Cottonwood Middle School
School Travel Plan

DRAFT 2

August 13, 2009

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Funded by a Planning Assistance Grant from the Arizona Department of Transportation

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Introduction

Safe Routes to School programs help increase student physical activity by improving unsafe walking and bicycling conditions and encouraging more children to walk or ride bicycles. Federal and state programs aim to help communities realize the benefits of students at all levels walking and bicycling to school. Studies suggest that children who walk or bike to school realize physical and behavioral benefits, such as reduced obesity and improved concentration. Schools and surrounding neighborhoods also benefit from reduced vehicle congestion at the start and end of the school day. Reduced congestion lowers frustration and unsafe driving practices.

Cottonwood enjoys a mild climate that is favorable for year-round outdoor activity such as walking and bicycling to school. The City of Cottonwood has already started improving safe routes to school. Willard Road was realigned to connect Cottonwood Elementary School with its pick up and drop off area, eliminating the need for students to cross the busy street. The project included new sidewalks and other improvements to encourage walking. This project and the pending Draft Bicycle Plan demonstrate the City's commitment to walking and bicycling, and a transportation system that serves all users of all abilities.

Background

This plan targets improvements and programs that encourage Cottonwood Middle School students to walk and bicycle safely to and from school. Key facts which shape recommendations include:

- The school and access points are on Mingus Avenue, also a key link in the City's bikeway system.
- The street is one lane in each direction, with a center turning lane.
- There are about 8,000 vehicles using the street on weekdays.
- The 85th percentile (speed of 85% of vehicles during free-flowing periods) is 30.5 mph, and the average speed is 26 mph.
- Cottonwood Middle School begins at 8:35 and is dismissed at 3:35.
- Cottonwood Elementary School, which faces Willard Avenue and is adjacent to the middle school, begins at 8:15 and is dismissed at 2:30.
- About 11,000 people live within the 10.7 square miles within the City of Cottonwood.

A Safe Routes to School (SRTS) Team was established in 2008. Members represent the school, Community Development, Police and Fire Departments , Public Works, and Yavapai County Community Health Services. A public meeting regarding SRTS explained SRTS benefits to the community.

School Data

Each year, about 750 students from Cottonwood, Bridgeport, Clarkdale, and Verde Villages attend Cottonwood Middle School. Student transportation modes were surveyed 4 different days during the school year. Teachers asked students for a show of hands on how they arrived at school.

- On an average day, 89 students walk to school and 117 walk home.
- Twenty students usually bike to and from school.
- About 1/3 of the students are transported to school via a family car, and 30% are picked up in a family car.
- Slightly less than half of the students are transported via school bus. School bus transportation is available for all students living more than 1 mile from the school and for students living in a location designated for pickup because of unsafe walking and/or crossing conditions. In the school year ending June, 2009, 11 students were transported from 487 homes located within "hazard" bus zones shown on the map on the right. In the coming school year, an estimated 26 students will be transported from the hazard area.

Parent Surveys

Seven hundred families received family surveys. Of those, 292 were returned and compiled by the National Center for Safe Routes to School. Survey details are provided in the Appendix. Highlights of the surveys include:

- 212 of the 292 respondents perceive

walking and bike to/from school as healthy or very healthy.

- Some parents stated they would probably let their child walk or bike to/from school if changes were implemented to address the following issues:
  - 28.5% : Intersection/crossing safety
  - 23.2% : Traffic speed on school routes
  - 21.1% : Violence or crime
  - 20.3% : Sidewalks or pathways
  - 16.7% : Crossing guards

