Road Safety Audits (RSAs) In Kansas

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What is an RSA

RSA for the existing system

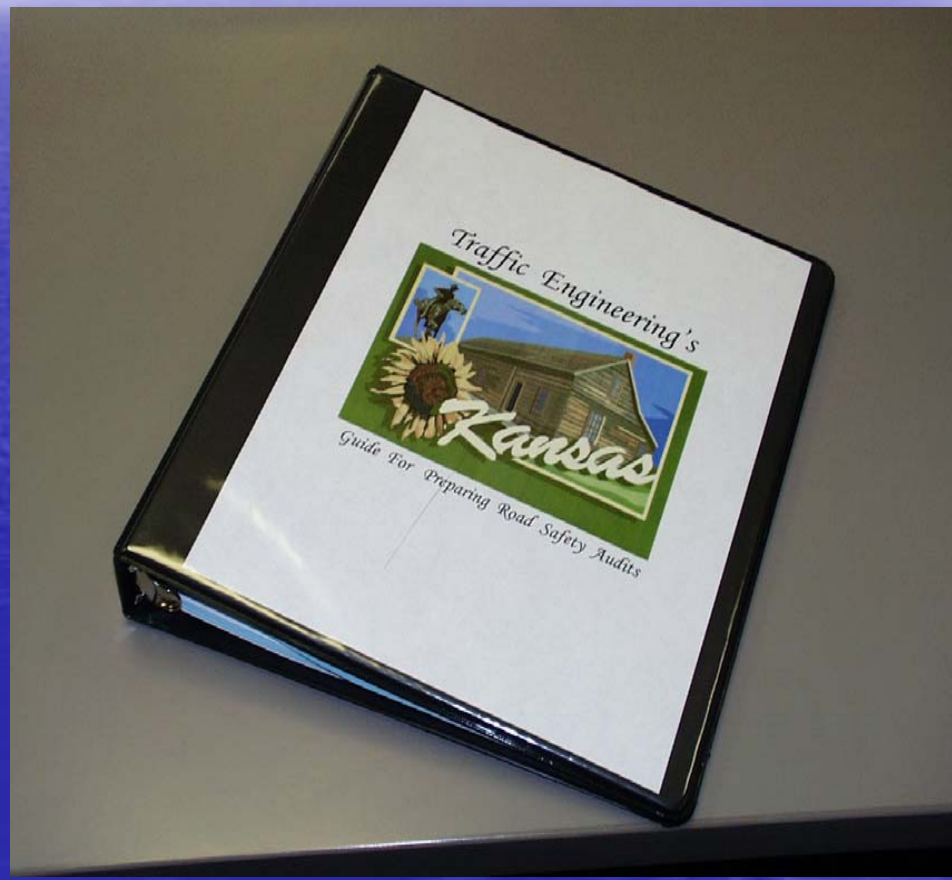
- A review of the Kansas State Highway System on a county by county basis
- A proactive and thorough process to complete a traffic study
- A tool to actively recognize and immediately attend to locations which may need safety improvements

When, Who and Why was this all started?

- Prior to RSAs – individual traffic studies
- Drawbacks to old way
  - Work was reactive
  - Studies take 6 months to a year
  - Many studies were done to verify nothing was wrong
  - Inefficient data collection
  - Lack of consistency
  - Numerous repeat studies
  - 194 cities in which we have never done a traffic study
  - Speed resolutions 40 years old

Guide Developed for Staff

- Working document



The Process

- Assign a counties to an engineer
- Send letters to cities, the county, and KDOT
- Office Work
- Field Review
- Field Review Recommendations
- Data Collection
- Draft Report
- Final Report

Staff Assignments

- 6 staff engineers are assigned counties
- 2 senior engineers review reports
- state traffic engineer approves reports
- 1 field technician for data collection
- 1 CADD technician
- 1 administrative assistant

Initial Contact with Locals

- Letters are sent to locals to obtain locations of concern
- Letters are now hand delivered by KDOT representatives and responsibilities are discussed with locals

Office Work

- Obtain feedback on local concerns
- Review past studies
- Obtain maps/develop tables for report
- Review video log
- Crash analysis

Crash Analysis

- Time consuming
- We look at 2 to 3 years of data based on the size of cities and counties
- Obtain crash reports as needed
- Try to identify crash patterns and high crash locations

Field Review

- Drive every highway
- Review intersections
- Look at signing, markings, geometrics, speeds, traffic signals, school areas, RR, high crash areas, specific requests by city or KDOT, etc.

