Local Road Safety Plans

California
Local Road Safety Plan Webinars

September 9 and 11, 2019

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FHWA Safety & Design Team

U.S. Department of Transportation
Federal Highway Administration

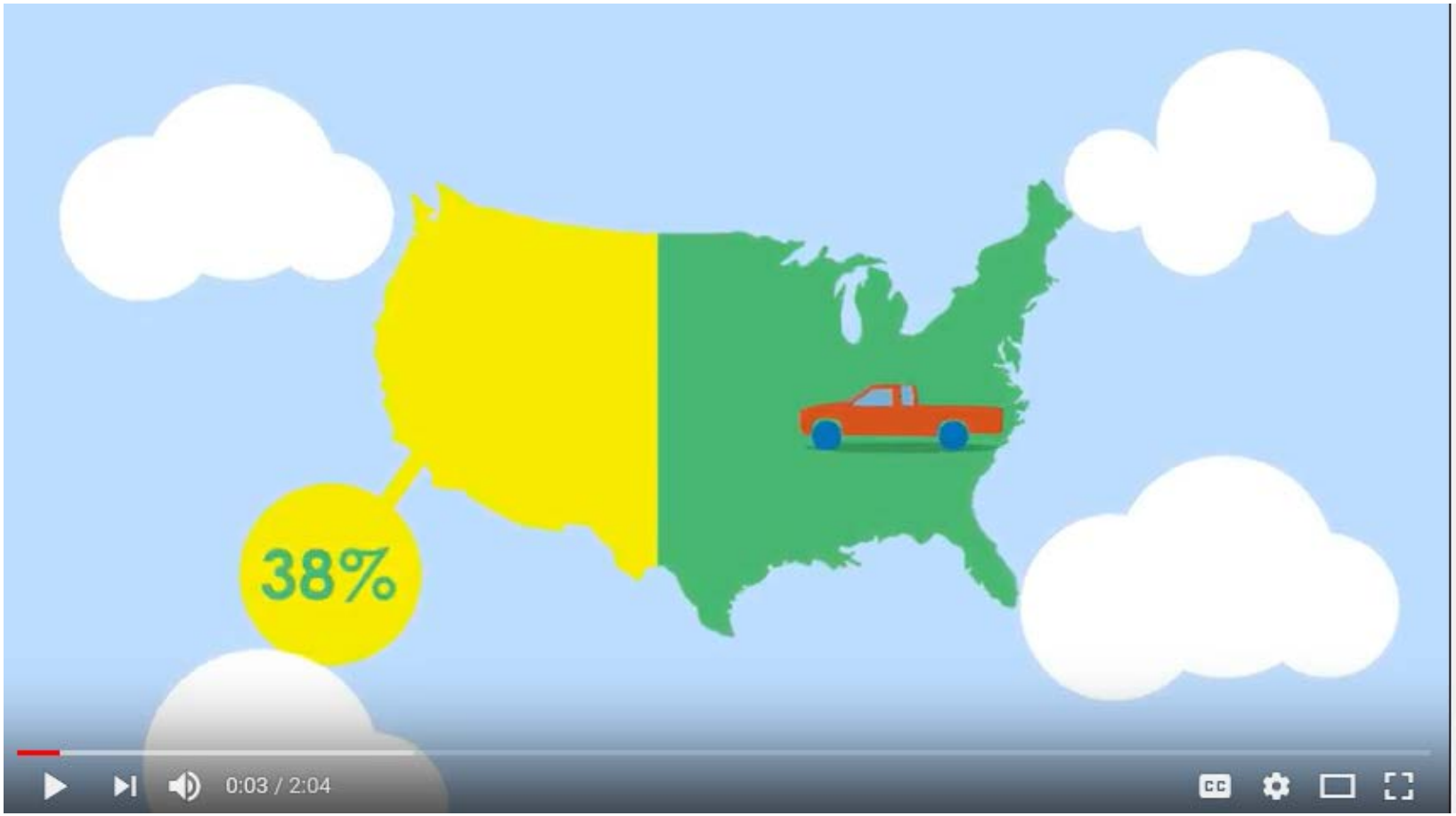
NATIONAL ASSOCIATION COUNTY ENGINEERS NACE

National LTAP & TTAP Association

Today's Talking Points

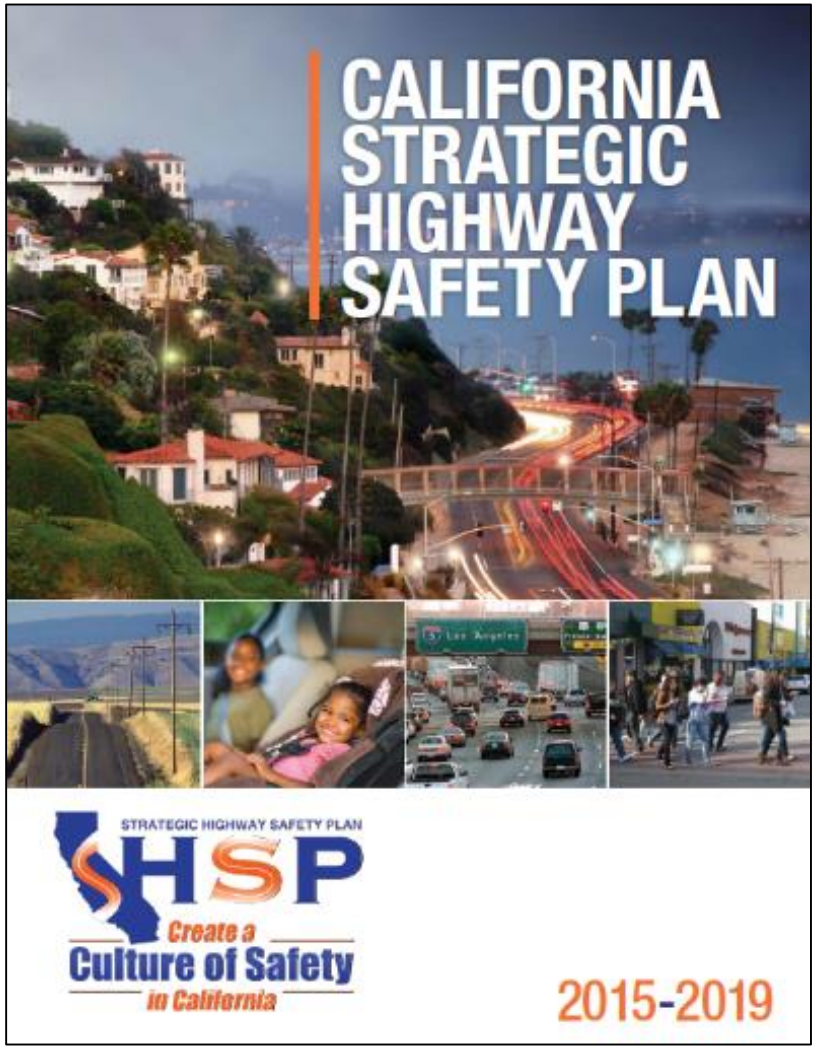
- **Overview of Local Road Safety Plans (LRSP)**
- **FHWA/NACE LRSP Pilot Program**
- **LRSP Examples, Resources & Opportunities**

