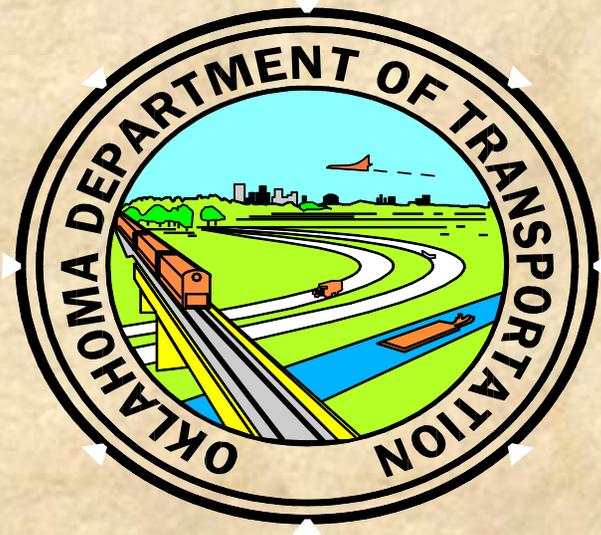


OKLAHOMA DEPARTMENT OF TRANSPORTATION



SAFE ROUTES TO SCHOOL PROJECT
KICK-OFF MEETING
JACKSON & JACKSON ENGINEERING
C.H. GUERNSEY & COMPANY

TEAM ORGANIZATION

SAFE ROUTES TO SCHOOL
PROGRAM MANAGER
ODOT

MANAGER
Derek Jackson,
PE, CFM

INFRASTRUCTURE

Derek Jackson, PE,
CFM
Kelly Coffman, ASLA,
LEED AP
Mike Sottong, RLA

TRANSPORTATION
/ TRAFFIC
ENGINEERING
Karl Stickley, PE
Ed Donwerth, EI
Daryl Brandon

Team Member Qualifications

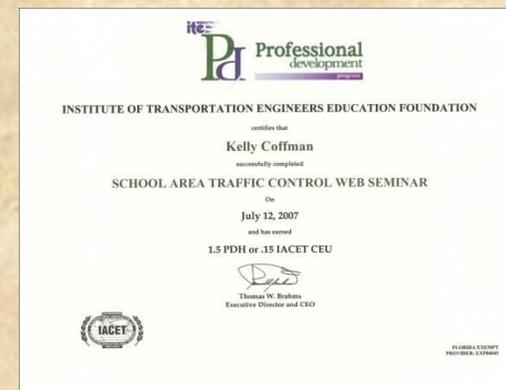
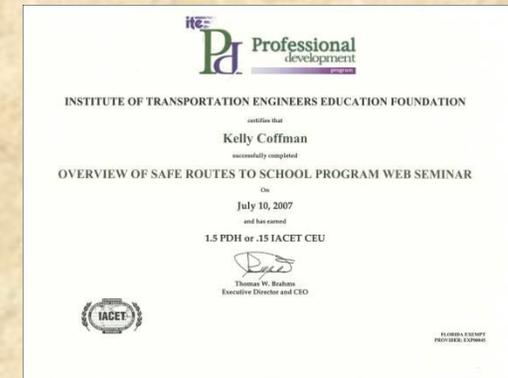
■ **Derek Jackson, P.E., CFM**

- 19 Years Experience in construction, contract administration, and design
- Eight years as City Engineer for Midwest City
- Three years as OKC Residency Engineer
- Staff Member of the Midwest City Traffic and Safety Commission
- Project implementation, management and coordination
- Public meetings and city council presentations
- Completed National SRTS Instructor Training

Team Member Qualifications

■ Kelly Coffman, ASLA, LEED AP

- 20 Years Experience
- Project management and coordination
- Experience with municipalities, ODOT, and stakeholder groups
- Public meetings, outreach, and education
- Attended SRTS and Complete Streets Training
- School site design experience
- Knowledge of sustainable design and planning principles
- Completed National SRTS Instructor Training



Team Members

- **Karl Stickley, PE,
Civil Engineer**

- 34 Years Experience
- Extensive experience transportation / traffic engineering
- Experience: ODOT, municipalities, and private development
- Schools: Sunset Elementary, Edmond, OK; Sequoyah Middle School, Edmond, OK; OSU/OKC; University of Central Oklahoma, Edmond, OK

- **Mike Sottong, RLA**

- 8 Years Experience
- Planning, landscape architecture, traffic calming

- **Daryl Brandon, Sr.
Design Technician**

- 36 Years Experience
- Extensive experience traffic engineering design/transportation
- Experience: ODOT, municipalities, and private development

Relevant Team Experience

- Sidewalks and Pedestrian Improvements
- ADA Contractor Certification course
- ODOT Enhancement Projects
- Planning and Community Outreach
- School Specific
- Traffic Calming
- Public Outreach and Involvement

SRTS FUNDING CATEGORIES:

- Infrastructure related activities
 - Sidewalk improvements
 - Traffic calming and speed reduction improvements
 - Pedestrian and bicycle crossing improvements
 - On-street bicycle facilities
 - Off-street bicycle and pedestrian facilities
 - Secure bicycle parking facilities
 - Traffic diversion improvements

Oklahoma Safe Routes to School

Join the Movement

HOME » School Safety » Safe Routes to School

[SRTS Home](#)
[About SRTS](#)
[News, Events & Programs](#)
[Presentations](#)
[Applications](#)
[Surveys](#)
[Resource Contacts](#)
[Links](#)
[Information in PDF form of request an Access Reader for Access Reader](#)

Notice: Call for 2010 James L. Oberstar Safe Routes to School Award Applications August 4, 2010 Deadline

2010 International Walk to School - October 6, 2010 "Register Now"

"Free" WalkSmart! K - 2 Grade Pedestrian Safety Program - Now available

The Oklahoma Department of Transportation (ODOT) is pleased to present the Oklahoma Safe Routes to School Program (SRTS). This unique safety program was created in an effort to substantially improve the ability of primary and middle school students to walk and bicycle to school safely. The purposes of the program are to:

1. Enable and encourage children, including those with disabilities, to walk and bicycle to school.
2. Make bicycling and walking to school safer and more appealing.
3. Encourage children to be active and healthy from an early age.
4. Facilitate the planning, development, and implementation of projects and activities to improve safety and reduce traffic around primary and middle schools.
5. Lessen fuel consumption and air pollution in the vicinity of schools.

SRTS Quick Program Overview

- Oklahoma will receive approximately \$1 million per year for five years.
- Primary beneficiaries of the program are kindergarten to 5th grade students.
- Funds will be made available through a competitive application process administered by the Oklahoma Department of Transportation's Safe Routes to School Program.
- Eligible applicants include state and local governments, tribal and regional agencies, nonprofit organizations, schools and school districts.
- Eligible project activities are infrastructure (engineering) and Non-infrastructure (educational programs & activities).
- Approved projects will be federally funded at 100 percent (not reimbursement).
- Award recipients must comply with federal and state funding requirements.

HOME » School Safety » Safe Routes to School

©2009 Oklahoma Department of Transportation | [HOME](#) | [ABOUT](#) | [CONTACT](#)

CONSULTANT ROLE

- Assist ODOT
- Promote Best Practices
- Link Sponsors and Resources
- Communicate
- Advocate for Program
- Facilitate Projects for Successful Grant Implementation

SafeRoutes
Building a Safer Future for All

Safe Routes to School programs enable community leaders, schools and parents across the United States to improve safety and encourage more children, including children with disabilities, to safely walk and bicycle to school. In the process, programs are working to reduce traffic congestion and improve health and the environment, making communities more livable for everyone. [Learn more.](#)

1,000+ Walk to School Day Events Now Registered
 October 6 is just weeks away. Visit www.walktoschool.org to see who's walking and to register your school's October event.

National Center Now On Facebook
 If you like safe routes, be sure to check out www.facebook.com/saferroutesinfo for news, discussion topics and other SRTS-related tidbits.

New: Summer 2010 SRTS Program Tracking Brief

New Resource: Involving Children with Disabilities in SRTS

Save the Date: The next CAN webinar titled *Looking Both Ways: Helping Parents and Educators Support Safe Walking and Bicycling* will be held on Tuesday, September 28, 2010 from 1:00 PM – 2:00 PM EDT.

Featured Pages

Safe Routes Matters Newsletter
 How does SRTS relate to livability? Read the National Center's [Q&A With Jim Toole](#), Associate Administrator for the Federal Highway Administration's Office of Safety.

The Dallas Morning News connects SRTS to First Lady Michelle Obama's Let's Move campaign.

- Learn about SRTS and health risks.
- Learn about SRTS as part of the solution.
- Learn about [Walk to School Day](#) and physical activity.

Every Step Counts Marketing Materials Now Available
 New marketing materials focus on the benefits of walking and bicycling to school and what motivates parents to consider making that choice.