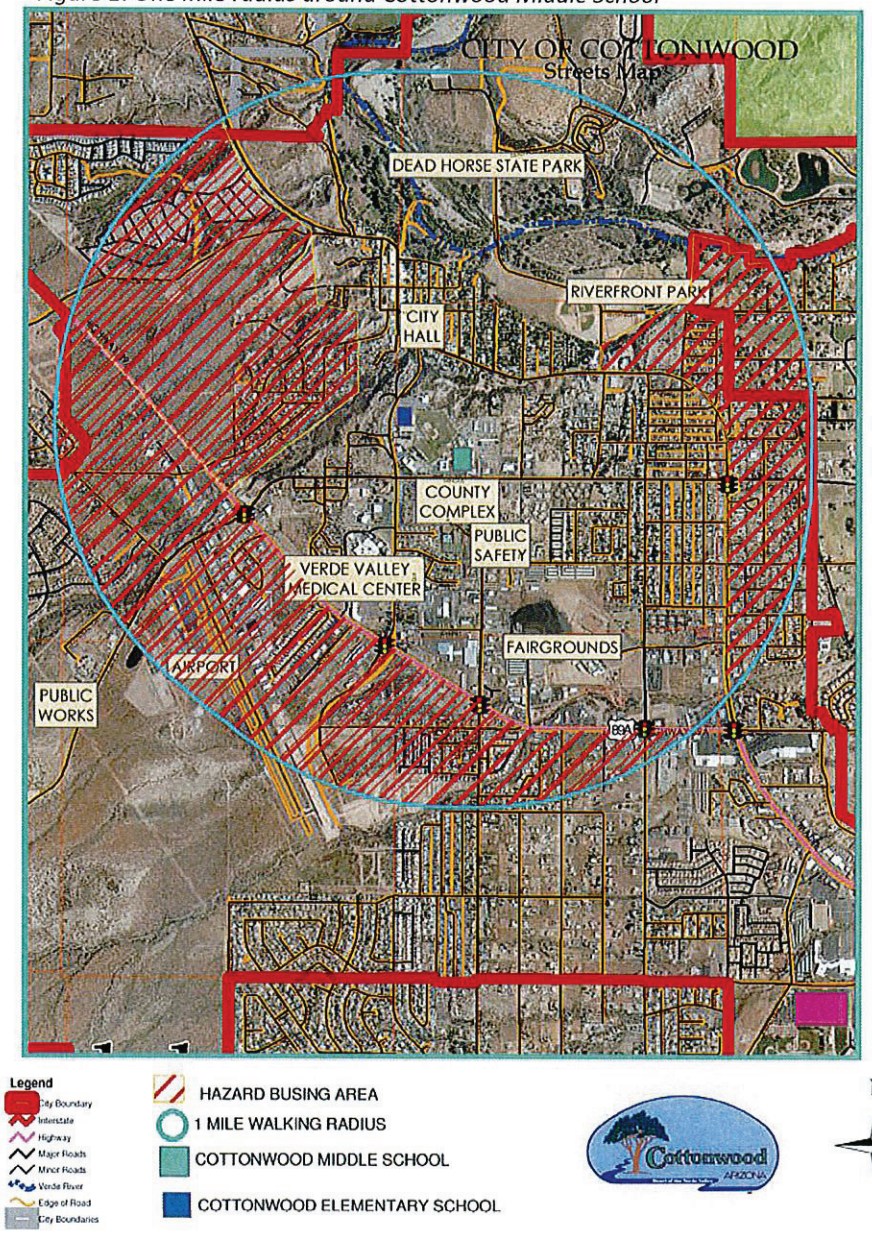
Issues

The SRTS Team and the Consultant Team observed the school area during arrival and dismissal times of day. Their observations, previous issues identified by the SRTS Team, and information from the Parent Surveys were analyzed and are summarized below.

Currently, over 100 elementary and middle school students walk to school. They arrive via local streets that lack a contiguous sidewalk network. Even the street adjacent to the school, E. Mingus Avenue, has gaps in the sidewalks. Where sidewalks exist, they are very narrow with no separation from traffic. Students must walk in the street or along ill-defined roadway edges. Many students walk on 10th Street, where there are no sidewalks and some sight distance (visibility) issues.

Most, but not all, students use the crosswalk at the intersection of 6th Street and E. Mingus Avenue. This crosswalk was recently moved from the west side of the intersection, to the east side to reduce conflicts from left-turning vehicles. A teacher serves as a crossing guard at this intersection. The

Figure 1: One mile radius around Cottonwood Middle School



crossing is located at a stop-controlled intersection.

