



SPARE THE AIR YOUTH

WALKING & BICYCLING AUDITS

Field observations to identify barriers to students walking and bicycling for the school commute.

MAY 2015

01

INTRODUCTION

Spare the Air Youth is a regional program that aims to educate, inspire and empower San Francisco Bay Area youth and their families to walk, bicycle, carpool, and take transit. A partnership between the Metropolitan Transportation Commission (MTC) and the Bay Area Air Quality Management District, Spare the Air Youth promotes effective ways to reduce transportation-related greenhouse gas emissions by providing a regional resource for students, parents, teachers and program providers.

SPARE THE AIR YOUTH IS PART OF MTC'S CLIMATE INITIATIVES PROGRAM.

LEARN MORE AT www.sparetheairyouth.org



An audit that involves the both local community and technical stakeholders creates the opportunity to share different perspectives and exchange information.

INTRODUCTION

Walking and bicycling audits, also known as travel assessments, identify barriers to students walking or bicycling between home and school. Audits generally include a tour of the “school zone”, which includes the school campus as well as adjacent streets, sidewalks, trails, and crosswalks, within a quarter to half-mile of campus.

During the audit, participants identify issues related to traffic circulation. This is often followed by a debriefing and brainstorming session to rank high-priority concerns and identify potential solutions.

This process fosters communication between local traffic officials and school stakeholders by bringing them together in the field to gather data and discuss issues. Both groups benefit: community stakeholders get information to articulate

the deficiencies in the transportation network, while transportation planners and engineers learn about facility and operational challenges. Experts can use the information collected during the audit to target areas where changes are needed, identify solutions to improve the walking and bicycling environment, and develop optimal walking and bicycling routes to school.

02

PREPARING FOR THE AUDIT



PREPARING FOR THE AUDIT



School stakeholders include parents, children, school staff, and school district officials, while technical stakeholders include public works or traffic department staff, local engineers or planners, and law enforcement officials.

IDENTIFYING KEY STAKEHOLDERS

The most important element of a successful walk and bike audit is strong participation from school stakeholders and from local engineering and enforcement officials.

If a school has a Safe Routes to School or Transportation Coordinator, Task Force or Safety Committee, these individuals are logical participants in the audit, and can recruit additional participants.

The audit leaders should initially invite a targeted list of key stakeholders. If wider participation is desired, the audit leaders may invite the general public via a flier, press release, and/or the school news.

Stakeholders to invite include:

- City planners and public works staff
- School administration and principals
- Police officers
- Bicycle/pedestrian advocates
- Crossing guards and volunteers
- Parents
- Students, particularly middle and high school students
- Neighbors

PREPARING FOR THE AUDIT

SETTING UP THE AUDIT

Audits should be scheduled during the morning arrival and/or afternoon release periods to evaluate activities and conditions during times of peak school travel demand.

Generally, transportation engineers and planners with expertise in pedestrian and bicycle issues lead the audit. Community stakeholders help gather information and share their experience traveling to the school each day.

Materials to bring to the audit may include:

- Large-scale aerial map of the school area (22" x 34" or larger)
- Smaller maps for each audit team member
- Sign-in sheet for follow-up
- Checklists of information to gather (see next page)
- Clipboards and pens
- Camera
- Water and other refreshments
- Reflective vests
- Interpreters as needed

BACKGROUND SURVEYS

Before the audit, background information on student behaviors and parent opinions on the school commute should be collected. Parent surveys and student hand tallies are standard methods for collecting such data, which are critical for evaluating program impacts.

Parent surveys typically focus on school commute distance and perceived problem areas. Student hand tallies can provide accurate information on student walking and bicycling frequency to and from school. See the [Spare the Air Youth Evaluating School Commute Programs Guidebook](#) for more information.

Interview the school's Safe Routes to School task force and other key personnel about where students live, what key routes students take, and what policies the school has on walking, bicycling, and busing.

EXISTING CONDITIONS MAPS

Maps enable audit participants to note specific locations of their comments and to identify problem areas for detailed study during the audit.

The map can be as simple as a printed GoogleMaps or from another Internet map provider. The map should include an aerial with labeled streets and the school site indicated. The area should show a quarter-to half-mile radius around the school. One map should be plotted at a large scale. Smaller individual maps can be given to participants to take notes on during the observation.

If available, other information to show on the map could include rivers or creeks, reported crash locations involving bicyclists and pedestrians, motor vehicle volumes, intersection controls, crosswalks, crossing guard locations, and school attendance boundaries.