SRTS in the News

Editorial: Kids who walk to school can be best kids
 Dayton Daily News
 09/08/2010

Whatever Happened to Walk to School?
 The Wall Street Journal
 09/07/2010

Walk to School Day Resources
 San Francisco Safe Routes to School
 09/07/2010

[Listen and subscribe to our podcast](#)

[Ask questions and share ideas in our forums](#)

[Sign up for our small newsletter](#)

[Case Study: Successes in A Five-Year Plan Makes SRTS Programs in Army](#)

[Visit the National SRTS Program site](#)

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the National Center for Safe Routes to School within the University of North Carolina Highway Safety Research Center in partnership with the American Association of State Highway and Transportation Officials, America Walks, the Governors Highway Safety Association, the Institute of Transportation Engineers, and Toole Design Group.

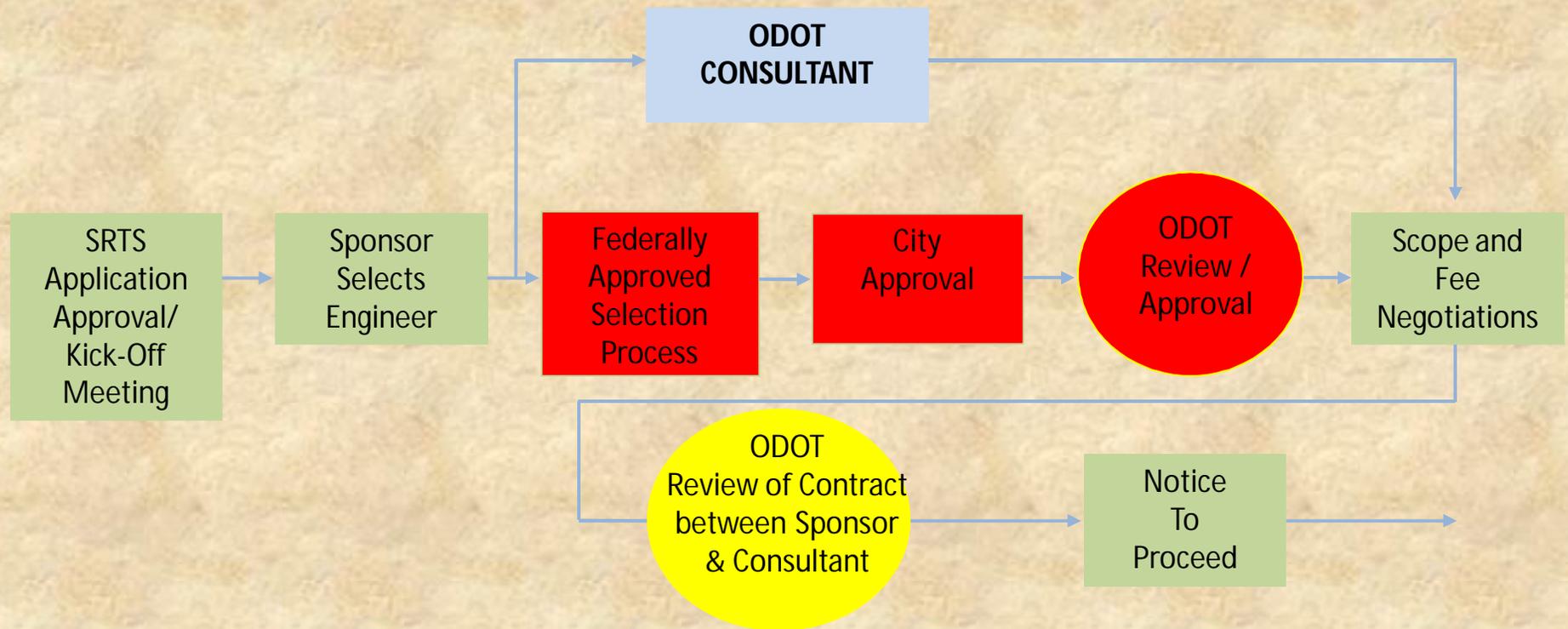
Project Design and Management

- Complete Project Within Two Years
- Define Scope of Work/Contract Agreement
- Environmental Clearance
- Plan-in-Hand/Field Review
- Right-of-Way/Utility
- Final Design

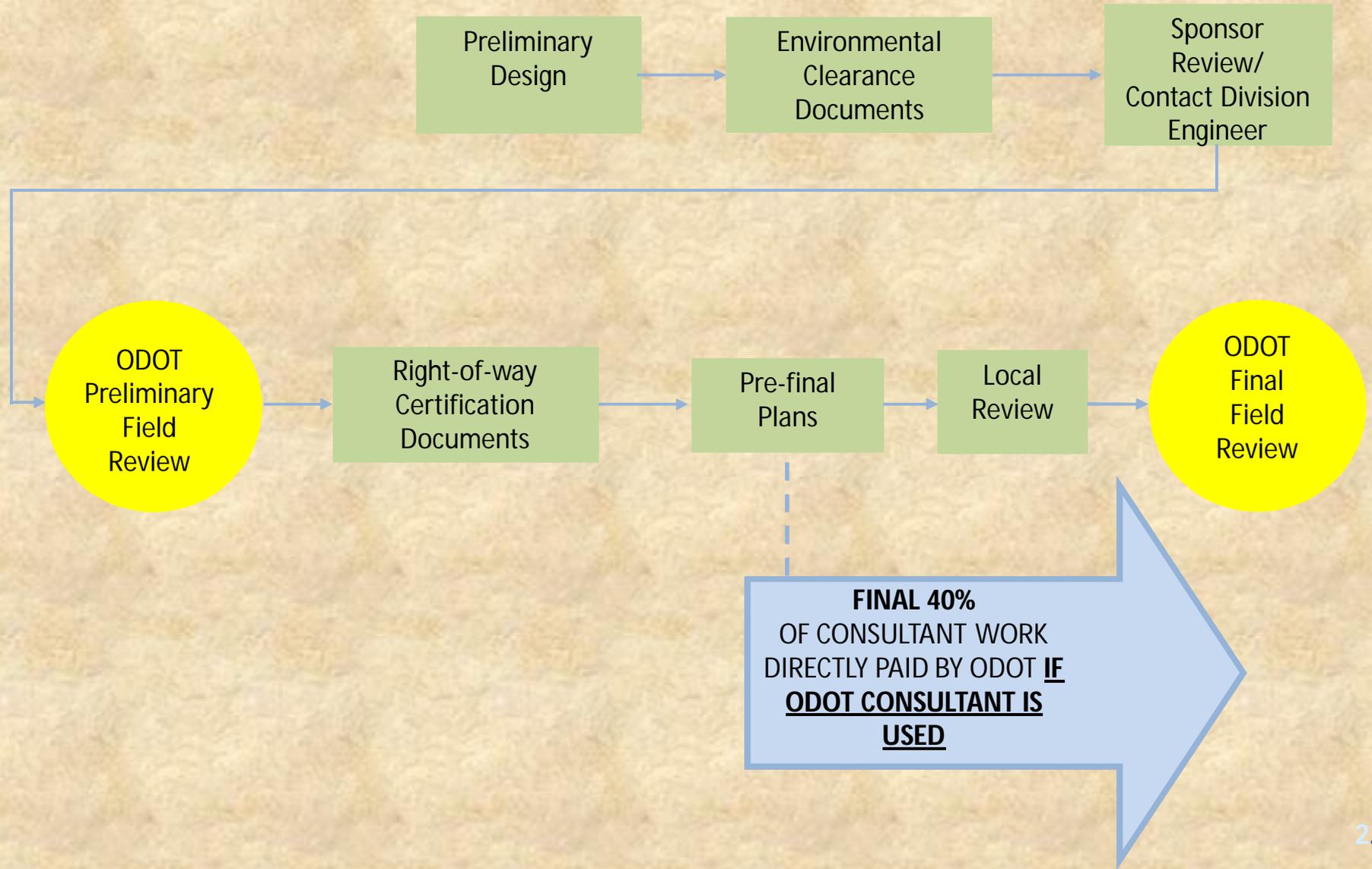
Project Design and Management

- Construction and Bidding Process
- Advertisement
- Pre-Bid
- Bid Opening
- Bid Award
- Notice to Proceed
- Pre-Construction Meeting
- Start Construction

