Improving Bicyclist and Pedestrian Safety with Road Safety Audits

Presented by FHWA Office of Safety, VHB, and UNC HSRC

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Housekeeping

⇒ Submit your questions
⇒ Webinar archive: www.pedbikeinfo.org/webinars
⇒ Live transcript: www.streamtext.net/player?event=HSRC
⇒ Certificates and professional development hours
⇒ Follow-up email later today
⇒ Review previous episodes and sign up for upcoming sessions
Meet the Panel

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Resources Available to Help Improve Pedestrian and Bicyclist Safety

» Updated Pedestrian and Bicyclist Road Safety Audit Guide and Prompt List.
» Pedestrian and Bicycle Safety Focus States Efforts.
» Bikeway Selection Guide.
» USDOT Action Plan.
» Safe Transportation for Every Pedestrian (STEP).
Pedestrian and Bicyclist Road Safety Audit Guide and Prompt List

» Intended to support agencies that are interested in conducting pedestrian- and bicycle-focused RSAs.

» Includes information on safety risks for both modes, the RSA process, necessary data, and the roles and responsibilities of the RSA Team.

» Includes prompt lists for pedestrians and bicyclists to use in the field.

» This guide helps practitioners understand pedestrian and bicyclist issues in their jurisdiction and potentially achieve other goals in addition to safety.
Pedestrian and Bicycle Safety Focus States Efforts

FHWA's Safety Office has been providing extra resources to cities and states with the highest pedestrian and bicyclist fatalities and/or fatality rates.

» Working with the states/cities to assist them with developing pedestrian and bicycle safety action plans.

» Offering free technical assistance and training on how to design safe facilities and how to develop safety action plans.

» We recently re-evaluated the current list of states and cities and will be rolling out the program to new and continuing states this winter.
Pedestrian-Bicycle Focus Cities and States

LEGEND
- Focus States
- Focus Cities
Pedestrian and Bicycle Safety Focus States and Cities

» Over 300 training courses delivered.
» Over 6,000 people trained.
» Crash data analysis and countermeasure selection.
» Webinars and peer exchanges.
» Pedestrian and bike safety action plan development.
» Executive briefings.
Bikeway Selection Guide

» Helps transportation practitioners consider and make informed decisions about trade-offs relating to the selection of bikeway types.

» Builds upon FHWA’s active support for design flexibility and connected, safe, and comfortable bicycle networks.


» Free Tech Assistance through Spring 2021.
Complete in November 2020

The Plan identifies what the USDOT intends to accomplish with respect to pedestrian safety in the next 2 years and beyond.

Took into account the themes identified by stakeholders during the July 2020 Pedestrian Safety Summit webinars.

STEP
Safe Transportation for Every Pedestrian

https://safety.fhwa.dot.gov/ped_bike/step/resources/
The Spectacular Seven STEP Countermeasures

• Rectangular rapid flashing beacons (RRFBs)
• Leading pedestrian intervals (LPIs)
• Crosswalk visibility enhancements
• Raised crosswalks
• Pedestrian crossing/refuge islands
• Pedestrian hybrid beacons (PHBs)
• Road Diets
Technical Assistance

» STEP Action Plans.
» STEP Workshops (1/2 day – Full day).
  » MPOs.
» New partners.
» State DOTs.
» Scan Tours.
» Road Safety Assessments (RSAs).

» STEP UP Resources

https://safety.fhwa.dot.gov/ped_bike/step/step_up_campaign/
THANK YOU!

http://safety.fhwa.dot.gov/ped_bike/

E-mail: tamara.redmon@dot.gov

Order documents: http://safety.fhwa.dot.gov/ped_bike/ped_bike_order.cfm
Conducting Pedestrian and Bicyclist Road Safety Audits

Elissa Goughnour, VHB
Dan Gelinne, UNC Highway Safety Research Center
Presentation Topics

1. Introduce Road Safety Audits (RSAs)

2. New Guidance for Pedestrian and Bicyclist RSAs

3. Steps for Planning and Conducting Pedestrian and Bicyclist RSAs

4. Examples of RSAs in California and Albuquerque, NM
Road Safety Audit (RSA)

Proactive, formal safety performance examination of an existing roadway or future roadway project and its surrounding area

-FHWA
Road Safety Audits...

Differ from traditional or informal field reviews
Road Safety Audits...