PREPARING FOR THE AUDIT

SAMPLE WALK AUDIT GUIDES

- [A Resident's Guide For Creating Safe and Walkable Communities by the Federal Highway Administration](#)
- [Pedestrian and Bicycle Information Center's Walkability/Bikeability checklists](#)
- [Circulate San Diego's Walkability Checklist](#)
- [Federal Highway Administration's Audit Resource Page](#)
- [Walk Score](#)

A typical morning audit schedule might include the following activities:

- 40 mins before first bell: Gather stakeholders, introductions and plan for observation
- 20 mins before first bell: Observe student drop-off
- At first bell: gather in front of the school, walk around campus to look at key issues together
- 30 mins after first bell: reconvene to mark-up maps, discuss potential programmatic activities, etc.
- 60-90 mins after first bell: wrap-up discussion, identify next steps



Parents identifying potential issue areas and audit route.

03

CONDUCTING THE AUDIT



CONDUCTING THE AUDIT



School stakeholders should highlight barriers and challenges, while technical stakeholders should note potential solutions.

PRE-AUDIT BRIEFING

Participants should gather at about 40 minutes prior to first or last bell so the audit leader can provide materials, discuss the agenda, and review previously identified issues.

Direct participants to focus on existing barriers and challenges to walking and bicycling. Note issues related to driving in the context of how they affect walking and bicycling, e.g. drivers fail to yield to pedestrians, parked cars block the crosswalk.

If there are multiple locations to cover and/or a high number of participants, divide the group into separate teams for the observation. A bicycling-only audit should be conducted on bicycles, and participants should pause to note conditions and user behaviors.

DURING THE OBSERVATION

School stakeholders should highlight observed behaviors and challenges during the audit. Technical stakeholders take notes, photos, and videos of the issues, and note potential solutions. Inventorying bicycle and pedestrian facilities, such as curb ramps and crosswalks, is usually better done via aerials or GoogleMaps before or after the audit.

Participants should consider facilities from a child's perspective. For example, younger children may have difficulty with the following:

- Seeing and evaluating traffic conditions, due to their height
- Processing information, because of limited peripheral vision and visual acuity
- Correctly perceiving the direction and sound of traffic
- Understanding the use of traffic control devices and crosswalks

CONDUCTING THE AUDIT

INFRASTRUCTURE CONDITIONS

School area observations of general infrastructure conditions should include:

- Sidewalks – continuity, width, surface condition, cross-slopes and driveways, separation from the travel lane, and obstacles (utility/light poles, signs, and vegetation)
- School area signs and pavement markings – presence, placement, and condition
- Paths – formal or informal, surface material
- Bike lanes – continuity, width, presence of on-street parking, speed and volume of traffic, pavement condition
- Bicycle parking – presence, location, visibility, degree of security, and utilization
- Drop-off / pick-up areas – designated areas, curb paint, and signs
- Visibility – pedestrian lighting, line of sight obstacles (parked cars, vegetation, signs and poles)
- Personal safety – areas with abandoned buildings, unleashed dogs, and known (or suspected) crime or gang activity

STREET CROSSING CONDITIONS

Street crossings are important focus areas for audits. Interviews with crossing guards can identify ongoing or critical issues at crossing locations. Information to collect at street crossings should include:

- Traffic signals – pedestrian signals, push-button location and reach distance, signing, countdown feature, accessible pedestrian signal feature, and sufficient crossing time
- Marked crosswalks – condition, type, signs, visibility, and whether ramp is contained within crosswalk markings
- Curb ramps – presence at corners, ADA-compliant design (tactile domes, ramp and flare slope, level landing area)
- Crossing guards – presence, condition of crossing guard equipment, and level of training

TRAFFIC CIRCULATION AND BEHAVIOR

Observations of student and parent behavior, should include:

- Walking – crossing locations, jaywalking, sidewalk crowding, and duration of peak activity
- Bicycling – on-street and sidewalk riding, wrong-way riding, helmet use
- General traffic – speeding, heavy turning movements, yielding to pedestrians and bicyclists, blocking the intersection
- Vehicular drop-off / pick-up – vehicular progression, student exiting and entering behavior, illegal and double parking, illegal movements, and duration of peak activity

SAMPLE WALK FORMS AND STRATEGIES

- [Tips for Creating Walking and Bicycling Route Maps](#)
- [Safe Routes to School Online Guide](#)
- [Engineering Tip Sheets: Assessing Walking and Bicycling Routes](#)

CONDUCTING THE AUDIT

POTENTIAL SOLUTIONS

After the field audit, technical leaders should work with local authorities to identify potential short-term and longer-term solutions. Solutions should include non-infrastructure (education, encouragement, and enforcement) strategies in addition to engineering projects.