Local Road Safety Plan Video



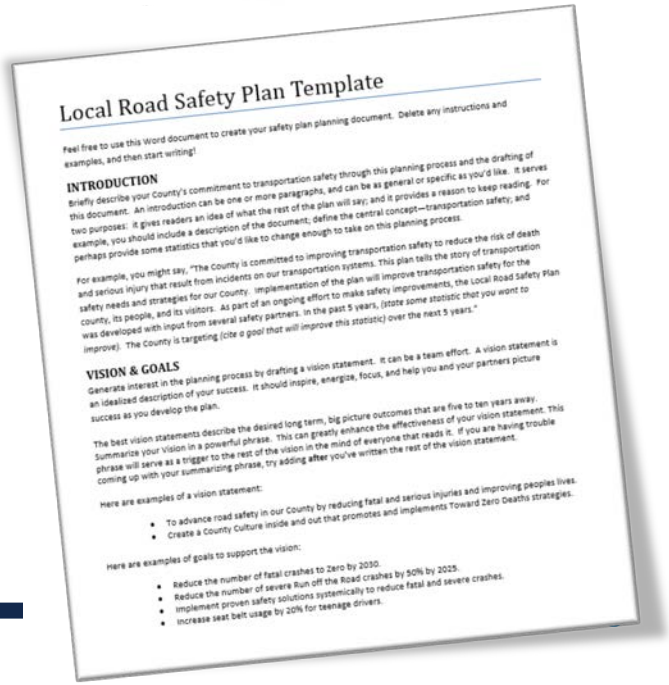
https://youtu.be/Wzdm798MoI8

Strategic Highway Safety Plan



Steps in the LRSP Development

- **Step 1: Establish Leadership**
- **Step 2: Analyze the Safety Data**
- **Step 3: Determine Emphasis Areas**
- **Step 4: Identify Strategies**
- **Step 5: Prioritize and Incorporate Strategies**
- **Step 6: Evaluate and Update the LRSP**



Local Road Safety Plan Template

Feel free to use this Word document to create your safety plan planning document. Delete any instructions and examples, and then start writing!

INTRODUCTION

Briefly describe your County's commitment to transportation safety through this planning process and the drafting of this document. An introduction can be one or more paragraphs, and can be as general or specific as you'd like. It serves two purposes: it gives readers an idea of what the rest of the plan will say; and it provides a reason to keep reading. For example, you should include a description of the document; define the central concept—transportation safety; and perhaps provide some statistics that you'd like to change enough to take on this planning process.

For example, you might say, "The County is committed to improving transportation safety to reduce the risk of death and serious injury that result from incidents on our transportation systems. This plan tells the story of transportation safety needs and strategies for our County. Implementation of the plan will improve transportation safety for the county, its people, and its visitors. As part of an ongoing effort to make safety improvements, the Local Road Safety Plan was developed with input from several safety partners. In the past 5 years, (*state some statistic that you want to improve*). The County is targeting (*cite a goal that will improve this statistic*) over the next 5 years."

VISION & GOALS

Generate interest in the planning process by drafting a vision statement. It can be a team effort. A vision statement is an idealized description of your success. It should inspire, energize, focus, and help you and your partners picture success as you develop the plan.

The best vision statements describe the desired long term, big picture outcomes that are five to ten years away. Summarize your vision in a powerful phrase. This can greatly enhance the effectiveness of your vision statement. This phrase will serve as a trigger to the rest of the vision in the mind of everyone that reads it. If you are having trouble coming up with your summarizing phrase, try adding **after** you've written the rest of the vision statement.

Here are examples of a vision statement:

- To advance road safety in our County by reducing fatal and serious injuries and improving peoples lives.
- Create a County Culture inside and out that promotes and implements Toward Zero Deaths strategies.

Here are examples of goals to support the vision:

- Reduce the number of fatal crashes to Zero by 2030.
- Reduce the number of severe Run off the Road crashes by 50% by 2025.
- Implement proven safety solutions systemically to reduce fatal and severe crashes.
- Increase seat belt usage by 20% for teenage drivers.

LRSP Efforts

- **Locally lead**
  - *Local agency prepared (Larimer County, CO)*
  - *Consultant prepared (Clackamas County, OR)*
  - *Vision Zero Cities (San Francisco, CA)*
- **State lead**
  - *Consultant prepared (Minnesota)*
  - *Local agency prepared (Washington)*
- **FHWA lead**
  - *Consultant prepared*
  - *Tribal (Tribal Transportation Program)*
  - *FHWA/NACE Collaboration/Locally prepared (Pilot)*
  - *Pedestrian Safety Action Plans (7 CA Cities)*

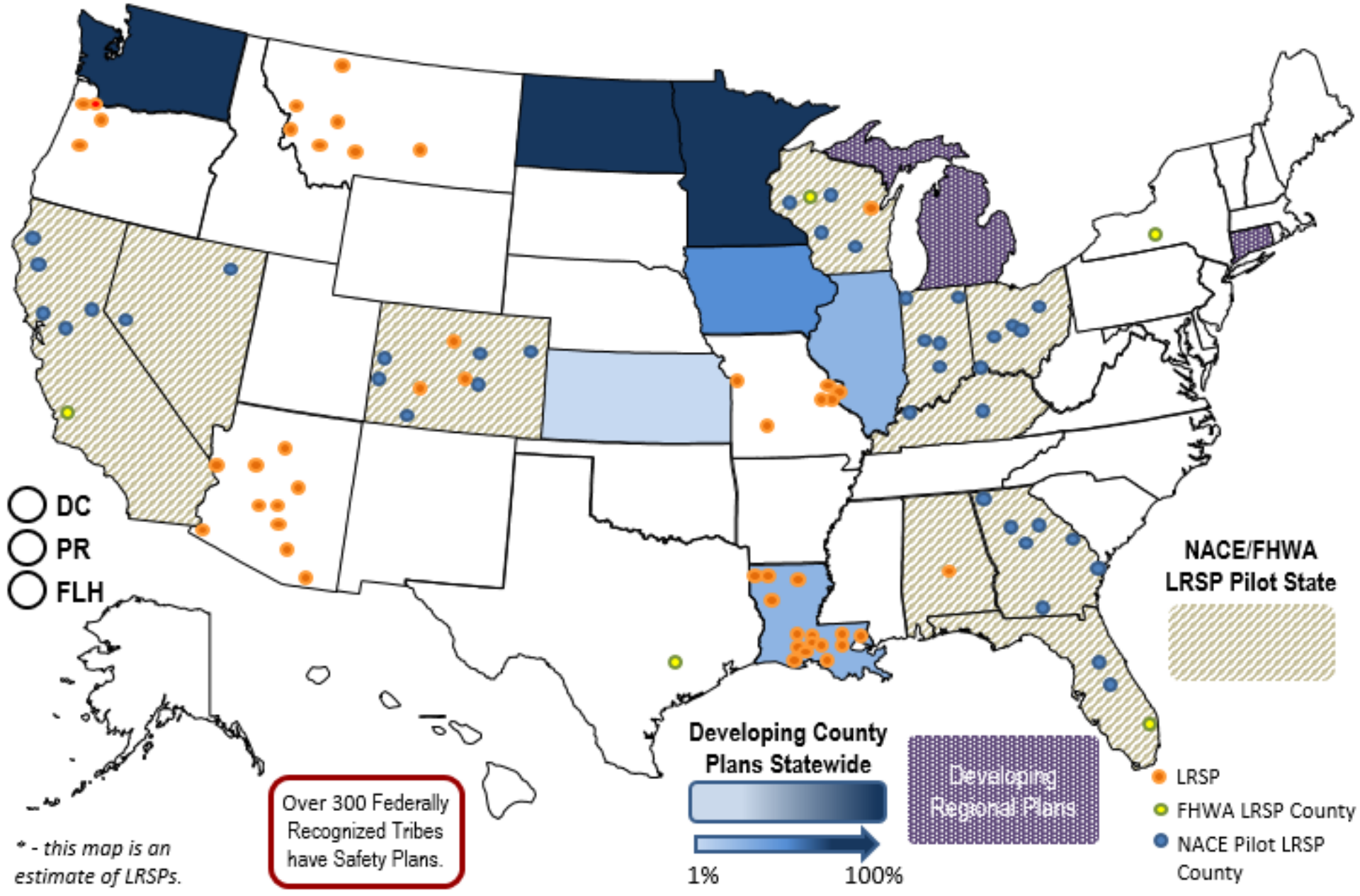
Local Road Safety Efforts in CA

- **Vision Zero**
- **Systemic Safety Analysis Report Program (SSARP)**
- **NACE/FHWA Local Road Safety Plan Pilot**
- **Tribal Transportation Safety Plans**
- **FHWA Focused Approach – Pedestrian/Bicycle Safety Action Plans**