Field Review Recommendations

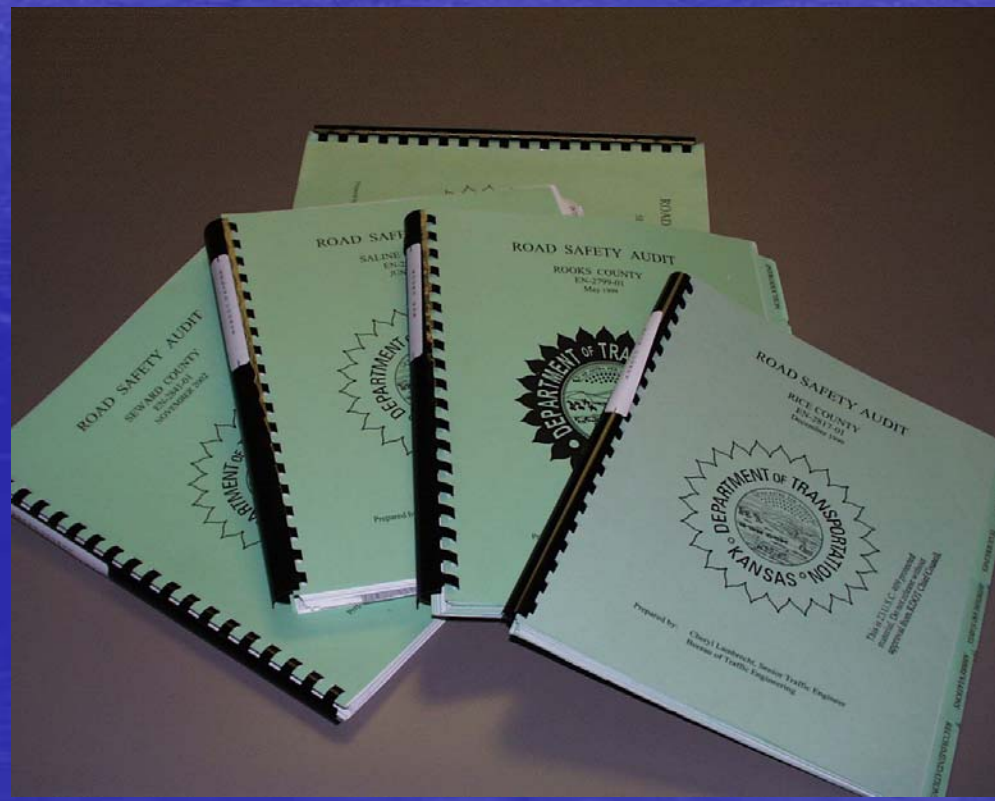
- Generally replace, adjust, add/remove traffic control devices
- We do not want to include maintenance activities in the report, we want maintenance issues addressed timely & for legal reasons

Data Collection

- Order data as needed county by county
- May include 24 hour counts, manual counts, speed studies, school data, sight distance, ball bank, etc
- Take counts at traffic signal locations to verify warrants
- Collect speed data to verify speed zones

The Report (draft then final)

- Introduction
- Traffic Engineering Guidelines
- Summary of Recommendations
- Chapter for each route
- Chapter for each city
- County wide speed resolution



Route US-100
ROUTE CHARACTERISTICS

From	To	Length (mi)	Speed (mph)	Lanes	Edge of Travel (ft)	Crashes (crash/mvmi)				Note
						ADT	Total (96-98)	Rate	Critical Rate	
Jct US-110	NCoL	11.49	65	2	1.8-3.0	1048	7	0.53	1.45	1

Notes/**Recommendations**

1.See US-100 Chapter.

- The route has turf shoulder.

INTERSECTION CHARACTERISTICS

Location (RP)	West Leg		East Leg		Crashes (crash/tmev)				Note
	Signing	Sight Distance (north/south)	Signing	Sight Distance (north/south)	ADT	Total (96-98)	Rate	Critical Rate	
RS1737	W3-1 R1-1	E/E	R1-1	E/E	1048	0	0.00	0.00	
RS1737	R1-1	A/E	W3-1 R1-1	A/E	1048	0	0.00	0.00	
Rd4 (44-45)	W3-1 W1-2L R1-1	E/E			1048	0	0.00	0.00	1
RS1365	W3-1 R1-1	E/E	W3-1 R1-1	E/E	1048	0	0.00	0.00	2

Notes

1.Object markers installed on approach.

