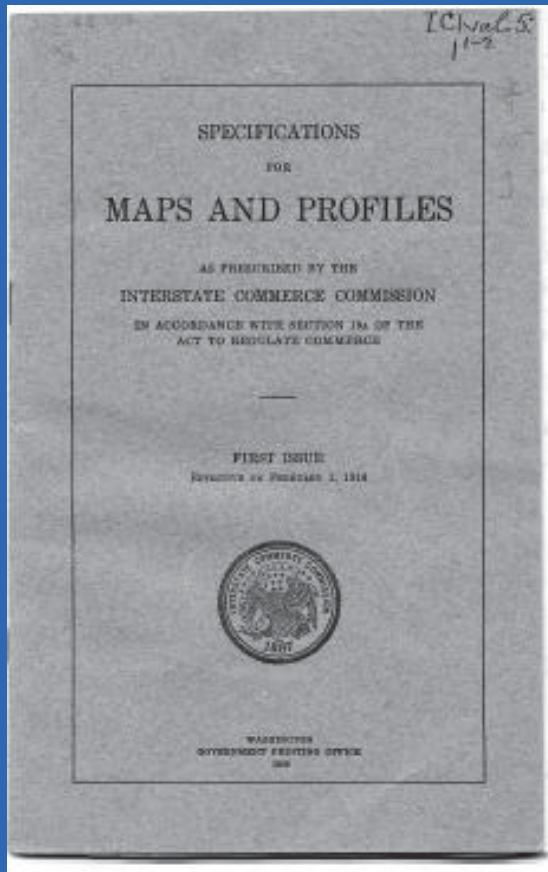
- Impetus for railroads to catalog all improvements to verify
- Addition and betterments accounting system
- Depreciation was not allowed 1913 until 1983 & Staggers Act!!
- Those railroads so valuated
  - (Turned in a complete set of maps schedules & accounting)
    - [http://rnetzlof.pennsyrr.com/Iccindex/icc\\_1.html](http://rnetzlof.pennsyrr.com/Iccindex/icc_1.html)
    - <http://www.nara.gov/publications/prologue/railrd1.html>
    - <HTTP://WWW.NHRS.ORG> (pfieffer nara paper)

# ICC Uniform System of Accounts

- Direct outcome of ICC Act of 1913
- VAL Maps (under ICC General Order #1) were created as an “accounting tool”
- Accountants make lousy surveyors, the rules under ICC G.O. #1 have come to haunt surveyors relating to these maps ever since
- The Act (under 49-CFR-1201) is more to level the playing fields in a tax sense than for the benefit of surveyors and mappers... “VALUATION”!



# ICC General Order #1



**IV. FORM OF MAPS AND PROFILES**

**6. SIZE OF SHEETS.**  
 The Right-of-Way and Track Map shall be made in sheets 24 by 56 inches. A plain, single-line border shall be drawn on each sheet, dimensions inside of which shall be 23 by 55 inches.  
 The Station Maps shall be made in sheets 24 by 56 inches, with border line as above. When more than one sheet is required to show a station property, the plat shall be made upon "matched marked" sheets in such manner as to require a minimum number.  
 The profile shall be made in sheets 12 by 56 inches with border. The size inside of border lines shall be 10 by 55 inches.