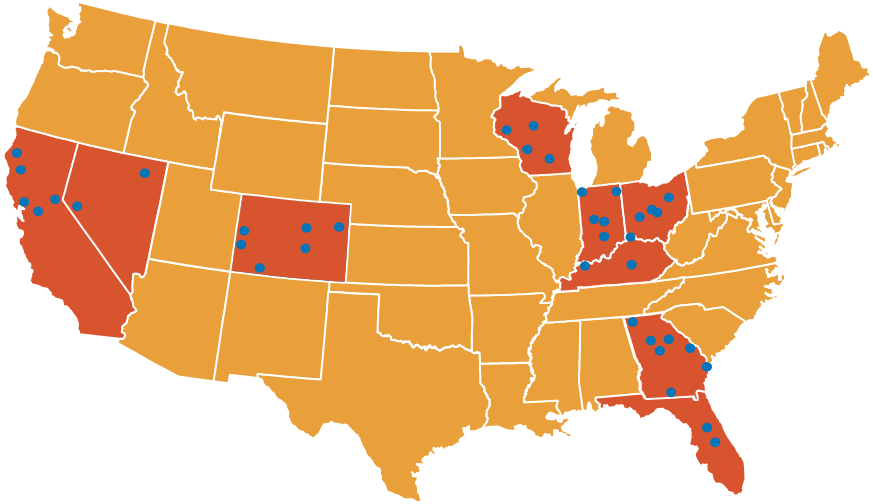
Poll

- **What types of safety plans are you doing within your agency? (open ended)**

Local Road Safety Plans - 2019*



NACE "Do-It-Yourself" Local Road Safety Plan pilot



- **Increase # of states using this proven safety countermeasure**
- **Nine states, 41 Local Agencies so far**
- **Blended Delivery**

Goals of the LRSP Pilot

- **Progress towards NACE and FHWA goals of reducing fatal and injury crashes on ALL public Roads**
- **Compliment current LRSP efforts by FHWA, States, Tribes and Locals**
- **Accelerate development and implementation of LRSP**
- **Advances Risk Based, Data Driven and Systemic Approach to Improving Safety of Local Roadways**
- **Empower locals to incorporate safety into routine business (maintenance, capital improvements)**
- **Leverage funding opportunities**

LRSP Pilot Elements

- Training
- Technical Support
- Providing Crash Data
- Data Analysis Support
- Resources Website
- In-Person Workshop
- A LRSP!

Why would a Local Agency Create a Local Road Safety Plan?

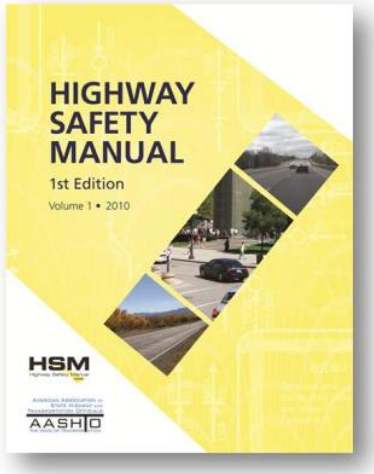
- **Greater awareness of road safety and risks**
- **Reduction in severe crashes**
- **Develop lasting partnerships**
- **Support for grant/funding applications**
- **Prioritize investments**

"Do what you can,
with what you have,
where you are."
– *Theodore Roosevelt*

Data Driven Approaches

Predictive analysis

Uses crash, roadway inventory and traffic volume data to provide more **reliable estimates of an existing or proposed** roadway's expected safety performance



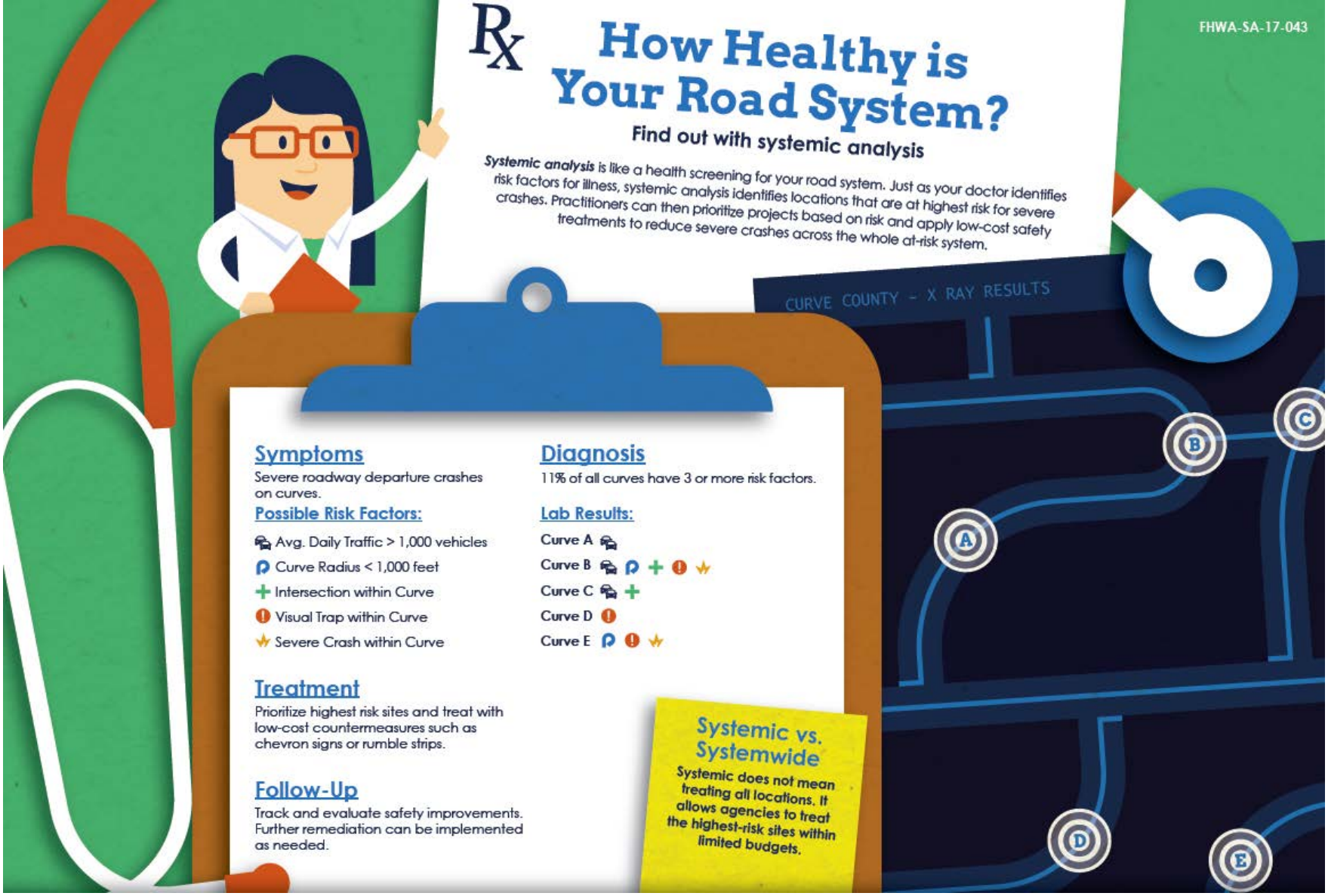
Systemic analysis

Uses crash and roadway data in combination to identify **roadway characteristics correlated with particular crash types**

http://www.highwaysafetymanual.org/Documents/HSMP-1.pdf
https://safety.fhwa.dot.gov/systemic/fhwasa13019/sspst.pdf

Systemic Safety Analysis

Assessing the potential for a specific type of severe crash to occur at a specific location because of the location's characteristics or features (roadway factors).