Non-infrastructure examples include the deployment of walking school buses, walking buddies, police or community enforcement, and student education on proper walking and bicycling behavior.

Infrastructure improvements should be clearly noted on a map to indicate their specific location. A “toolbox” of improvements may be included in the audit report to illustrate the improvements.

A list of action items or an Action Plan can be developed with timeframes and task leaders, which should be reported back to audit participants and other stakeholders.



04

NEXT STEPS

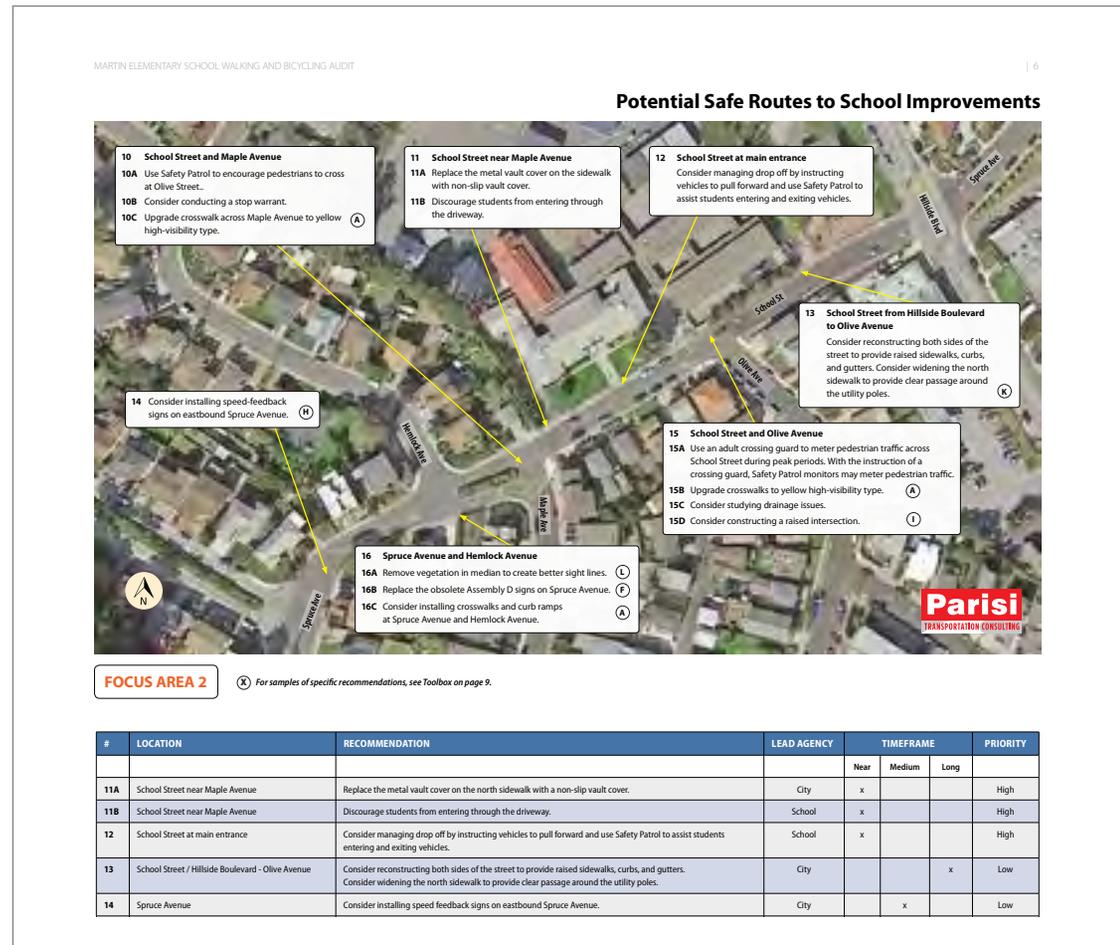


NEXT STEPS

IMPLEMENTATION PLANS

Some low-cost improvements, such as signs, pavement markings, and ADA improvements may be able to be funded and implemented in the short-term. The City can put together a package of improvements from multiple schools to have sufficient work for a contractor to bid on.

Funding for longer-term infrastructure projects and encouragement, enforcement and education programs may be available through the California Active Transportation Program (ATP), managed by the California Department of Transportation (Caltrans).