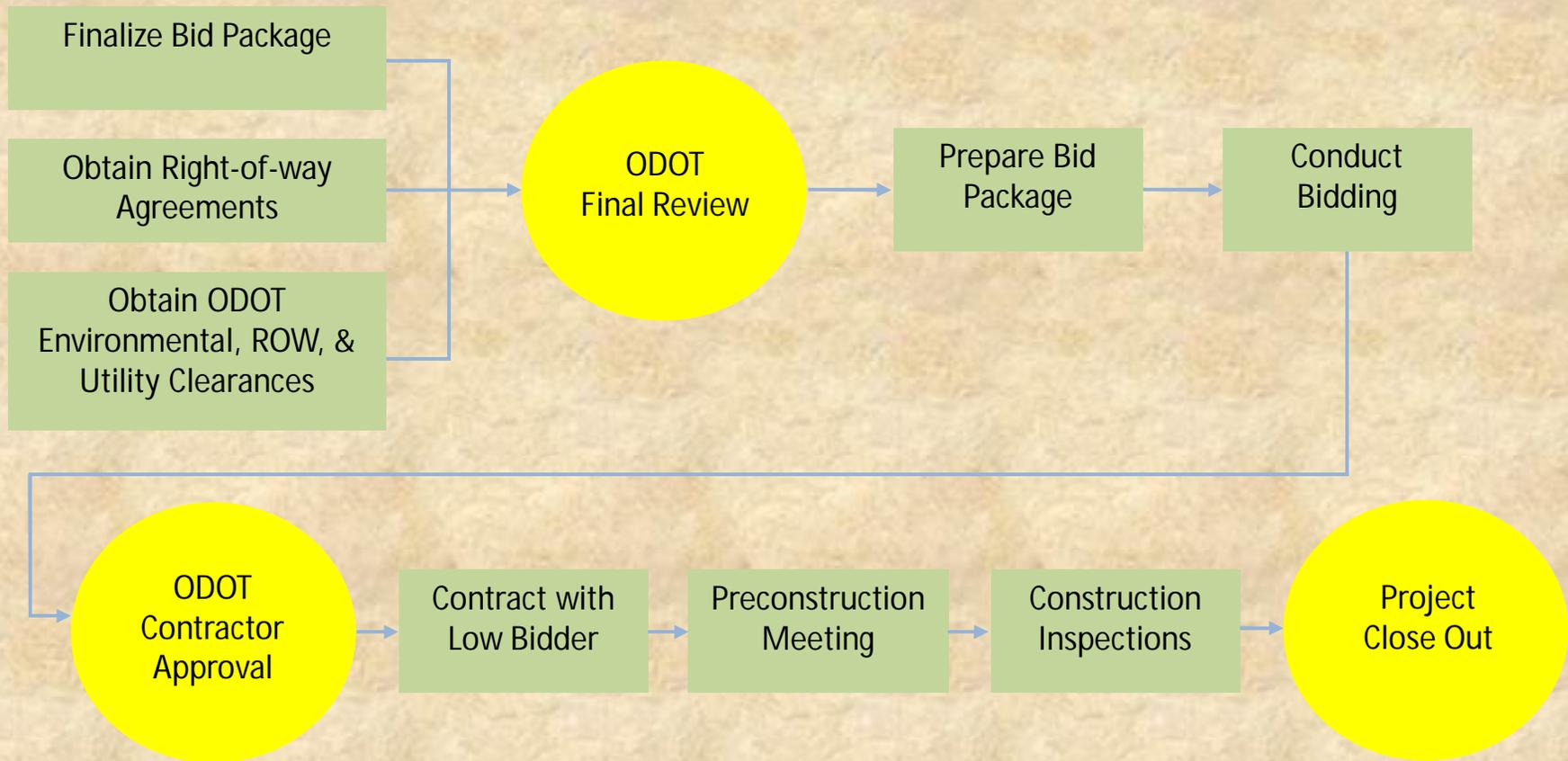
IMPLEMENTING YOUR SRTS PROJECT



IMPLEMENTING YOUR SRTS PROJECT



IMPLEMENTING YOUR SRTS PROJECT



Engineering Treatments and Strategies



Relationships are everything



School

Sidewalk

Street

Crossing

Creating safe routes with engineering

- Improve children's safety
- Improve accessibility
- Encourage more bicycling and walking



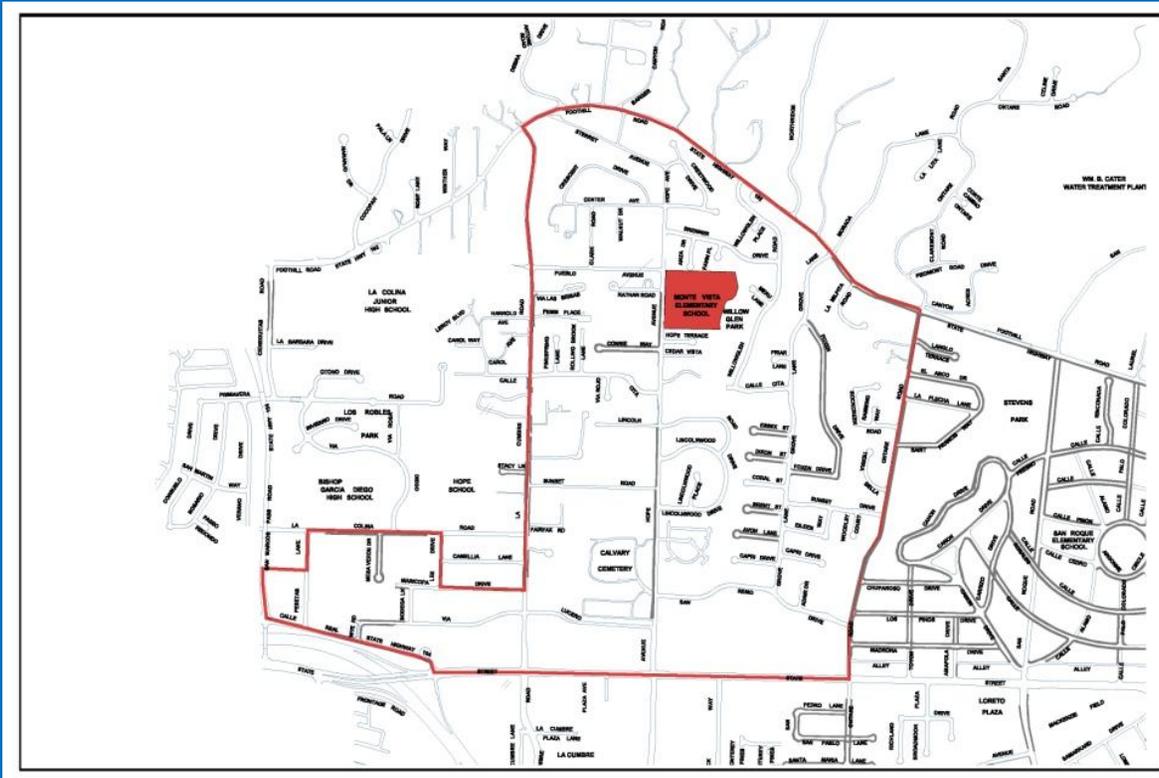
Walkways and crossings: Prerequisites for walking



Engineering topic outline

- **Around the School**
- Along the School Route
- Crossing the Street
- Slowing Down Traffic