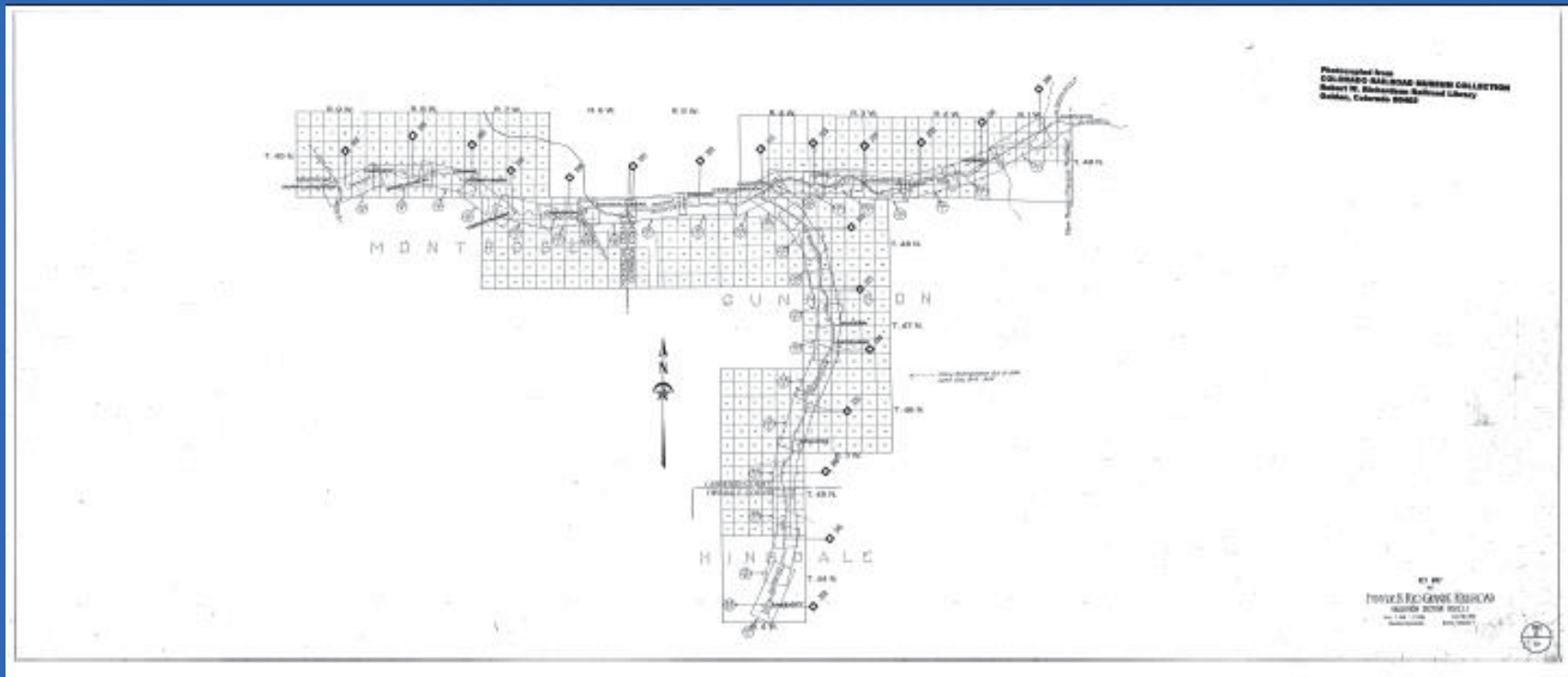
**7. SCALES.**  
 The Right-of-Way and Track Map shall be made on a scale of 1 inch equals 400 feet, or 1 inch equals 200 feet.  
 The Station Maps shall be made on a scale of 1 inch equals 100 feet, or in complicated situations 1 inch equals 50 feet.  
 The Profile shall be made on standard plate A, and on scales of: Vertical, 1 inch equals 20 feet; horizontal, 1 inch equals 400 feet.

**8. SYMBOLS.**  
 The symbols used on all maps and profiles shall be the standards recommended by the American Railway Engineering Association, in so far as they may be applicable.