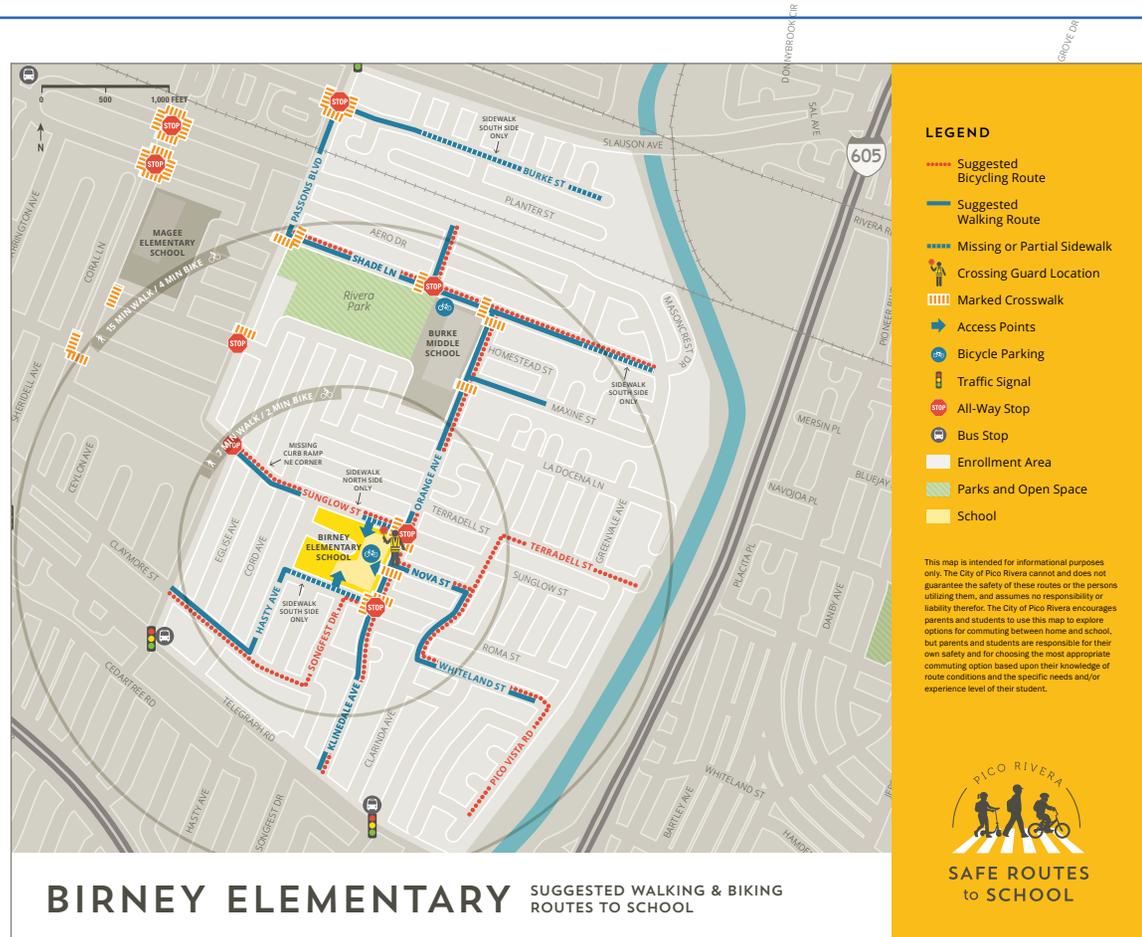
Improvement plans developed from walk audits help communities prepare to apply for grant funding and to get projects onto local funding priority lists.

NEXT STEPS

SCHOOL ROUTE MAPS

Information from the audit can be used to develop a school walking / bicycling route map. The school route map may cover areas outside the immediate school area, depending on the student enrollment area.

See the ITE Briefing Sheet on School Route Maps and the National Center for Safe Routes to School “Tips for Creating Walking and Bicycling Route Maps” for additional guidance on development of these maps.



NEXT STEPS

TOOLS FOR WALK AUDIT NEXT STEPS

- [Institute of Transportation Engineers Brief on School Area Traffic Control](#)
- [Institute of Transportation Engineers Brief on Traffic Calming near Schools](#)
- [Institute of Transportation Engineers Brief on Strategies to Improve Traffic Operations and Safety](#)
- California Manual of Uniform Traffic Control Devices (CA-MUTCD) Chapter 7. Traffic Control for School Areas.



The audit team should work together after the audit to identify and prioritize potential solutions.

THIS GUIDEBOOK WAS PRODUCED FOR THE SPARE THE AIR YOUTH PROGRAM,
A PARTNERSHIP OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT
(BAAQMD) AND THE METROPOLITAN TRANSPORTATION COMMISSION (MTC).
LEARN MORE AT WWW.SPARETHEAIRYOUTH.ORG.

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