About 20 students ride their bikes to school each day. The existing bike racks are well located, but poorly designed and at capacity. There are currently no programs to encourage safe biking skills. A number of streets in Cottonwood have edge lines that delineate space that could be used by bicyclists, but they are not marked as bike lanes. Students tend to ride on the sidewalk, even when this space is available. Sidewalk riding is prohibited on sidewalks near the school.

About half of the students arrive at school via school bus, but many arrive by private vehicle. Some of these students live less than one quarter mile from school, while others live in remote areas and would otherwise have very long bus rides. The bus loading area is well separated from other traffic movements. However, access to the existing pickup and drop off area is poorly controlled and has multiple entries, creating numerous conflicts between students and drivers.

Distances to School

22 students live within ¼ mile

27 students live within ¼ - ½ mile

55 students live within ½ - ¾ mile

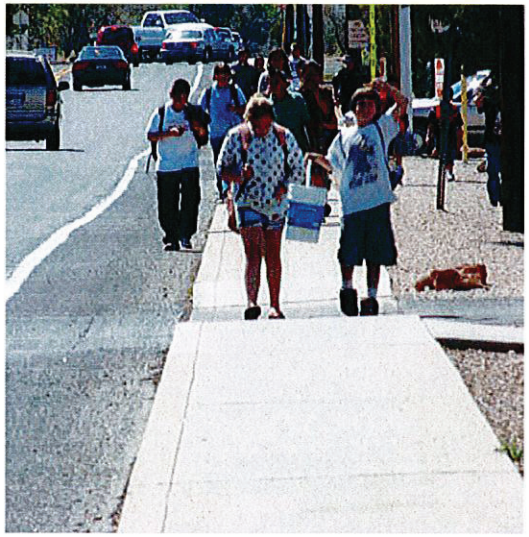
36 students live within ¾ - 1 mile

Top issues parents cited for not allowing children to walk or bike to school:

1. **Distance**
2. **Traffic volume along route**
3. **Safety of intersections and crossings**
4. **Traffic speed along route to school**
5. **Violence or crime**
6. **Weather or climate**

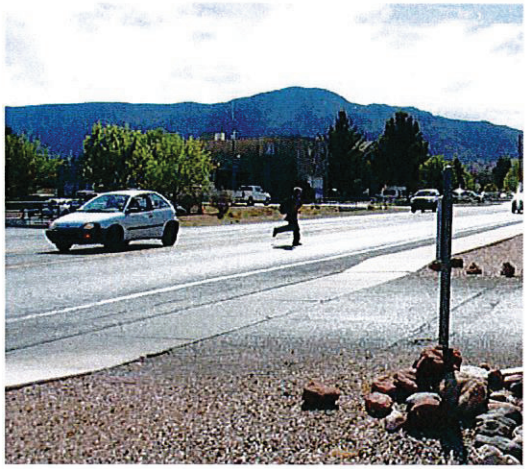
Survey respondents reported traffic volume as one of the top reasons they do not want their children walking or biking to school. What causes the traffic volume? School begins at 8:35. Traffic counts conducted in March, 2009 showed 719 vehicles traveling both directions on E. Mingus Avenue near the school between 8:00 a.m. and 9:00 a.m. An average of 234 students report arriving at school in a family vehicle, while 21 students ride in carpools. Arrival and departure of each of these vehicles could account for up to two thirds of all traffic at these hours. Most parents do not realize they themselves are part of the traffic problem that fosters their reluctance to allow their children to walk or bike to school.

Speed was another top reason cited for not allowing students to walk or bike to school. A speed study performed in March, 2009, showed that between 8:00- 9:00 a.m. most vehicles traveled at speeds below 30 mph. Speeds Limits are posted at 25 mph. In the afternoon, a few more vehicles are more likely to travel over 30 mph, however the roadway is so congested during dismissal that speeds are probably lowest during the times students are likely to be walking or bicycling near the school. Few vehicles in either time period travel faster 35 mph. Whether parents perceive the speeds are higher than measured, or if they feel the speed limit is too high was not determined.



About 100 students from the middle school walk to and/or from school each day. Some elementary students walk the same routes. Where there are sidewalks, they are generally 4' wide. Walking is social for students, so they need room to walk 2 or 3 abreast. The photo below illustrates that 4' is barely wide enough for one wheelchair.