School zone

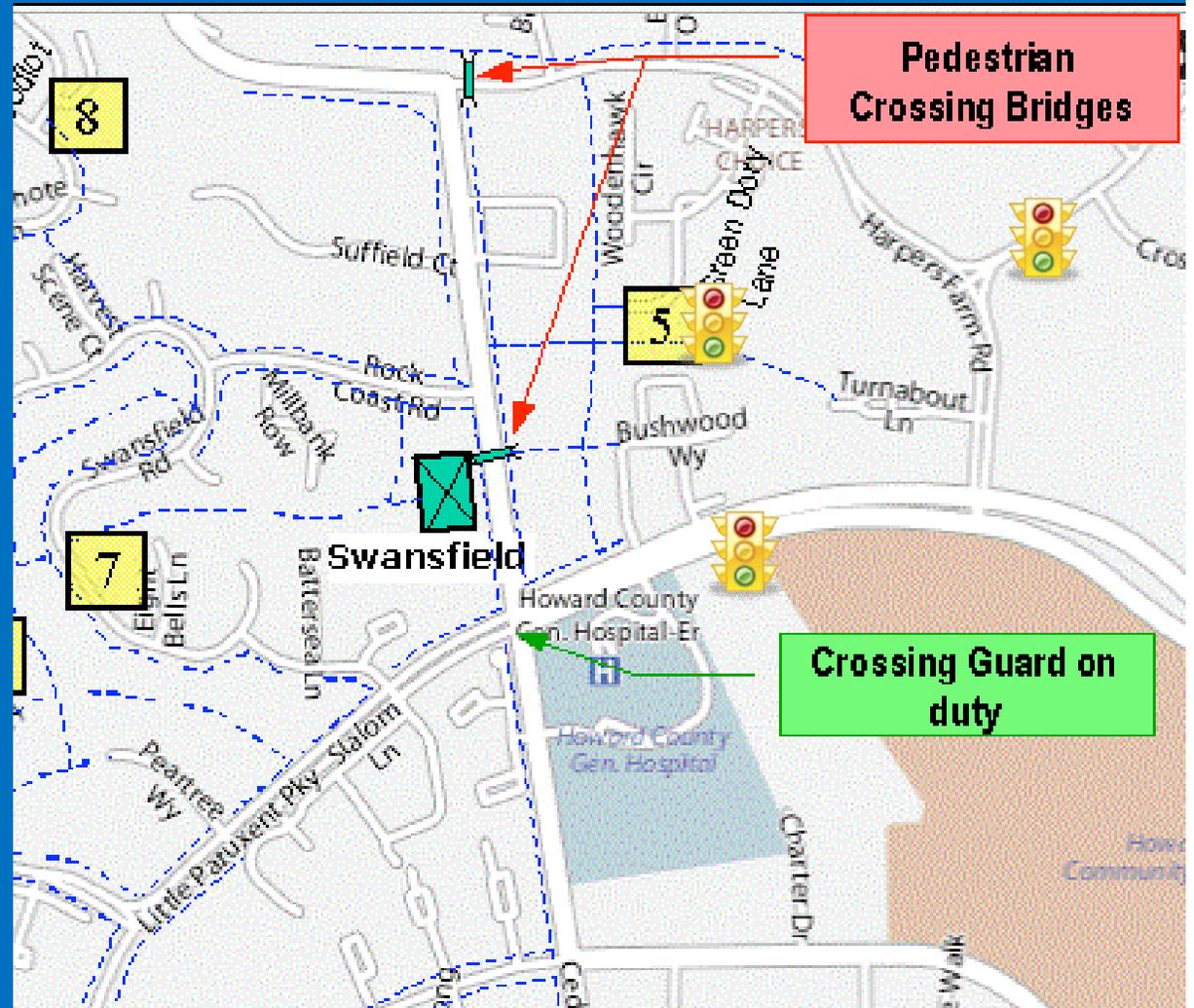


Existing conditions map

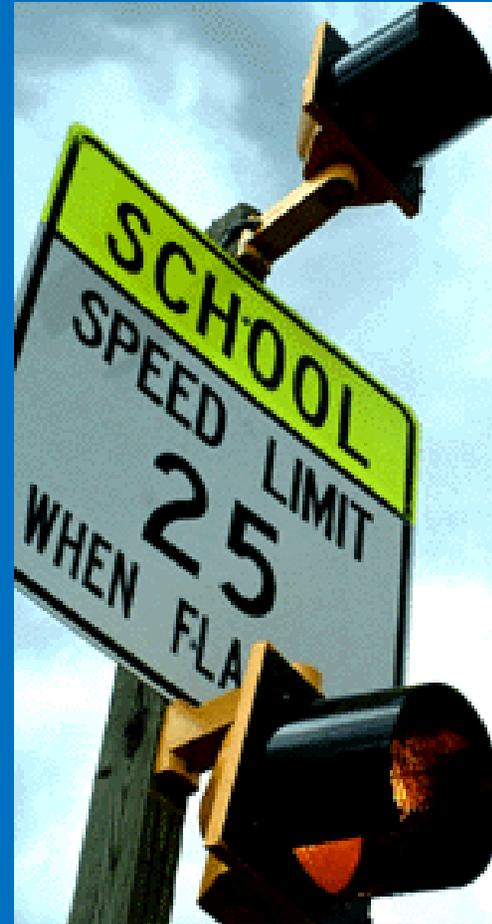
Sidewalks
and
pathways

Walking
school bus
locations

6



School area speed limit signing



School flasher and reduced speed limit sign



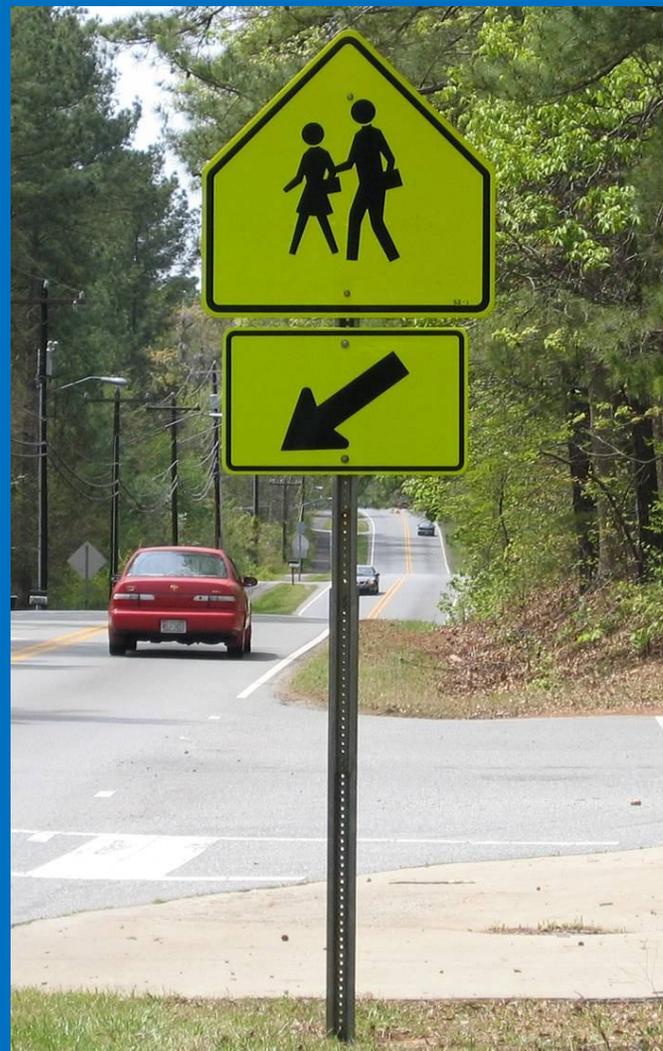
Overhead school flasher/speed sign



Changeable message signs



School crosswalk signs and advance warning signs



Fluorescent yellow-green post covers



old style

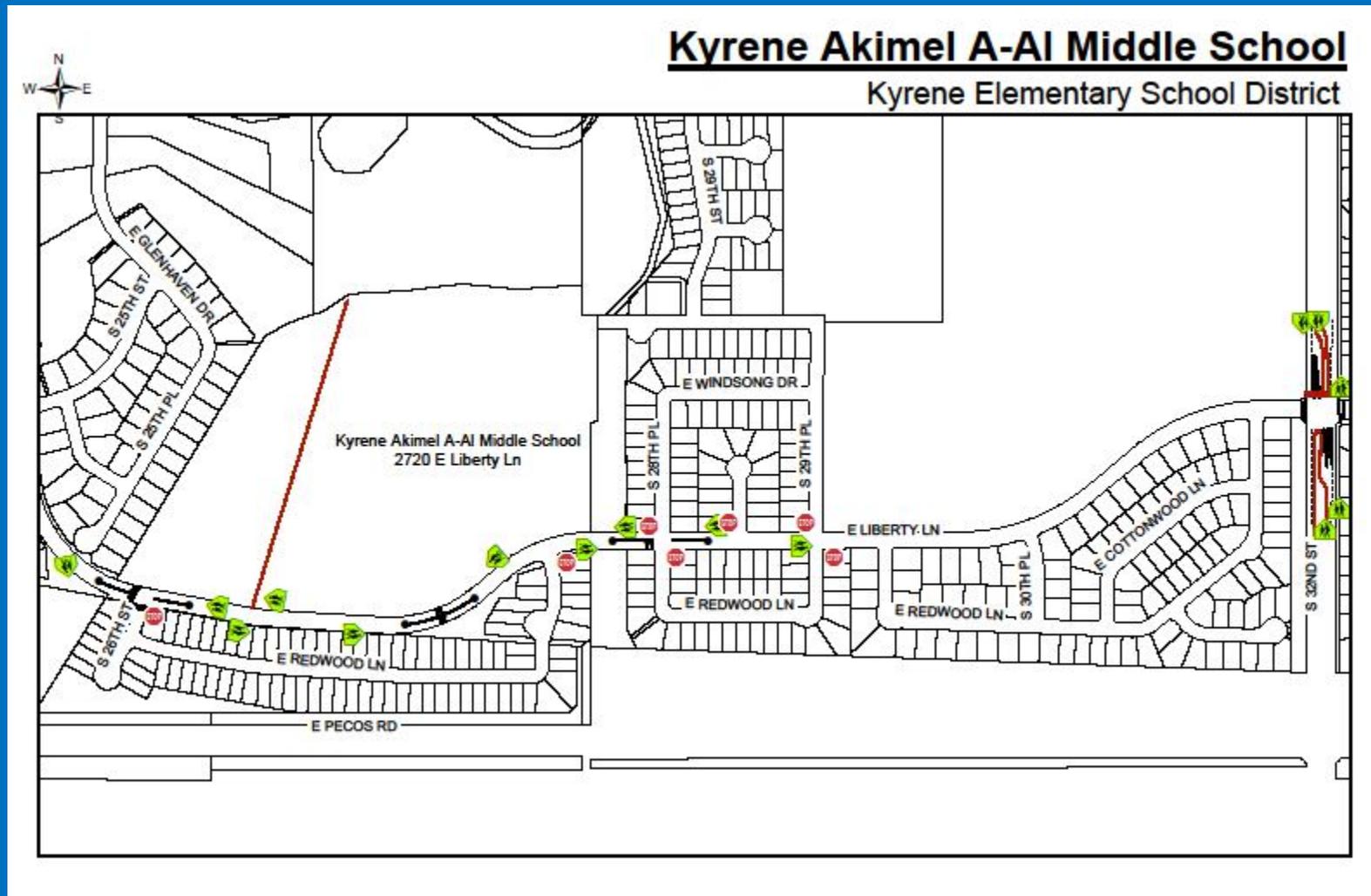