Are conducted by an independent, multidisciplinary team of transportation professionals.
Road Safety Audits...

Can be used throughout the planning and project development process (from planning to construction)
Road Safety Audits...

Are recognized by FHWA as a Proven Safety Countermeasure
RSAs are used to answer two primary questions:

1. What elements of the road may present a safety concern: to what extent, to which road users, and under what circumstances?

2. What opportunities exist to eliminate or mitigate identified safety concerns?

Source: FHWA Road Safety Audit Website, https://safety.fhwa.dot.gov/rsa/
Image: Sree Gajula, PBIC Image Library
Benefits of RSAs

• Identify design changes and countermeasures to prevent deaths and serious injuries
• Incorporate changes or make design corrections before projects are built
• Consider influence of land use and human behavior on observed safety problems; reveal problems not evident from other data sources
• Focus specific attention on the concerns of specific road users
• Build collaborative relationships between difference disciplines, departments and agencies
When can RSAs be used?

RSAs can be used at any stage throughout project planning and development:

**Pre-Construction**
- Identify safety issues early in the planning and design process so they can be incorporated into the project

**Construction**
- Audits can consider work zone traffic control and pre-opening of the roadway to inform the construction phase

**Post-Construction**
- Observations of conditions after construction is complete to correct or alter aspects of the project
Pedestrian and Bicyclist RSAs

• RSA process specifically intended to improve safety for pedestrians and bicyclists.
• Allows agencies to conduct detailed reviews that focus on one or both modes.

Anatomy of the Ped/Bike RSA Guide

• A review of crash trends and risk factors associated with pedestrian and bicyclist safety
• Detailed eight-step process for planning, conducting and reporting findings from RSAs
• Recommended roles and responsibilities for those involved in the RSA process
• Sample field materials, prompt lists and resources to support RSA teams

what’s new?

★ Combined and simplified prompt lists
★ Incorporates micromobility
★ Use of new technologies to conduct RSAs
★ Emphasis on accessibility and user needs
★ Detailed review of safety risk factors
★ New and updated sample materials for planning and conducting RSAs

Pedestrian and Bicyclist RSA Process

Source: 2012 FHWA
Step 1: Identify Location for RSA

- High crash locations
- High risk locations
- Community feedback or locations of near misses
Step 2: Select RSA Team

Team Member Backgrounds

- Road safety
- Traffic operations
- Roadway design
- Accessibility perspective
- Bicyclist perspective
- Transit operations
- Law enforcement
- Emergency medical services
Step 3: Convene RSA Team Meeting

Valuable time to consider data and information that may not be available in the field:

- Crash report details
- Relevant plans and future development
- Traffic volumes and pedestrian and bicyclist counts
- Input from individuals/orgs not represented on team
Step 3: Convene RSA Team Meeting

Consider additional data collection to enhance understanding.
Step 4: Conduct the RSA Field Review

Drive, walk, and bike through the study area

Image: Elissa Goughnour, VHB
Step 4: Conduct the RSA Field Review

Sample Field Packet
- Agenda
- Crash Diagrams
- Overview map
- Additional information (bike route map, transit route map, etc.)

Prompt Lists:
- Physical Environment / Infrastructure
- Traffic Control Devices
- Operations / Interactions / Behaviors
Exploring Alternatives to In-Person RSAs

- Use technology to enhance communication and understanding
- Prepare and collect data in advance
- Communicate with team members and stakeholders
- Incorporate in-person components
Thank You!

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California’s Bicyclist Collision Monitoring Program

Rachel Carpenter, PE
Chief Safety Officer
California Department of Transportation
Agenda

▶ Bicyclist Fatalities and Injuries
▶ Reducing Bicyclist Fatalities and Injuries
▶ Bicyclist Collision Monitoring Program
▶ Case Study: South Lake Tahoe U.S. 50
▶ Program Updates
▶ California’s New Approach
2017: California had the 2nd highest rate of bicyclist fatalities in the U.S.
Reducing Bicyclist Fatalities and Injuries

Then – Major Initiatives

- Adopted a “Towards Zero Deaths” framework
- Elevated bicyclist safety in 2015-2020 Strategic Plan
- Launched Pilot Bicycle Collision Monitoring Program in 2018
California’s Bicyclist Collision Monitoring Program