FHWA-SA-17-043
How Healthy is Your Road System?
Find out with systemic analysis
Systemic analysis is like a health screening for your road system. Just as your doctor identifies risk factors for illness, systemic analysis identifies locations that are at highest risk for severe crashes. Practitioners can then prioritize projects based on risk and apply low-cost safety treatments to reduce severe crashes across the whole at-risk system.
CURVE COUNTY - X RAY RESULTS
A
B
C
D
E
Symptoms
Severe roadway departure crashes on curves.
Possible Risk Factors:
Avg. Daily Traffic > 1,000 vehicles
Curve Radius < 1,000 feet
Intersection within Curve
Visual Trap within Curve
Severe Crash within Curve
Diagnosis
11% of all curves have 3 or more risk factors.
Lab Results:
Curve A
Curve B
Curve C
Curve D
Curve E
Treatment
Prioritize highest risk sites and treat with low-cost countermeasures such as chevron signs or rumble strips.
Follow-Up
Track and evaluate safety improvements. Further remediation can be implemented as needed.
Systemic vs. Systemwide
Systemic does not mean treating all locations. It allows agencies to treat the highest-risk sites within limited budgets.

LRSP Template

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CA: Crossroads

http://www.crossroadssoftware.com/products/traffic/ — Crossroads Software Traffic ...

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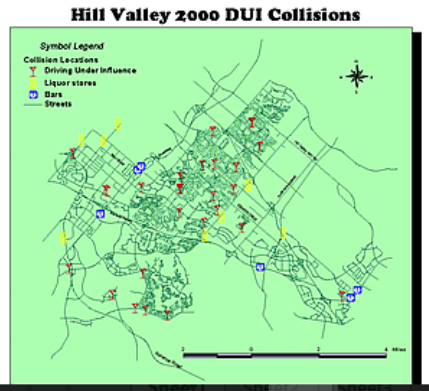
Crossroads Software

traffic collision database

records management | data analysis | full customization | street verification | queries & reports | graphs and charts | gis mapping | automatic upgrades

main features | in-depth I | in-depth II | queries and reports | graphs and charts | gis mapping | requirements | back to products

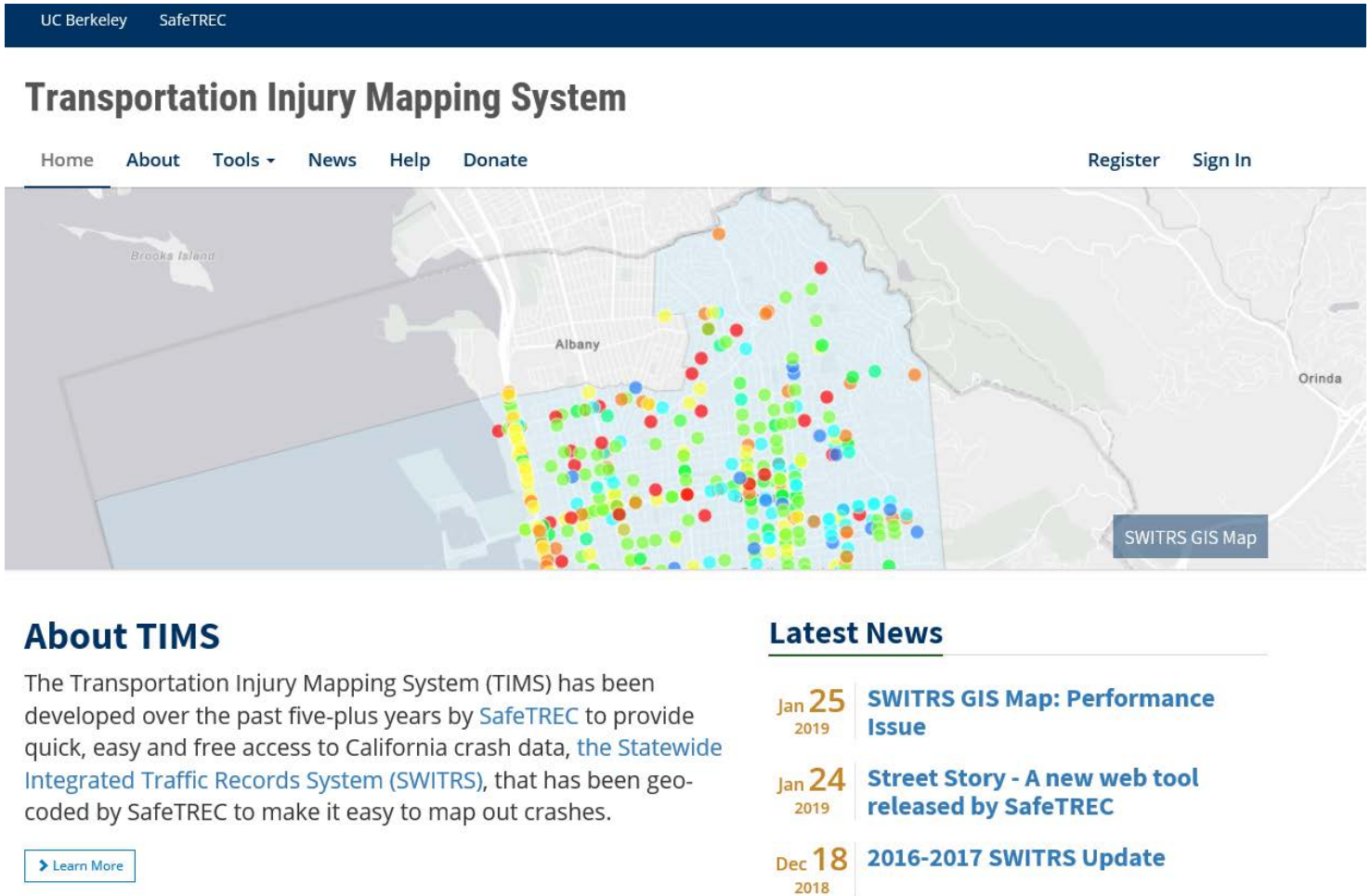
One of the most useful and impressive features of the Traffic Collision Database is the ability to produce detailed, color-coded GIS maps for a number of collision categories. After running a General Query or queries for Intersection High Incidence, Midblock Historical, and Midblock High Incidence, corresponding GIS maps are automatically updated in ESRI's ArcView™ which is included with the Collision Database. (A screen shot of a map in ArcView™ is shown at the top left. The layout, color coding, and the type of information to be viewed are all customizable.)