new style

School pavement markings



Sample school traffic control plan



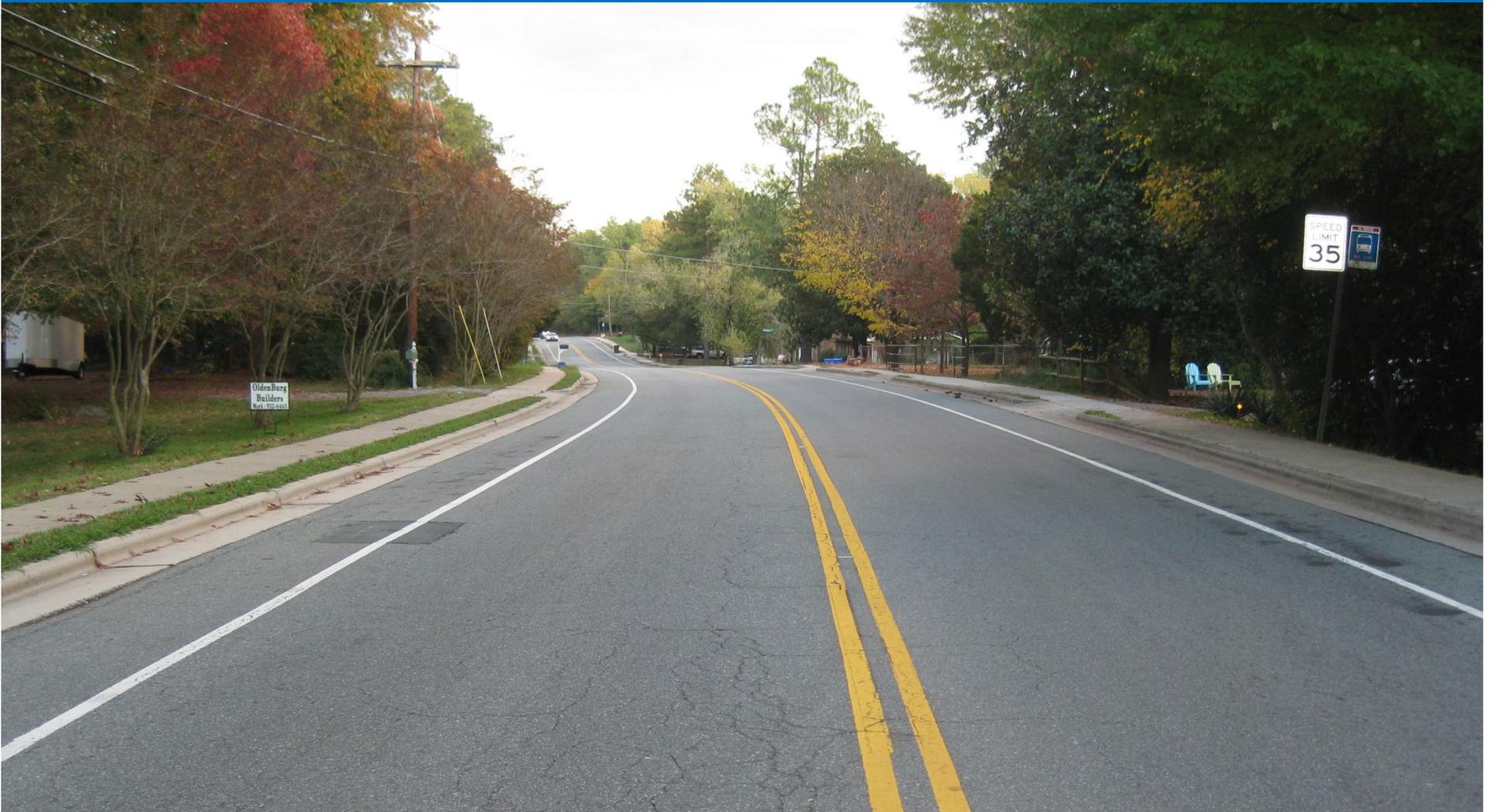
Engineering topic outline

- Around the School
- **Along the School Route**
 - Sidewalks
 - On-street bicycling
 - Pathways
 - Connectivity
- Crossing the Street
- Slowing Down Traffic

Sidewalks are essential



Sidewalks on both sides is preferred



Sidewalk design criteria



Connect all sidewalks in the school walking route



Splash zone
5' to 6'