A State-Federal Partnership

- Caltrans identified high-collision locations and corridors throughout the State
- Caltrans adapted the RSA process for all corridor investigations and completed 252 investigations across all 12 Districts
- FHWA provided including technical assistance, training, and support for two Road Safety Audits (RSA)
Stakeholders – All Corridor Investigations

- Design engineer
- Maintenance staff
- Transit operators
- Local bicycling groups
- School staff
- District Bicycle and Pedestrian Coordinator
- Law enforcement/emergency responders
- Local agency staff
- Local community groups
- Transit Agencies
Challenges and Limitations

- Under-reporting of bicyclist collision data
- Unavailability of “exposure” data
- Lack of reliable CMF bicycle safety countermeasures
Road Safety Audit conducted by FHWA on U.S. 50 in South Lake Tahoe

FHWA report recommendations include widened bicycle lanes, colored treatments, & mid-block crossings

State provided funding to implement recommendations

Anticipated completion date: End of 2021
Lessons Learned

- Develop and memorialize partnerships
- Improve data by conducting bicycle and pedestrian counts
- Improve data by improving crash reporting
- Utilize various funding options for planning, preliminary engineering, and construction
Program Updates

From Pilot to Permanent

- Bicyclist Collision Monitoring Program received permanent funding

- Similar path to Pedestrian Collision Monitoring Program
  - HCCL/corridor program (reactive)
  - Systemic (proactive)

- Both programs will be released annually
California’s New Approach - Four Pillars

1. Doubling Down on What Works
2. Accelerate Advanced Technology
3. Lead Safety Culture Change
4. Integrate Equity
Caltrans will develop a Road Safety Audit program

Benefits of Road Safety Audits include:

- Reduced number and severity of crashes
- **10-60% reduction** in total crashes
- Improved awareness of safe design practices
- Increased opportunities for multimodal safety strategies

Source: https://safety.fhwa.dot.gov/provencountermeasures/road_safety_audit/
Thank you.

Contact:

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VIRTUAL RSA: LESSONS LEARNED

TERRA REED | CITY OF ALBUQUERQUE
PRESENTATION OVERVIEW

• Background + Corridor Choice
• Lessons Learned: Going Virtual in Response to COVID-19
  • Preparation
  • Virtual Format + Platform
  • Setting the Context
  • In-person Options – Still Important!
High Fatal + Injury Network
Data: 2014-2018
Explore the CABQ HFIN
Vulnerable Communities
Data: ACS 2014-2018
Based on CDC Social Vulnerability Index
High Fatal + Injury Network: Louisiana Blvd Between Lomas + Gibson
2 mile corridor
Area of Most Influence:
Louisiana Blvd Between Kathryn + Central
~3/4 mile corridor
APRIL 2020 JULY 2020…

PREPARING FOR THE VIRTUAL RSA

• Schedule and access
• Choose a platform (we used Zoom)
• Prepare Data + Background Info
• Virtual + In-person Options
• Follow-up + Discussion
PLATFORM + FORMAT

Choosing a Platform
• Screensharing options
• Chat function
• Accessibility

Lessons Learned
• Range of participants: City, MPO, School District, DOT, Community Partners
• Multiple ways to share + discuss
• Consider timing + attention spans
• Videos on for discussion (if possible)
SHARED EXPERIENCE

Set the context for the virtual RSA – establish shared understanding. This helps participants get a sense of the study area.

Data

• Land use data
• Traffic counts
• Crash data
• Transit data
• Speed data
• Photos + video
• Community input
PHOTOS, VIDEO + SPEED MEASUREMENT

Drone Footage

Lessons Learned
- Use a variety of tools – be creative!
- Helps participants get oriented
- Plan for data management and filesharing

Street View

Speed Measurement
COMMUNITY INPUT

Human experience and perceptions are important to understanding the reality of the study area.

Sources

• Past studies
• Community events
• Participants

Lessons Learned

• Harder to capture in virtual format (especially during a pandemic)
• Consider using online tools prior to the RSA (ex: StoryMap)
IN-PERSON OPPORTUNITIES

Even if the RSA is virtual, there are many benefits to providing opportunities for in-person participation.

Field test data
Observe behaviors
Observe real conditions
Treat yo’ selves
THANK YOU!

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Discussion

✈ Send us your questions

✈ Follow up with us:
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✈ Archive at www.pedbikeinfo.org/webinars