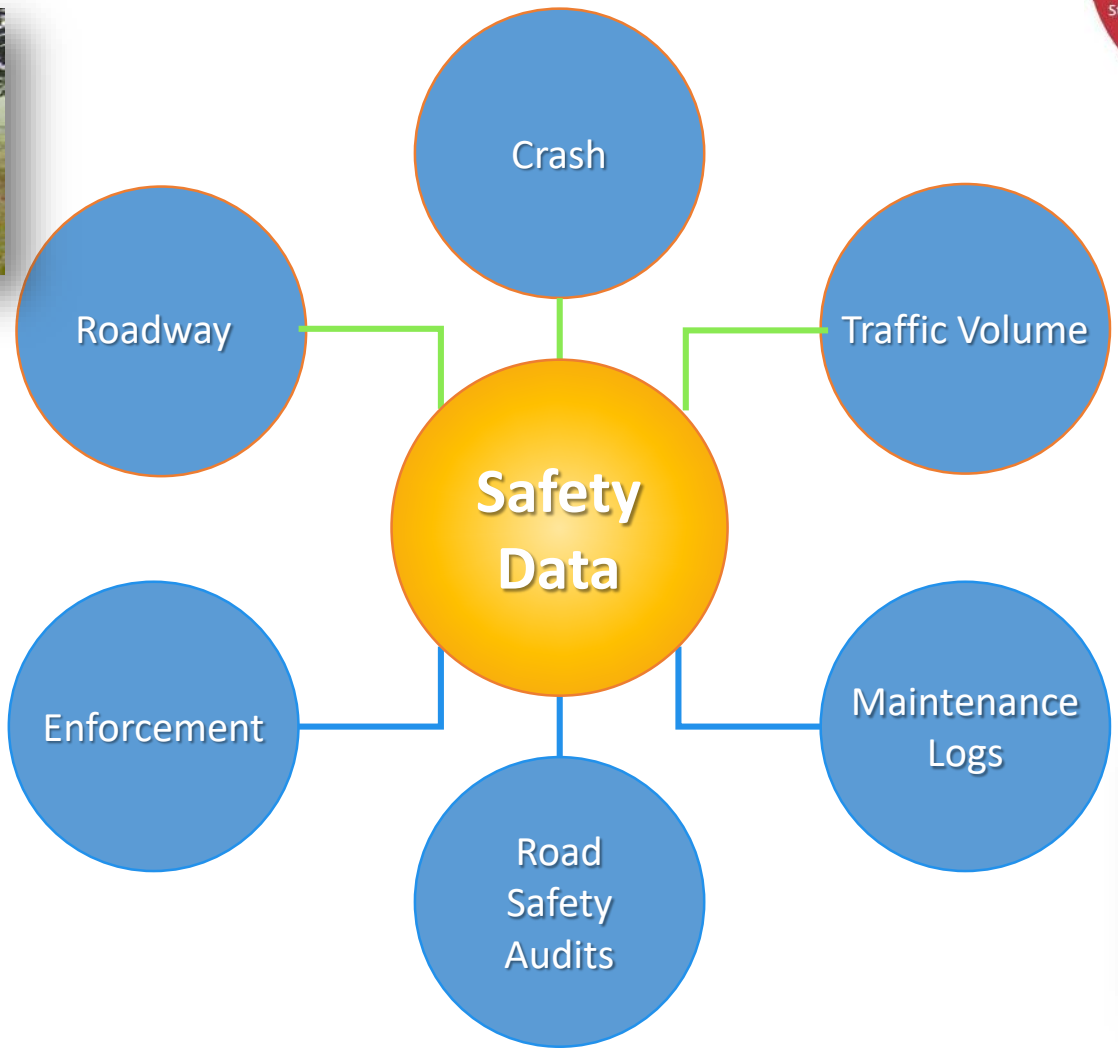
The query results are displayed on a citywide GIS map, and you can show individual locations as well as highlighted intersections and midblock segments. You can run, for example, a query to show all collisions involving school-age pedestrians on a specific day of the week and have the collision locations appear on the map. Even midblock collisions are located along the streets automatically. Clicking on an individual location yields the relevant information for that collision record.

Queries can be run to highlight the top ten intersection locations or midblock segments (or any number you prefer), ranking them by collision rate or number of collisions. Full color layouts are easily printed with maps, graphics, compasses, legends, and additional text and graphics. This

CA:TIMS


UC Berkeley
SafeTREC
Transportation Injury Mapping System
Home
About
Tools
News
Help
Donate
Register
Sign In
Brooks Island
Albany
Orinda
SWITRS GIS Map
About TIMS
The Transportation Injury Mapping System (TIMS) has been developed over the past five-plus years by SafeTREC to provide quick, easy and free access to California crash data, the Statewide Integrated Traffic Records System (SWITRS), that has been geo-coded by SafeTREC to make it easy to map out crashes.
Learn More
Latest News
Jan 25 2019
SWITRS GIS Map: Performance Issue
Jan 24 2019
Street Story - A new web tool released by SafeTREC
Dec 18 2018
2016-2017 SWITRS Update

Safety Data & Risks



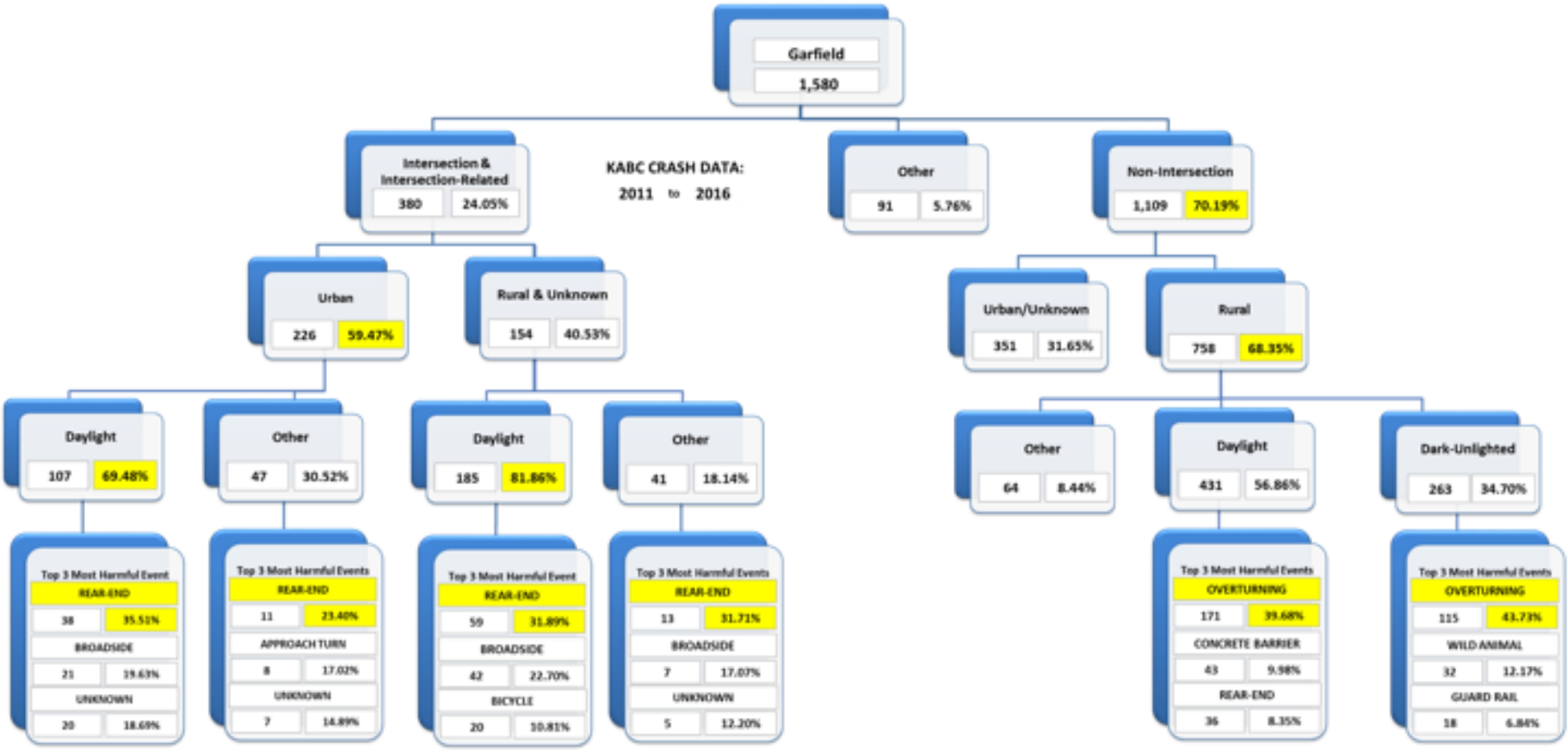
Example Crash Data (in Template)