**9. LETTERING.**  
 All lettering on maps and profiles shall be in plain, simple style.

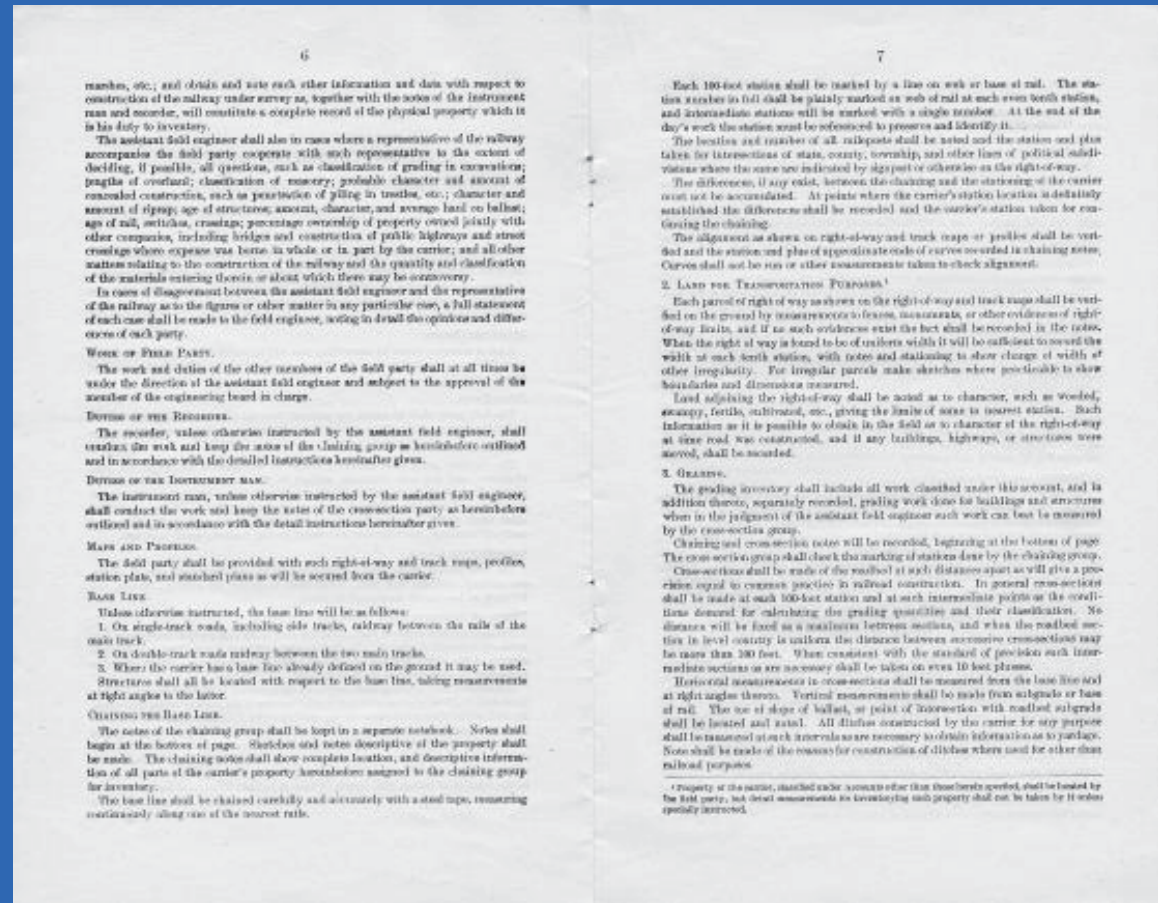
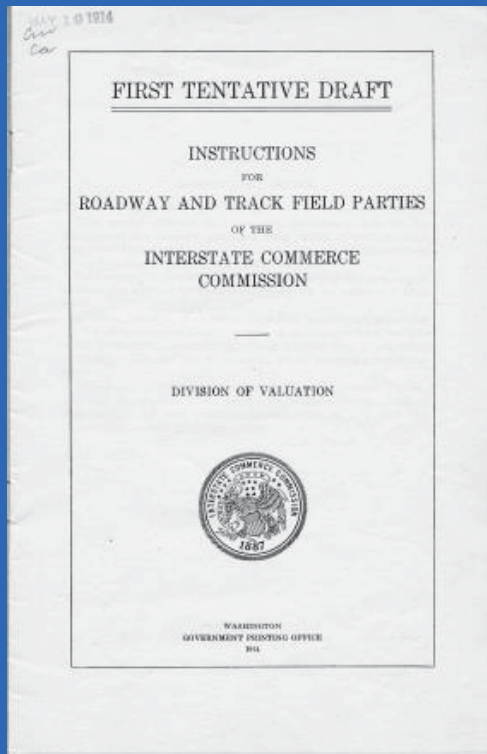
**10. ARRANGEMENT OF DATA.**  
 The Right-of-Way and Track Map sheets shall be made with the zero or