Accommodate pedestrian desire lines outside of splash zones

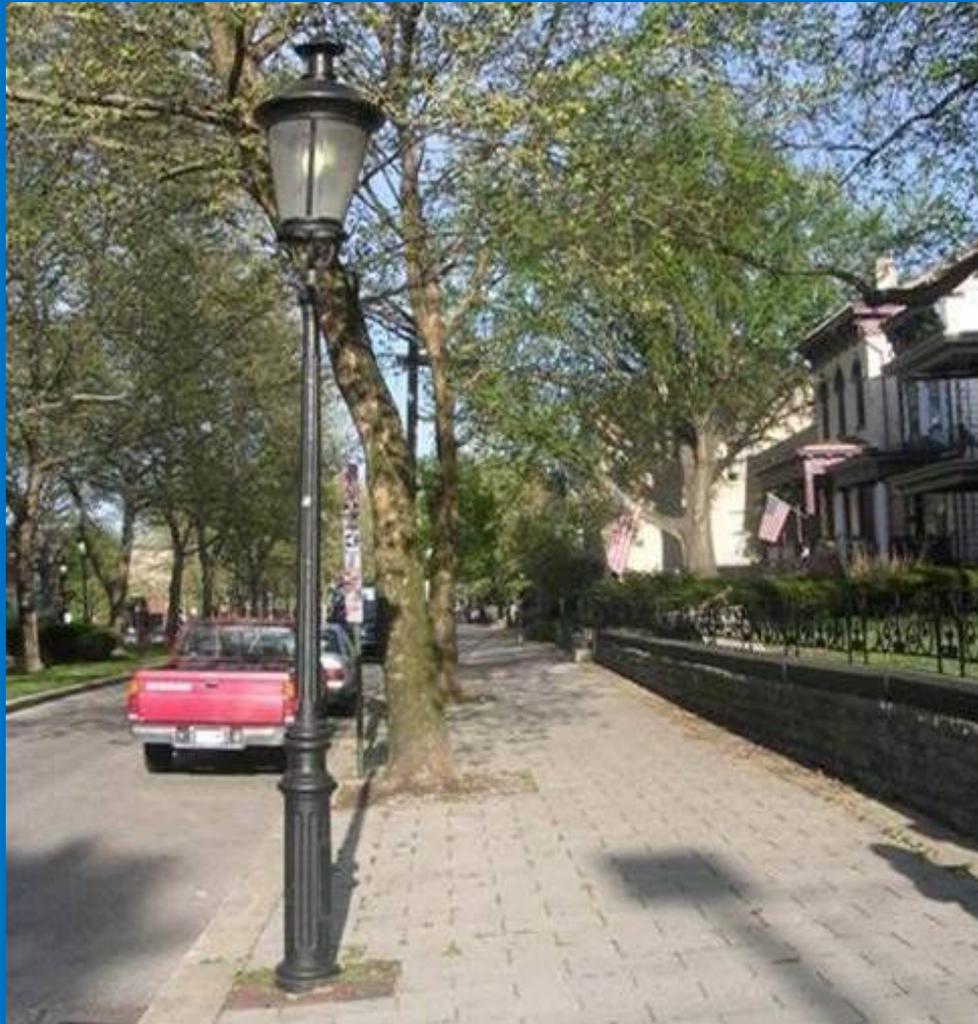
Provide sidewalk buffers



Maintain landscaping to provide clear walkways and sight distances



Install street lighting



Meet ADA requirements for universal design



Curb ramp design

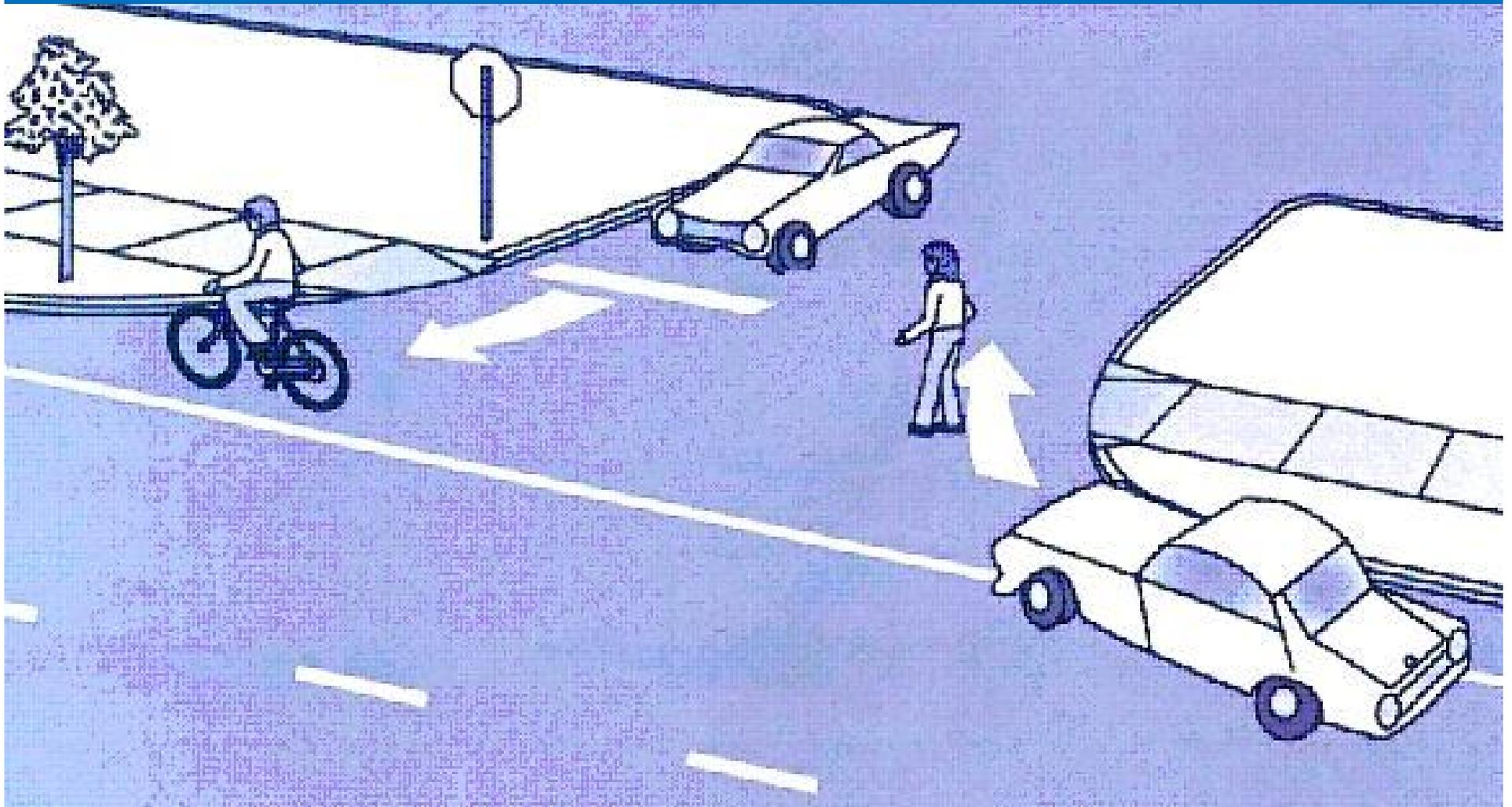
- Two ramps per corner
- Eight ramps per intersection



Warning strip – 4' x 2'



Don't build driveways like intersections

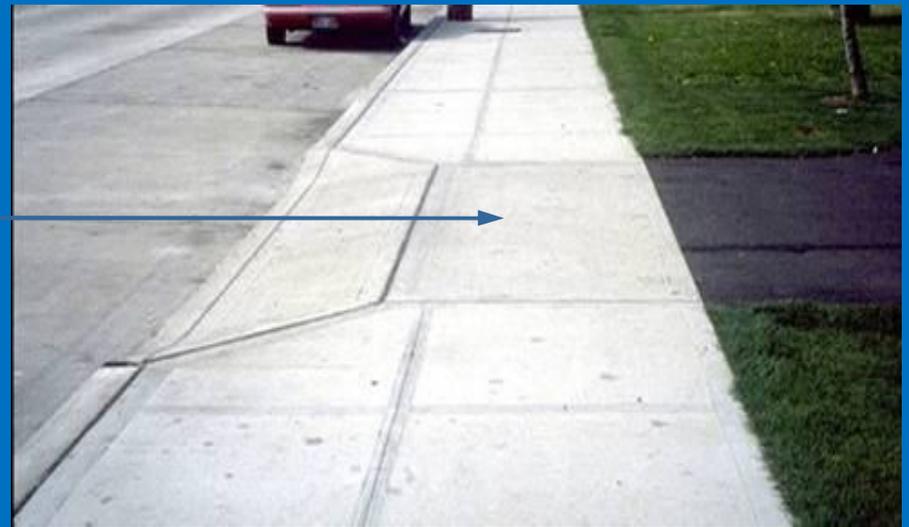


Driveway design options

- Apron does not go through sidewalk



- Sidewalk continues across the driveway



Along the school route: Bikeways

- Local streets
- Bike lanes
- Shoulders
- Pathways



Bicycle lanes

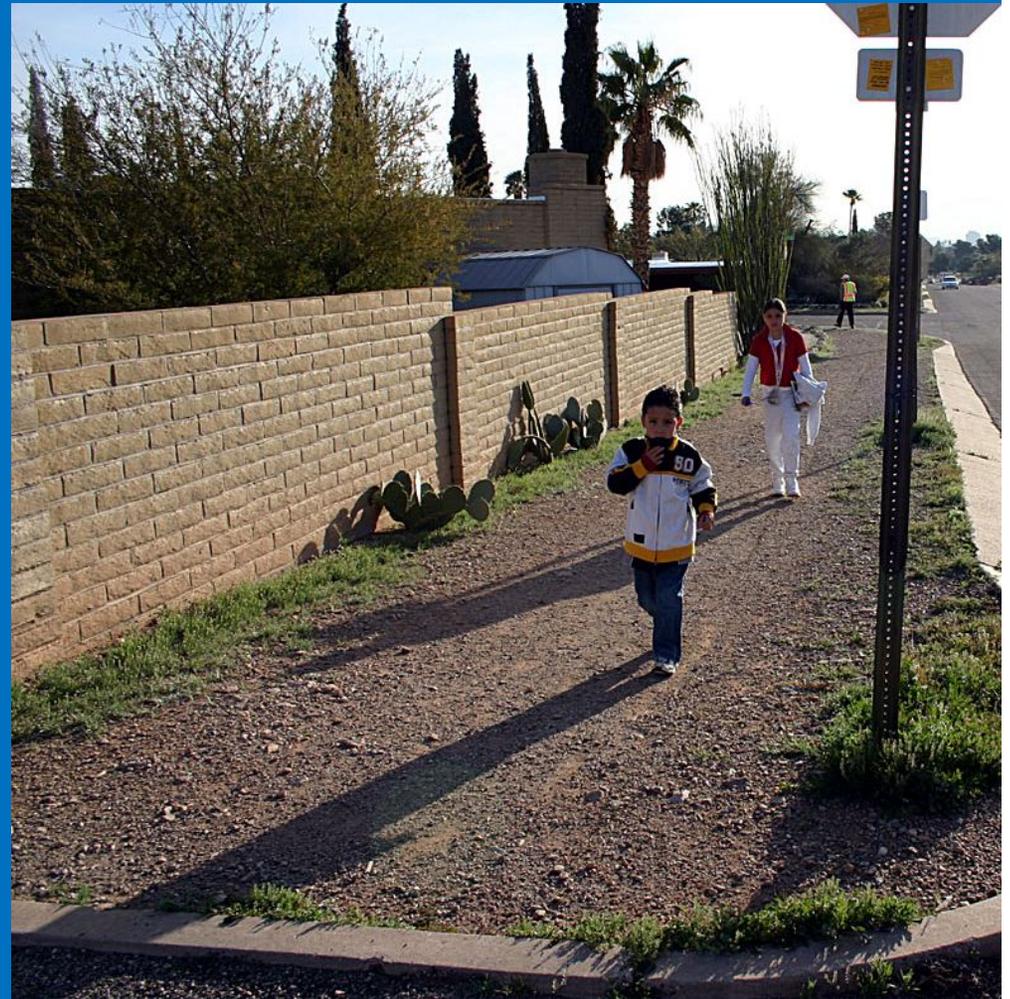


Install bicycle racks



Connectivity creates a pedestrian-friendly street system

- Reduces walking distance
- Offers more route choices – disperses traffic
- Less traffic = more pedestrian friendly



Engineering topic outline

- Around the School
- Along the School Route
- **Crossing the Street**
 - Introduction
 - Shortening crossing distances
 - Marking crosswalks
 - Creating visible crossings
 - Using stop signs and traffic signals
- Slowing Down Traffic

Principles for creating safe crossings

- Establish a school crossing
- Reduce crossing distance
- Use appropriate traffic control
 - Marked crosswalks
 - Warning signs or flashers
 - Stop signs and traffic signals
 - Crossing guards
- Slow vehicle speeds