2011-2016 Garfield County Data	Fatal/Serious Injury Crashes Only												KABC Crashes												Total Crashes											
	County Roads		Glenwood Springs & Rifle		Garfield County								County Roads		Glenwood Springs & Rifle		Garfield County								County Roads		Springs & Rifle		Garfield County							
	2011-2016	%	2011-2016	%	2011-2016	%	2016	2015	2014	2013	2012	2011	2011-2016	%	2011-2016	%	2011-2016	%	2016	2015	2014	2013	2012	2011	2011-2016	%	2011-2016	%	2011-2016	%	2016	2015	2014	2013	2012
Overall Numbers																																			
Total # of Collisions	33		34		202		33	30	34	36	43	26	233		450		1,580		275	233	249	273	313	237	867		2,849		7,480		1,158	1,170	1,355	1,228	1,382
# of Fatal Collisions	5	15.2%	6	17.6%	41	20.3%	8	7	7	5	7	7	5	2.1%	6	1.3%	41	2.6%	8	7	7	5	7	7	5	0.6%	6	0.2%	41	0.5%	8	7	7	5	7
# of Serious Injury Collisions	28	84.8%	28	82.4%	161	79.7%	25	23	27	31	36	19	28	12.0%	28	6.2%	161	10.2%	25	23	27	31	36	19	28	3.2%	28	1.0%	161	2.2%	25	23	27	31	36
# of Alcohol-Related Collisions	11	33.3%	8	23.5%	47	23.3%	12	9	9	6	8	3	60	25.8%	43	9.6%	172	10.9%	28	28	29	30	31	26	140	16.1%	111	3.9%	420	5.6%	60	68	69	75	74
Total # of Fatalities	5		7		41		8	7	7	5	7	7	5		7		41		8	7	7	5	7	7	5		7		41		8	7	7	5	7
Total # of Injuries	38		47		175		26	25	30	33	40	21	283		553		2,041		350	299	323	361	398	310	283		553		2,041		350	299	323	361	398
Weather																																			
Fog	0	0.0%	0	0.0%	0	0.0%	0	0	0	0	0	0	0	0.0%	1	0.2%	2	0.1%	0	0	0	0	1	1	1	0.1%	4	0.1%	18	0.2%	2	3	0	4	3
None	22	66.7%	27	79.4%	157	77.7%	26	22	22	27	37	23	124	53.2%	375	83.3%	1,186	75.1%	216	174	175	193	251	177	422	48.7%	2,203	77.3%	5,475	73.2%	906	887	896	871	1,083
Rain	0	0.0%	0	0.0%	9	4.5%	0	2	1	4	2	0	6	2.6%	14	3.1%	85	5.4%	15	19	6	24	9	12	28	3.2%	105	3.7%	370	4.9%	57	71	56	75	37
Snow/Sleet/Hail	2	6.1%	2	5.9%	21	10.4%	5	3	7	1	4	1	20	8.6%	18	4.0%	173	10.9%	26	19	39	26	44	19	82	9.5%	231	8.1%	923	12.3%	98	120	246	141	208
Unknown	9	27.3%	4	11.8%	13	6.4%	1	3	4	3	0	2	83	35.6%	41	9.1%	128	8.1%	17	21	28	29	7	26	332	38.3%	300	10.5%	669	8.9%	92	88	150	132	46
Wind	0	0.0%	1	2.9%	2	1.0%	1	0	0	1	0	0	0	0.0%	1	0.2%	6	0.4%	1	0	1	1	1	2	2	0.2%	6	0.2%	25	0.3%	3	1	7	5	5
Lighting																																			
Dark-Lighted	0	0.0%	3	8.8%	11	5.4%	2	2	3	2	1	1	1	0.4%	67	14.9%	105	6.6%	24	14	18	15	19	15	19	2.2%	434	15.2%	641	8.6%	100	116	129	87	114
Dark-Unlighted	12	36.4%	4	11.8%	59	29.2%	10	9	6	9	16	9	89	38.2%	24	5.3%	378	23.9%	62	50	50	72	80	64	327	37.7%	192	6.7%	1,629	21.8%	248	214	274	266	348
Dawn or Dusk	2	6.1%	3	8.8%	14	6.9%	3	2	2	3	2	2	17	7.3%	16	3.6%	96	6.1%	14	12	19	16	21	14	59	6.8%	101	3.5%	437	5.8%	58	82	73	65	79
Daylight	19	57.6%	24	70.6%	118	58.4%	18	17	23	22	24	14	126	54.1%	342	76.0%	1,000	63.3%	175	156	162	170	193	144	462	53.3%	2,110	74.1%	4,751	63.5%	750	751	875	807	837
Unknown	0	0.0%	0	0.0%	0	0.0%	0	0	0	0	0	0	0	0.0%	1	0.2%	1	0.1%	0	1	0	0	0	0	0	0.0%	12	0.4%	22	0.3%	2	7	4	3	4
Most Severe Injury Reported																																			
5 (K)	5	15.2%	6	17.6%	41	20.3%	8	7	7	5	7	7	5	2.1%	6	1.3%	41	2.6%	8	7	7	5	7	7	5	0.6%	6	0.2%	41	0.5%	8	7	7	5	7
4 (A)	28	84.8%	28	82.4%	161	79.7%	25	23	27	31	36	19	28	12.0%	28	6.2%	161	10.2%	25	23	27	31	36	19	28	3.2%	28	1.0%	161	2.2%	25	23	27	31	36
3 (B)													97	41.6%	105	23.3%	506	32.0%	95	73	75	100	94	69	97	11.2%	105	3.7%	506	6.8%	95	73	75	100	94
2 (C)													103	44.2%	311	69.1%	872	55.2%	147	130	140	137	176	142	103	11.9%	311	10.9%	872	11.7%	147	130	140	137	176
1 (O)																									634	73.1%	2,399	84.2%	5,900	78.9%	883	937	1,106	955	1,069
By Weekday																																			

Garfield - Full County | Glenwood & Rifle | County Roads Only

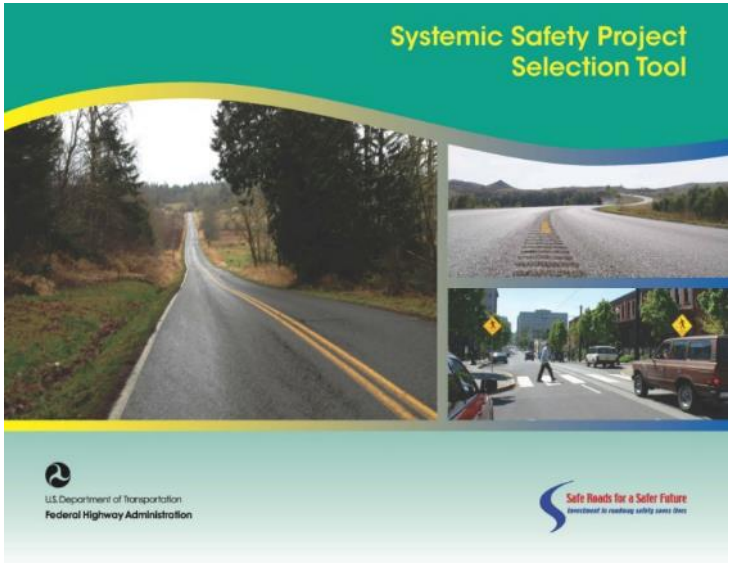
Ready

Crash Tree #1 (Intersection vs. Non-Intersection): Garfield County—All Roads; 1580 KABC crashes; 2011 – 2016



Roadway Risk Factors

- Lane width
- Shoulder width and type
- Horizontal Curvature, delineation, and advance warning devices
- Pavement condition and friction
- Roadside rating
- Presence of centerline and edgeline markings
- Presence of centerline, edgeline, or shoulder rumble strips
- Driveway design and density
- Intersection skew angle
- Intersection traffic control devices
- Intersection in or near horizontal curve
- Presence of left and right turn lanes
- Average daily traffic volumes
- Proportion of commercial vehicles
- Posted or operating speed
- Adjacent land use (agricultural, commercial, schools, alcohol sales/establishments
- Crosswalk presence
- Crossing distance