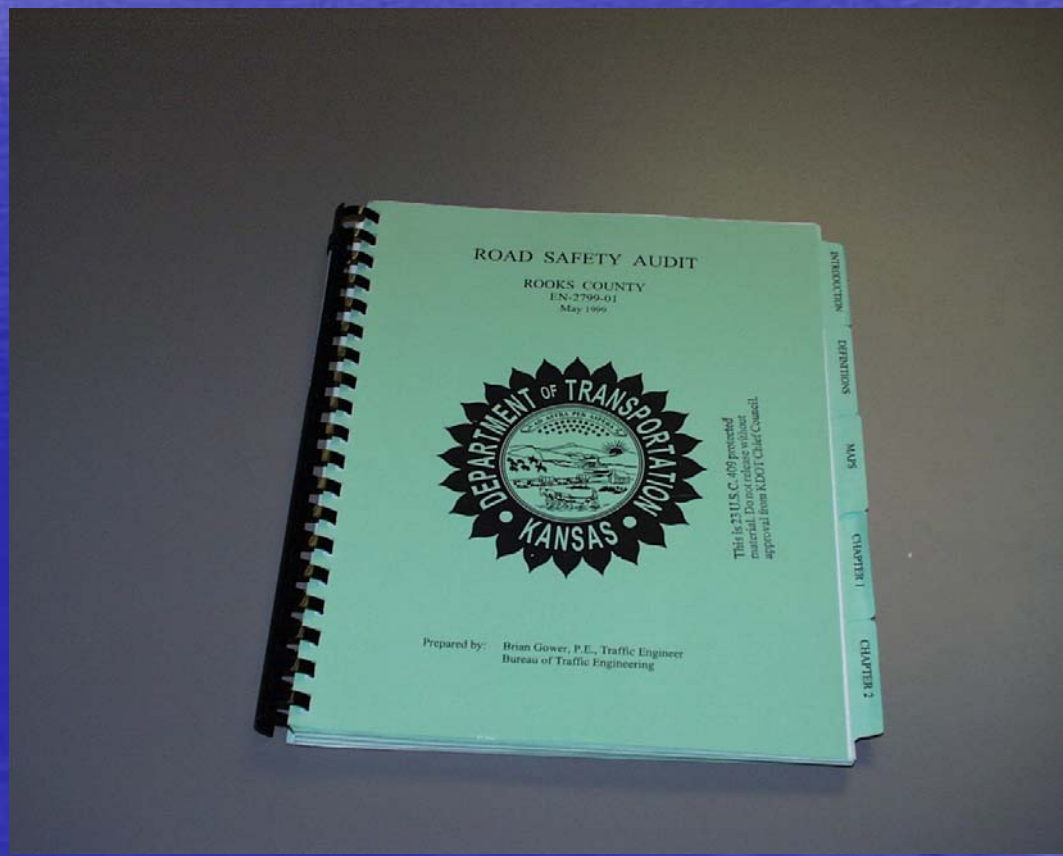
2.Wide throat intersection.

SPEED DATA & other tables as needed

LOCATION	DATE	POSTED (mph)	85th PERCENTILE (mph)
RS1737	12/9/99	65	69.6
5 mi N. of NCoL in Gigi	12/16/99	65	68.8
12 mi N. of NCoL in Gigi	12/16/99	65	69.5

Other information included in chapters

- Interchange sketches with traffic volumes (need for lighting)
- Field data
- Other sketches



Draft Report

- Draft is reviewed and commented by KDOT internally
- Each city has their specific chapter hand delivered for review and comment
- All comments are obtained and addressed for the final report

Final Report

- Each city is hand delivered their specific chapter
- County and KDOT offices receive full report
- Others go through an open records request

Round I

- 105 Counties (whole state)
- 1997 to 2004 (more than the anticipated 3 yrs)
- Utilized KDOT Staff plus 2 consultants
- Learning curve

Round II

- 36 counties completed to date
- 2004 – present
- We have not been at full staff
- Learning curve

Benefits

- Proactive approach
- Better use of our resources
- Comprehensive review of highway system
- More consistency along highway system
- Better relationship with cities/counties
- Find and address areas of concern
- Project list can be developed

Projects

- We have a list of locations for potential projects
  - Signal upgrades with geometrics
  - Intersection reconfigurations
  - Roundabouts
  - Interchange Lighting
- We have been able to initiate and complete project type recommendations within our own Bureau and throughout the agency

Challenges

- Time (process) and timing (data)
- Staying Motivated
- Manpower
- Contacting the correct people
- Keeping the process moving (crashes & data)

Lessons So Far

- Maintaining a full staff is critical
- Completing reports may take more time and effort than originally anticipated
- Contacts - Hand delivering correspondence has been a plus
- Coordinating data collection and report writing is tough
- Send project type recommendations to those bureaus/entities that do projects
- Support from all levels is critical

Thank you to:

- *The District Engineers, District Maintenance Engineers, & Area Engineers*
- *Maintenance personnel who carried out our recommendations*
- *The Sign Shop*
- *Traffic Engineering Staff*
- *All other KDOT employees and a few past employees*
- *Several consultants*
- *The cities and counties*

The End, Questions?

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