Pedestrian and bicycle bridges

- Expensive
- Often not used
- Consider topography and circumstances



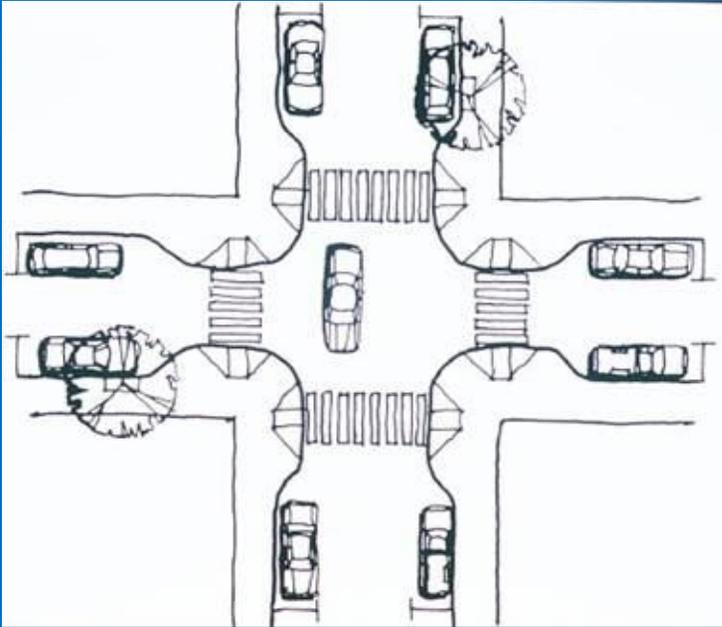
Pedestrian underpasses and bridges



Tools to reduce crossing distance

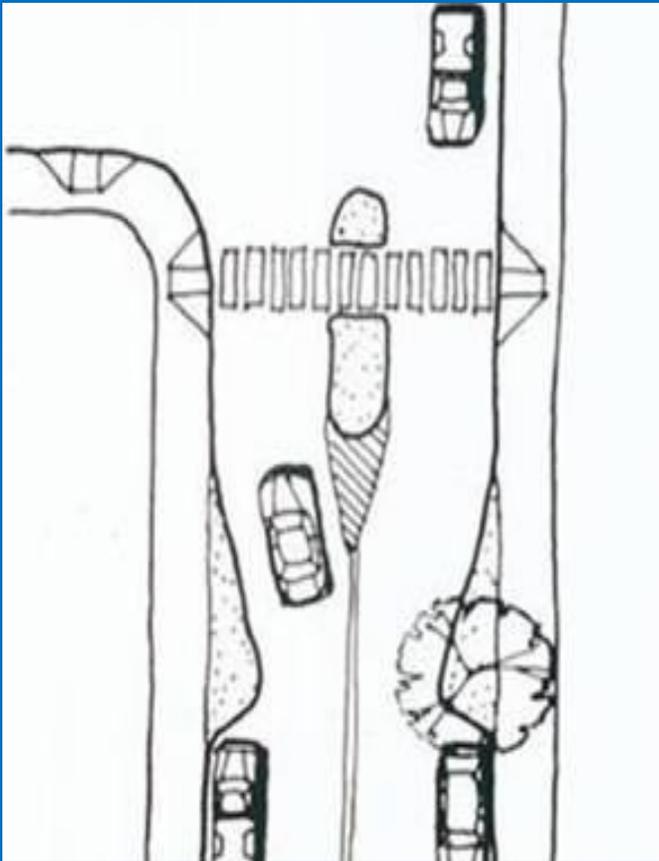


Curb extensions at crossings



Reduce the crossing distance

Crossing islands



Two-stage crossing island



Signs for pedestrians



Waiting areas and "stand-back" lines



Road diet – watch it happen



Road diet – watch it happen



Road diet – watch it happen



Road diets can benefit many

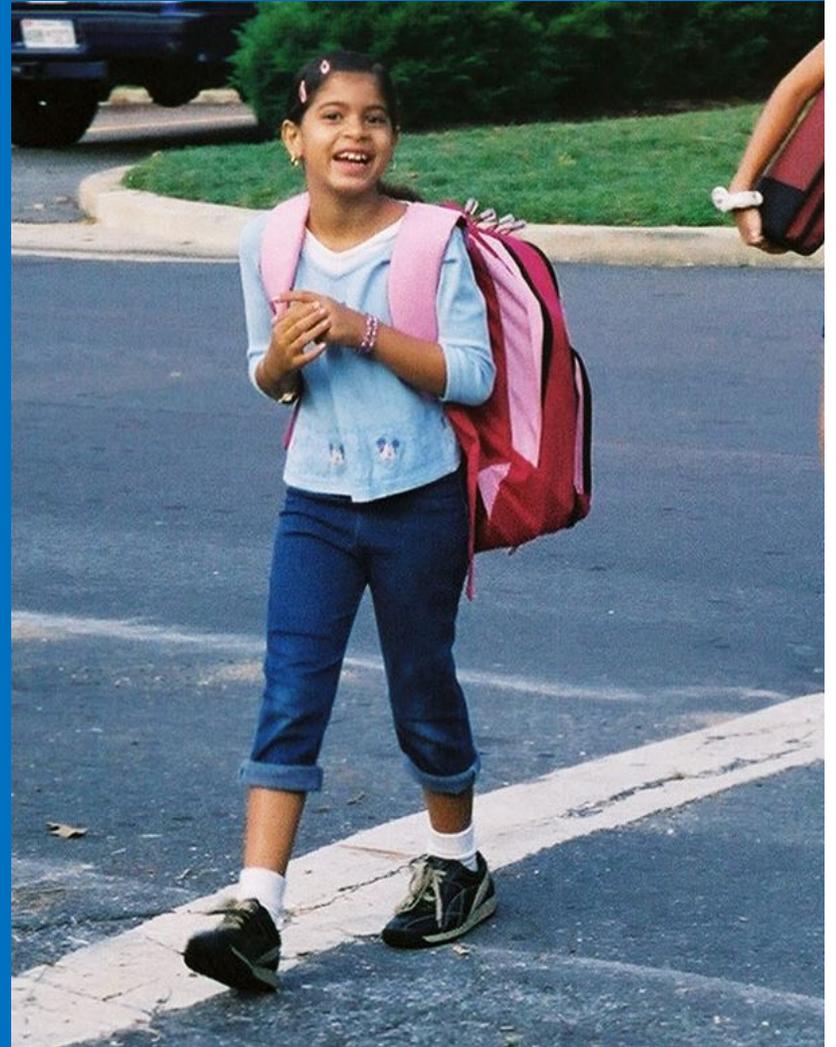


Marking crosswalks



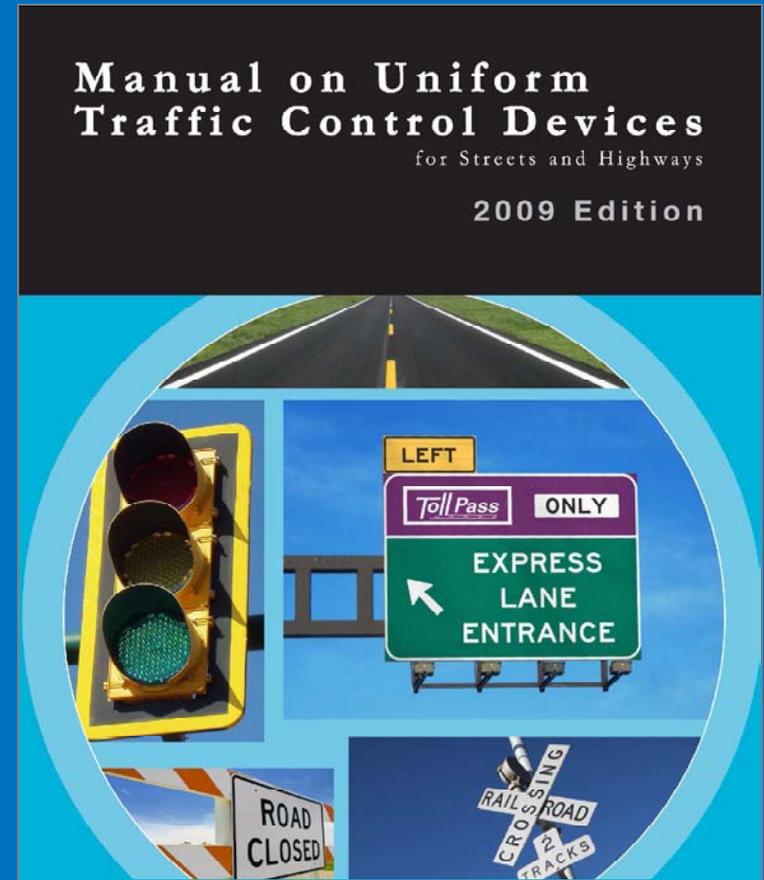
Why install marked crosswalks?

- Indicate a preferred pedestrian crossing location
- Alert drivers to an often-used pedestrian crossing
- Indicate school walking routes



Where to install marked crosswalks

- Signalized intersections
- School routes
- Uncontrolled crossings



This crosswalk meets guidelines



Install high-visibility markings



Ladder-style is easier to see.