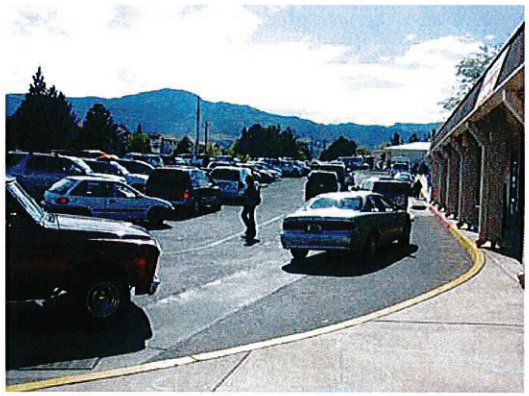
Teachers serve as crossing guards at 6th and E. Mingus, a stop-controlled intersection. The crosswalk markings were recently moved to the east side of the intersection to reduce conflicts with vehicles turning left on E. Mingus from 6th Street.



Some students do not walk out of their way to cross at 6th Street. A park opposite the school creates a desire line for crossing west of 6th Street.

About 20 students ride bicycles to school each day. They are required to walk bicycles on sidewalks near schools. Few were observed wearing helmets. Bike racks are of a poor design, but are located in a secure site where they are visible throughout the day.

Over 200 vehicles vie for a spot to pick up students in the afternoon. Drivers frequently block sidewalks and traffic in their efforts to enter the school. Many students walk randomly between moving traffic to take the shortest route to a waiting vehicle or their walk home. Morning drop off is less congested, although some students are unloading in conflict areas.



Hold space for photos from grant application

SRTS Program Goals

- Increase the number of children walking and bicycling to school by 10% in the year following implementation of early strategies; an additional 5% per year thereafter.
- Reduce the number of vehicles picking up and dropping off students by 10% the year following program implementation; an additional 5% per year thereafter.
- Eliminate improper driver behavior following program implementation.
- Eliminate unsafe student behavior following program implementation.
- Reduce or eliminate concerns about traffic speeds

SRTS Program Goals

The goals above define what the SRTS program plans to achieve. Progress toward achieving each goal will be measured periodically. See page 15 for more information on evaluating project goals.

Strategies

SRTS Team selected various strategies to address issues identified. The strategies fall into four categories: Engineering, Education, Enforcement, and Encouragement. An overview of each category and the specific tools that may be used in short and long term program implementation follows. The Action Plan matrix on pages 16-18 illustrates how the strategies will be implemented over the next two years. The SRTS Team plans to update the Action Plan yearly, following an evaluation of progress made toward goals.

Engineering

Engineering strategies alter the built environment that drivers must share with children walking or bicycling to school. Children need places to walk that are separated from traffic, as well as points where they can safely cross streets.

Sidewalks

The American Association of State Highway Transportation Officials (AASHTO) recommends sidewalk widths of 8-10 feet near schools, with width of 6 feet preferred in other areas. AASHTO also recommends a buffer area separating the sidewalk and curb, which provides space for street fixtures such as signs and light poles. In Cottonwood, optimum sidewalk widths are constrained by limited right-of-way, topography, and lack of funding. Completion of a continuous sidewalk network is a first priority for SRTS Team members. Six-foot widths will be used where possible. Once that network is satisfactory, retrofitting of existing narrow sidewalks can begin. Although there may not be formal buffer areas on many streets, there will be a network of on-street bike lanes. Bike lanes serve as buffers that further separate moving traffic and pedestrians.

Driveways

Conflicts between pedestrians or bicyclists and vehicles are common at driveways. Students are particularly vulnerable to left turning traffic because drivers may be distracted by the task of looking for a gap in traffic. Constructing new sidewalks provides an opportunity to reduce the number and width of driveways, an access management tool that also improves vehicle traffic flow and safety. Each driveway must be assessed on a case-by-case basis to

Many conflicts between vehicles and pedestrians or bicyclists occur at driveways. Pedestrians have the right-of-way at driveways. The person using the wheelchair above moved into the street to go around the vehicle.

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determine design vehicle and site needs.