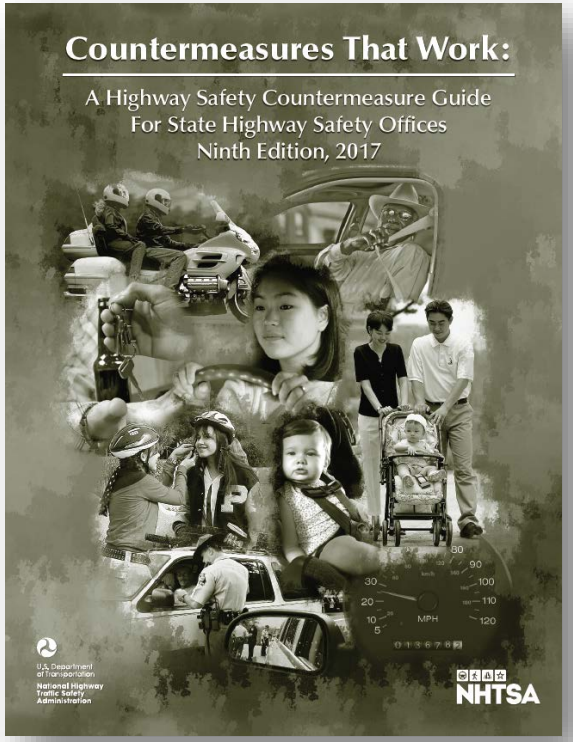
FHWA's Systemic Safety Project Selection Tool (page 18)

https://safety.fhwa.dot.gov/systemic/fhwasa13019/

Focus on Proven Safety Countermeasures

NHTSA's Countermeasures that Work

1. **Impaired Driving**
2. **Seatbelts**
3. **Speed Limits**
4. **Distracted Driving**
5. **Motorcycles**
6. **Young Drivers**
7. **License Renewal**
8. **Education Campaigns**
9. **Bicycle Helmets**



https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812478_countermeasures-that-work-a-highway-safety-countermeasures-guide-.pdf

LRSP Resources

The Voice of
County Road Officials

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NACE / FHWA Hands-On Local Road Safety Plan Workshop

U.S. Department of Transportation
Federal Highway Administration

This pilot program is a partnership with the Federal Highway Administration through the Every Day Counts initiative and will provide a unique opportunity for your agency to participate in a blended learning program culminating in a "hands-on" pre-conference workshop on April 22 at the NACE 2018 Conference at the Wisconsin Dells.

Local Road Safety Plan development has been a strategic priority for the National Association of County Engineer's in recent ye ıtates that have implemented them. Th ı the completion of the pilot. This will b e in cooperation with local, state and fe

Develop a LRSP frame
Foster local, state, fed

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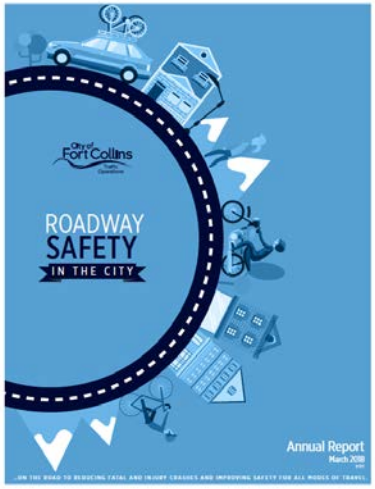
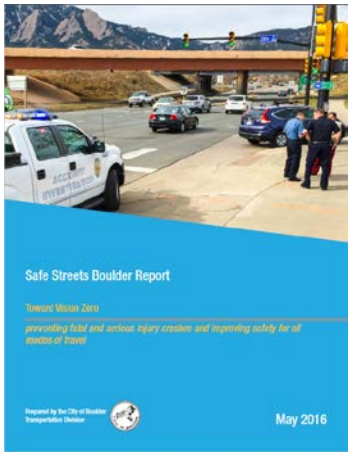
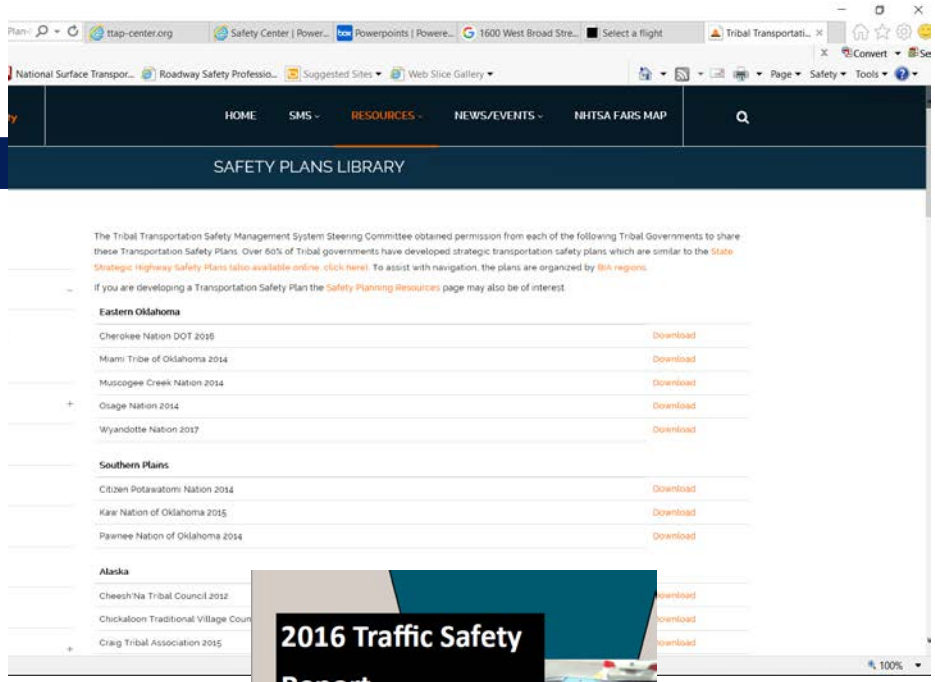
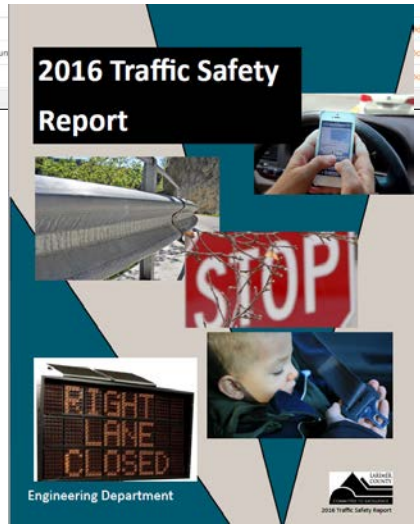