High visibility markings



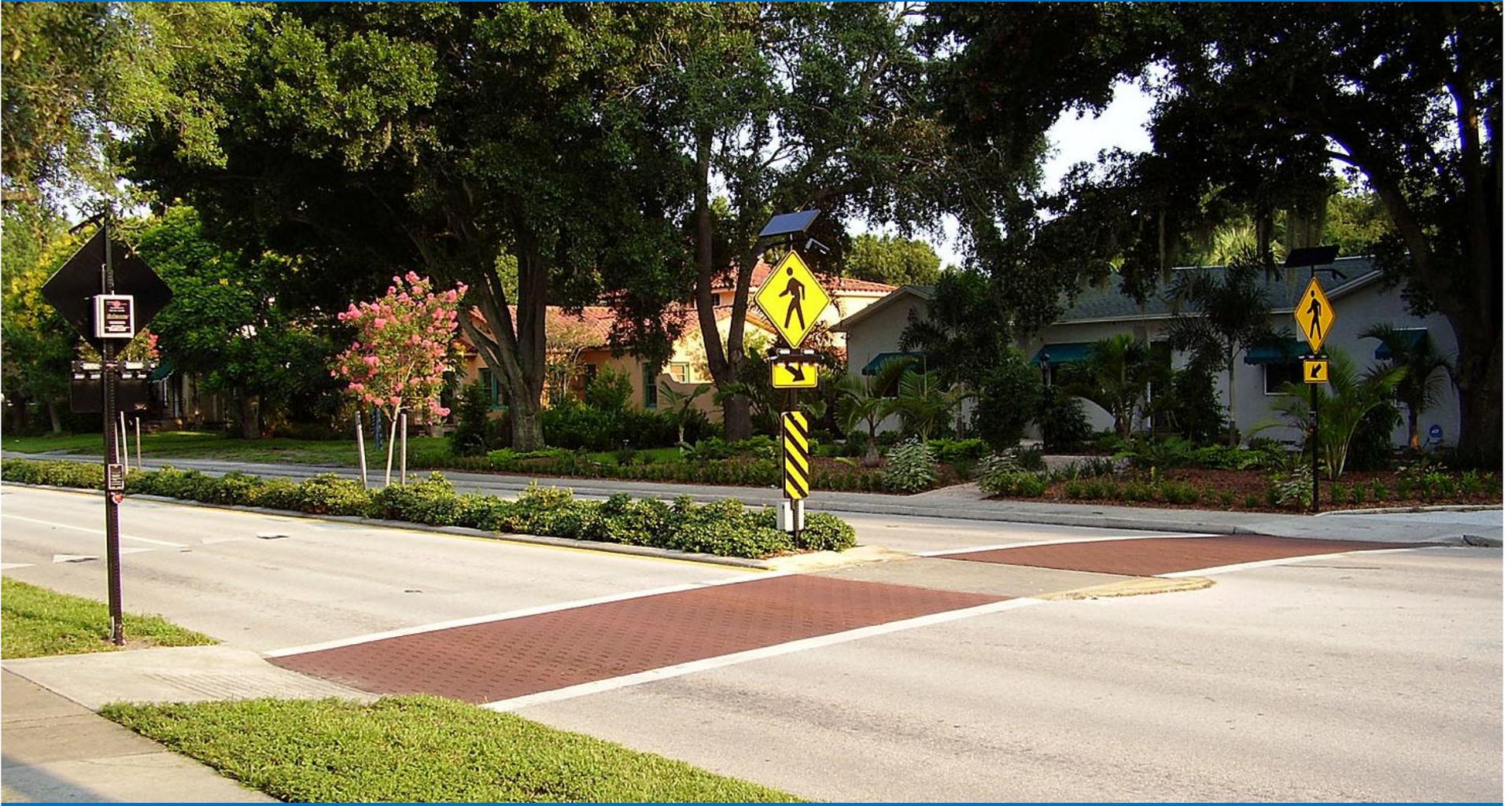
Sweet Home OR

Rectangular rapid flash beacon (RRFB)

- Beacon is yellow and has a rapid flash
- Motorist yield rates increased from about 20% (pre-RRFB) to 80% (with RRFB)
- Must be pedestrian activated (by pushbutton or passive detection)
- Not yet in MUTCD – Interim approval from FHWA in July 2008



Rectangular rapid flash beacon



In-pavement flashing crosswalks



- Possible maintenance problems
- Visible primarily at night
- Unknown crash effects
- Expensive treatment



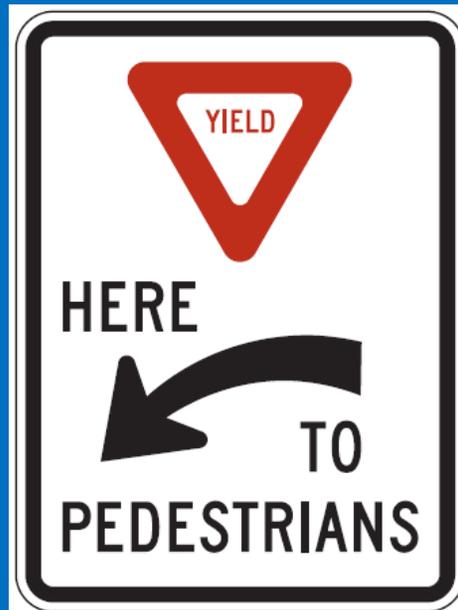
Advance yield line (shark's teeth)



Advance stop line



'Yield here' and 'Stop here for pedestrian' signs



Parking restrictions at corners

Better visibility for both drivers and pedestrians



Modify traffic signal timing



Traffic signal guidelines

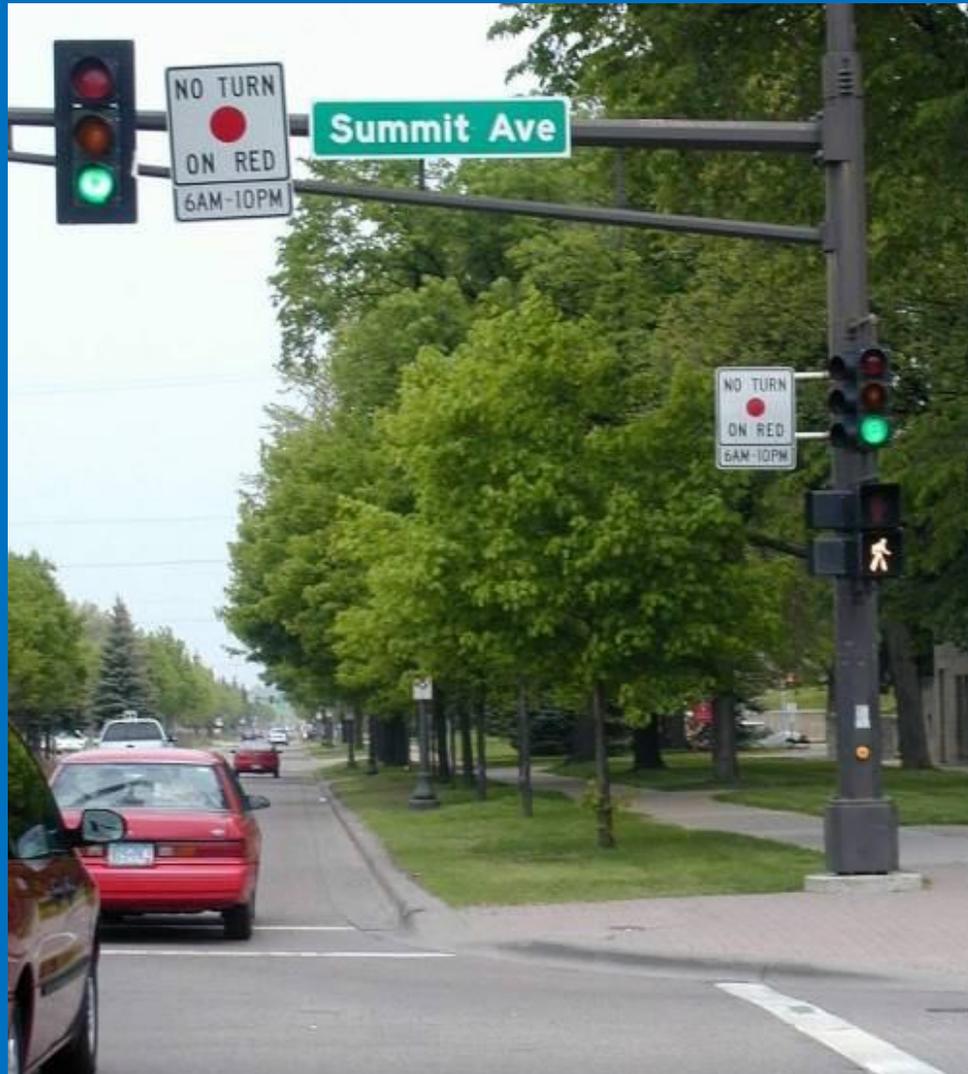
- Mark all crosswalks where pedestrians cross
- Pedestrian signals in all directions
- Adequate crossing time for pedestrians
- Stop bars for vehicles on all approaches

Pedestrian pushbuttons

- Buttons may be needed at some crossings
- Signals can be put in pedestrian “recall” for key times of day



No right-turn-on-red



Countdown pedestrian signal



Pedestrian hybrid beacon



Hybrid Beacon Sequence



1



2

Flashing



3



4



5

Wig-Wag



Return
to 1



Engineering topic outline

- Around the School
- Along the School Route
- Crossing the Street
- **Slowing Down Traffic**

Speed humps slow traffic on local streets



Raised pedestrian crosswalks



Raised crossings in school parking lot



Summary

1. Focus first on easy-to-implement and low-cost solutions
2. Also identify and program longer-term improvement needs (e.g. sidewalks)
3. Match the treatment to the type of problem

Summary

4. Provide and maintain facilities along the school route:

- Sidewalks
- On-street bicycle facilities
- Paths
- Connections
- Pedestrian and bicycle bridges

Summary

5. Provide safe street crossings:

- Keep it simple
- Shorten crossing distances
- Carefully select crossing locations and marked crosswalks
- Create visible crossings

6. Slow down traffic speeds

JACKSON & JACKSON ENGINEERING

Derek Jackson, P.E.

3125 SW 97th St

Oklahoma City, OK 73159

Phone: 405.378.7222

Fax: 405.378.7444

Cell 405.250.0967

■ Questions