Sidewalks will be continuous at driveways, as recommended by AAHSTO, and provide a 4 foot continuous path with a maximum cross slope of 2%.

Roundabouts reduce crashes and slow speeds. Bicyclists can either merge into traffic lanes to travel around the circle, or use the ramp to ride on the adjacent trail segment. Pedestrians cross one leg at a time.

Roundabouts

A single-lane, slow-speed modern roundabout is under consideration for the intersection of Mingus Avenue and Willard Street. Modern roundabouts are an intersection control device, like a traffic signal or STOP sign; however, they function quite differently. At a roundabout, vehicles move counterclockwise around a circular center island that is designed to slow traffic. Entering vehicles yield to circulating vehicles. Splitter islands at each entry point serve as pedestrian refuges where pedestrian only have to cross one direction of traffic at a time. Roundabouts near school locations have proven to be an effective measure that simplifies the pedestrian crossings, slows speeds, and reduces crashes.

Pick up and Drop off Area

The figure on the following page illustrates several changes to the school pick up and drop off area to reduce conflicts between vehicles and students. The driveway closest to 6th Street will be closed. This will prevent vehicles from backing up into the crosswalk at 6th Street and E. Mingus Avenue. Driveway closure slightly increases available parking, unless emergency response providers require access. In that case, locked bollards can be installed, but no additional parking is gained.

Vehicles picking up or dropping off children will be directed to the primary driveway into the school, where an island will separate entering and exiting vehicles.

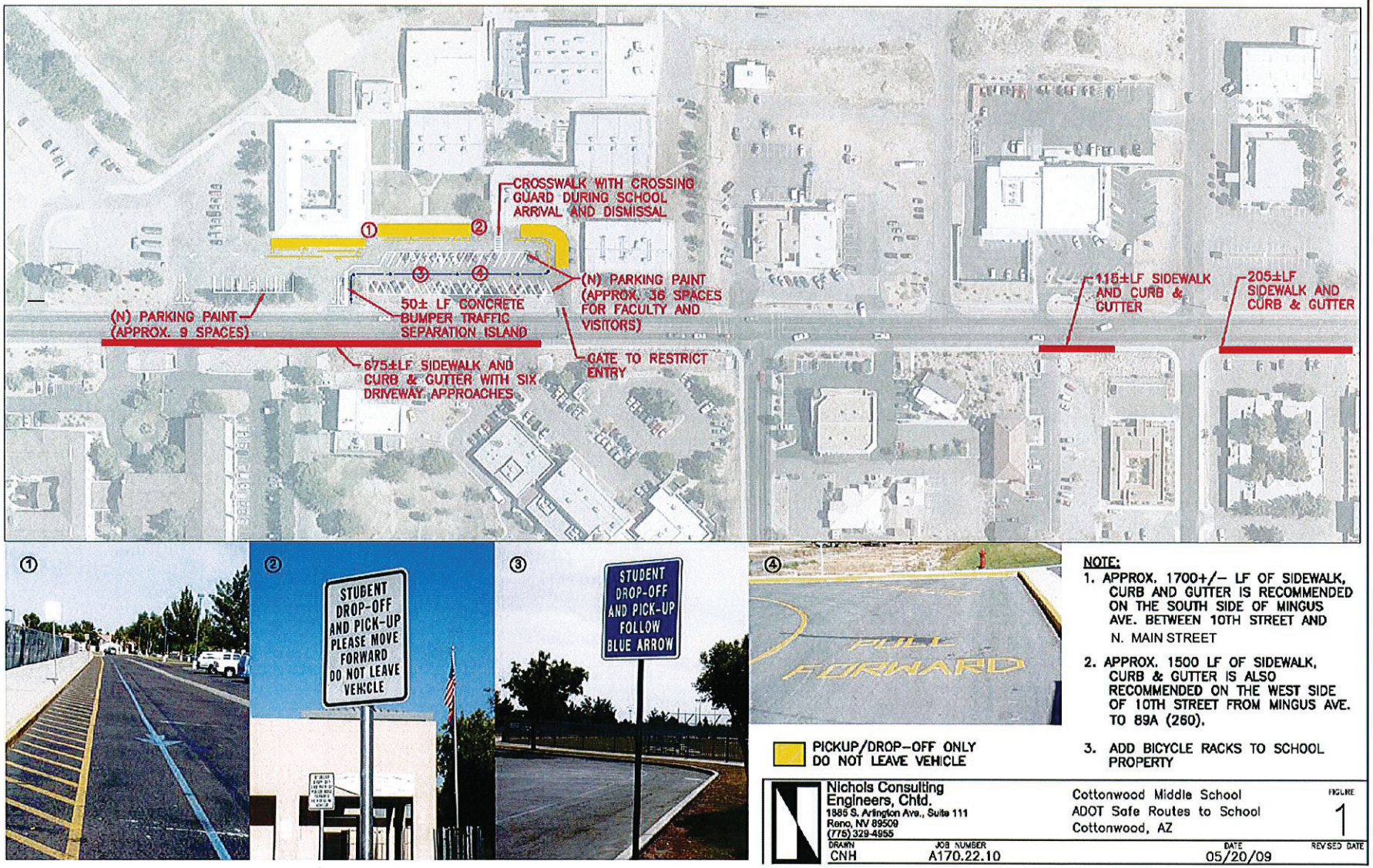
The angle of parking can be changed, as shown in Figure 2, or parents and faculty using the parking lot can be required to back -in to parking spaces in the current configuration. Backing into parking spaces is a safer maneuver than backing out, and provides much better visibility between drivers and pedestrians.