# Valuation Map Key Index (typical)



# ICC General Order No. 4

## Instructions to Field Parties






# ICC General Order No. 7

## Land Schedules, Form DV-107

VALUATION ORDER No. 7

ORDER, INSTRUCTIONS  
AND FORMS  
PERTAINING TO  
SCHEDULES OF LAND  
TO BE FILED WITH THE  
INTERSTATE COMMERCE COMMISSION  
BY  
COMMON CARRIERS

NOVEMBER 21, 1914



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1314

4 VALUATION ORDER NO. 7.

*It is further ordered,* That every common carrier owning or operating a steam railroad, and whose property is to be valued by the Commission under said valuation act of March 1, 1913, shall prepare and file in the office of the Commission at Washington, D. C., on or before the date fixed by the Commission as that as of which the carrier's property shall be valued, on forms each of which shall be like the form hereto attached, No. 108, another typewritten schedule, in duplicate, showing as to each instrument through which such carrier has derived title to or interest in any parcel of land held by it for purposes other than those of a common carrier, the same information and data required by the Commission in the next preceding paragraph of this order in connection with each instrument through which such carrier has derived title to or interest in any parcel of land owned or used by it for common-carrier purposes. Such schedule shall also show, as to each parcel of land held by the carrier for purposes other than those of a common carrier, the number assigned thereto on the right of way and station maps required by the Map Order, so called, made and entered by the Commission under date of January 12, 1914, the area of the parcel at the time it was originally acquired and at the present time, the cost of the parcel, including the improvements thereon, when originally acquired, together with a statement in detail of the amount and character of each expenditure which entered into such cost, the date and cost of any improvements placed by the carrier on the parcel subsequent to its acquisition, and the cost of the portion of each parcel and the improvements thereon which is now held by such carrier for purposes other than those of a common carrier. If a portion of a parcel or the improvements thereon has been sold since originally acquired, or if a portion of any improvements placed on a parcel subsequent to its acquisition has been sold, the carrier now holding the unsold portion of such parcel shall show in said schedule the date of such sale, and the amount of money or other consideration received for the portion so sold, by the carrier who made the sale.

*Provided, however,* That this order shall not be construed so as to include the land grants covered by the second provision of the paragraph marked "Fifth" of said valuation act of March 1, 1913, so far as such grants may have been made by the Government of the United States or by a State government.

By the Commission.  
[SEAL.]

GEORGE B. MCGINTY,  
Secretary.

INSTRUCTIONS FOR D. V. FORM NO. 107.

The first column shall contain the number which has been assigned to each parcel of land on the right of way and station maps required under the Map Order, so called, promulgated by the Commission on January 12, 1914.

The second column shall contain the number of the file in which each instrument conveying title to or interest in each parcel of land is kept by the custodian of the railroad company.

The third column shall contain the legal character of the instrument through which title to or interest in each parcel of land has been derived, such as deed, quitclaim deed, condemnation, ordinance, lease, agreement, grant, donation, etc.

The fourth column shall contain the date of the execution of the instrument.

The fifth column shall contain the name of the grantor in deeds, the defendant in condemnation suits, the name of the town, city, or village in ordinances, the first party in leases and agreements, and the donor in grants and donations.

The sixth column shall contain the name of the individual or corporation to whom the conveyance, lease, etc., was made.

The seventh column shall contain the book of the public record in which the instrument is recorded.

The eighth column shall contain the page of the book of the public record in which the instrument is recorded.

The ninth column shall contain the date of the recording of the instrument. Where the instrument is not recorded in the county records of the county designated on the upper left-hand corner of the form, the place of record shall be shown immediately below the entries in the seventh, eighth, and ninth columns.

The tenth column shall contain the area of each parcel of land as now owned or used for common-carrier purposes where said area is 1 acre or more. If part of a parcel has been sold before its dedication to public use, the area of the original parcel shall be shown in the nineteenth column; if such a sale has been made after the dedication of the parcel, the area of the parcel at the time of dedication shall also be shown in the nineteenth column.