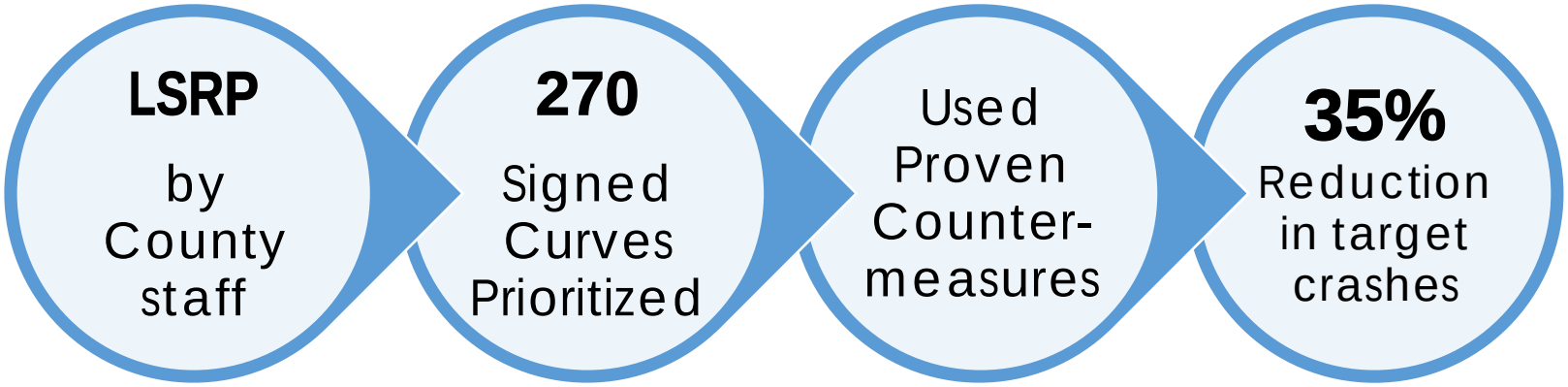




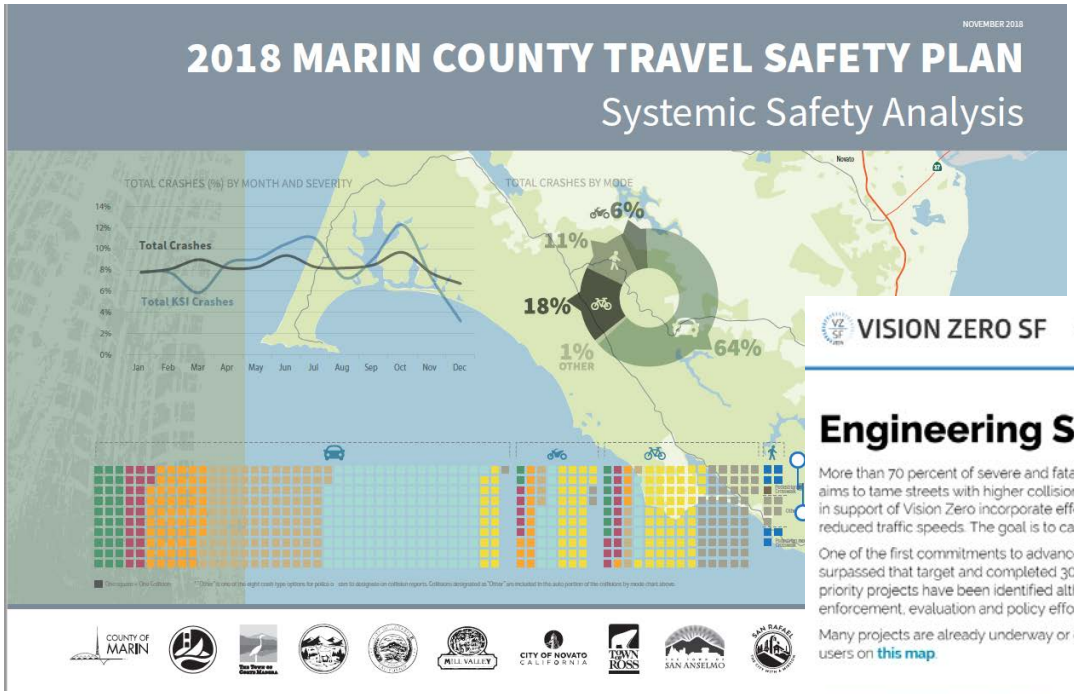
Discussion about Implementation

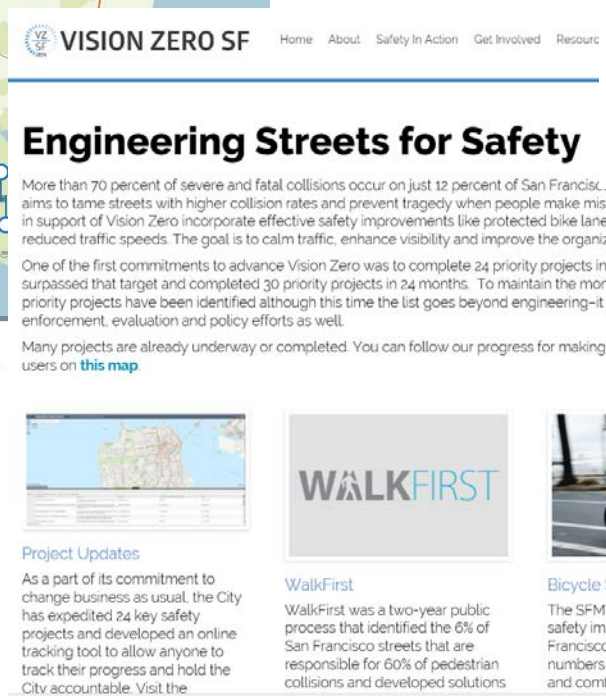
- **Buy-in**
- **Partners**
- **Measurable**
- **Money**
- **Timeline**
- **Follow-through**
- **Time**
- **Acceptance**

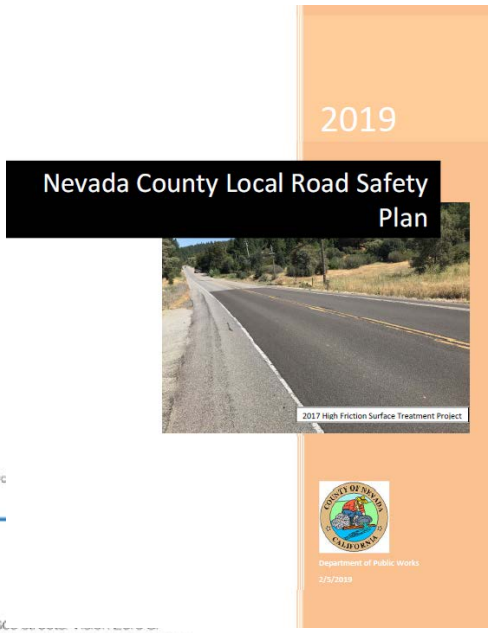
Case Study: Thurston County, WA



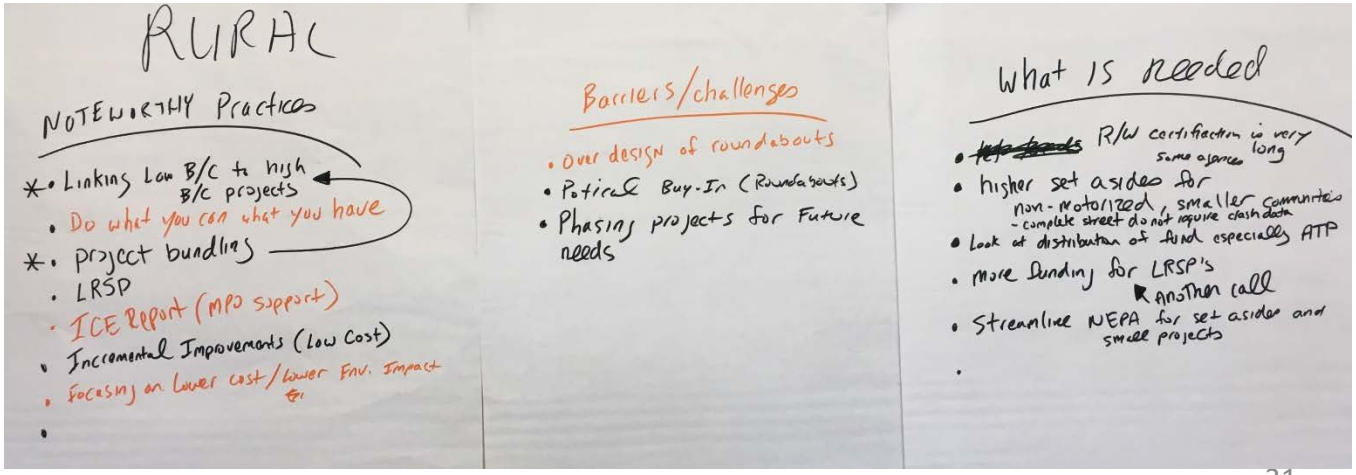
CA Local Road Safety Plans







The CA LRSP Peer Exchange – Feb 2019



"Do what you can,
with what you have,
where you are."
– *Theodore Roosevelt*


why
when
who
where
what
why
QUESTIONS
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where
who
what
how
when