The eleventh column shall contain the area of each parcel of land as now owned or used for common-carrier purposes where said area is less than 1 acre. If part of a parcel has been sold before its dedication to public use, the area of the original parcel shall be shown in

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# The ICC Land Schedule / Cadastre

## ICC Forms DV-1107 and DV-1108

20,000 4-6-18  
 THE ATCHISON, TOPEKA & SANTA FE RY. Co.  
 Operating Company THE ATCHISON, TOPEKA & SANTA FE RY. Co.  
 Division COLORADO  
 State COLORADO County PUEBLO  
 Valuation Section No. COLORADO-5 A  
 From CANYON Jct. to CANON CITY

INTERSTATE COMMERCE COMMISSION  
 DIVISION OF VALUATION

LANDS OWNED OR USED FOR PURPOSES OF A  
 COMMON CARRIER

Sheet No. 1 of 31 sheets (this form)  
 Map No. 1  
 Date compiled JUNE 30TH 1916  
 Compiled by P. W. KERNEDY  
 Correct CHIEF ENGINEER (Title) WESTERN LINES

PARCEL NO.	CUSTO- DIAN'S NO.	KIND OF INSTRU- MENT	DATE OF INSTRU- MENT	GRANTOR	GRANTEE	RECORDED				CONSIDERATION	DATE OF DEDICA- TION TO PUBLIC USE	COST OF PARCEL WHEN ORIGI- NALLY ACQUIRED		IF PORTION OF PARCEL HAS BEEN SOLD	COST AT DATE OF DEDICATION OF PARCEL AS NOW OWNED	REMARKS
						Book	Page	Day	Month			Amount	Character of Expenditure			
1	896	Q C	5 20 79	GEORGE W. CHILCOTT	THE P & AV RR	18	170	5 20 79	4.29	---	---	---	---	---	---	---
2	938	DEGREE	5 3 80	NANCY E ORMAN ET AL	THE P & AV RR	25	215	5 4 80	6.14	600.00	5 3 80	600.00 1.50	LAND ETC. REC. FEE	---	600.00 1.50	P & AV "B" Vo #198= \$600.00.
3	890	Q C	10 16 78	MARK L JORDAN	THE P & AV RR	18	139	10 17 78	5.12	150.00	10 16 78	150.00 1.75	LAND ETC. REC. FEE	---	150.00 1.75	P & AV "B" Vo #94= \$150.00.
4	938	DEGREE	5 3 80	NANCY E ORMAN ET AL	THE P & AV RR	25	215	5 4 80	5.45	---	---	---	---	---	---	---
5	938	DEGREE	5 3 80	NANCY E ORMAN ET AL	THE P & AV RR	25	215	5 4 80	5.02	---	---	---	---	---	---	---
6	891	DEGREE	10 29 78	M H FITCH	THE P & AV RR	23	275	10 29 78	5.26	1100.00	10 29 78	1100.00 2.00	LAND ETC. REC. FEE	---	1100.00 2.00	P & AV "B" Vo #94= \$1100.00.
7	891	DEGREE	10 29 78	M H FITCH	THE P & AV RR	23	275	10 29 78	2.20	---	---	---	---	---	---	---
											\$1855.25			\$1855.25		

FOR CONSTRUCTION RECORDS OF THE PUEBLO & ARKANSAS VALLEY R. R. EXTENSION "B" & CLELLAND EXTENSION, REFER TO LEDGER BEARING CORPORATE SYMBOLS NOS. 94 & 92 IN THE GENERAL AUDITOR'S OFFICE, CHICAGO.

FOR VARIOUS ADDITION AND BETTERMENT VOUCHERS, REFER TO VOUCHER REGISTERS IN THE AUDITOR OF DISBURSEMENTS OFFICE TOPEKA, KANSAS.

INSTRUCTIONS TO CARRIERS.—All data to be typewritten, using black record ribbon and carbon paper beneath, with carbon face next to back of sheet.

Before GIS there was still cadastre. Form DV 107

COURTESY OF ICC GENERAL ORDER No. 7

# ICC VALUATION ORG CHART (CH&D)/ B&O RR