Signs and markings on school property will direct drivers to remain in their vehicles and continue moving forward to the drop off and pick up area. In the afternoons, a duty teacher or volunteer could encourage parents to pull forward before stopping, particularly in the first few weeks of school.

Parents will be discouraged from allowing children to cross between the parking area and the school, but until compliance eliminates this potential conflict, a duty teacher will continue to serve as crossing guard for that area.

Figure 2 also shows where sidewalks will be added to the pathway along E. Mingus Avenue.

Figure 2

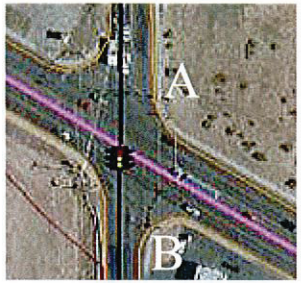

CROSSWALK WITH CROSSING GUARD DURING SCHOOL ARRIVAL AND DISMISSAL
(N) PARKING PAINT (APPROX. 36 SPACES FOR FACULTY AND VISITORS)
50± LF CONCRETE BUMPER TRAFFIC SEPARATION ISLAND
(N) PARKING PAINT (APPROX. 9 SPACES)
675±LF SIDEWALK AND CURB & GUTTER WITH SIX DRIVEWAY APPROACHES
GATE TO RESTRICT ENTRY
115±LF SIDEWALK AND CURB & GUTTER
205±LF SIDEWALK AND CURB & GUTTER
STUDENT DROP-OFF AND PICK-UP PLEASE MOVE FORWARD DO NOT LEAVE VEHICLE
STUDENT DROP-OFF AND PICK-UP FOLLOW BLUE ARROW
PULL FORWARD
PICKUP/DROP-OFF ONLY DO NOT LEAVE VEHICLE
NOTE:
1. APPROX. 1700+/– LF OF SIDEWALK, CURB AND GUTTER IS RECOMMENDED ON THE SOUTH SIDE OF MINGUS AVE. BETWEEN 10TH STREET AND N. MAIN STREET
2. APPROX. 1500 LF OF SIDEWALK, CURB & GUTTER IS ALSO RECOMMENDED ON THE WEST SIDE OF 10TH STREET FROM MINGUS AVE. TO 89A (260).
3. ADD BICYCLE RACKS TO SCHOOL PROPERTY
Nichols Consulting Engineers, Chtd.
1885 S. Arlington Ave., Suite 111
Reno, NV 89509
(775) 329-4955
Cottonwood Middle School
ADOT Safe Routes to School
Cottonwood, AZ
FIGURE 1
DRAWN CNH
JOB NUMBER A170.22.10
DATE 05/20/09
REVISED DATE

State Route 89A

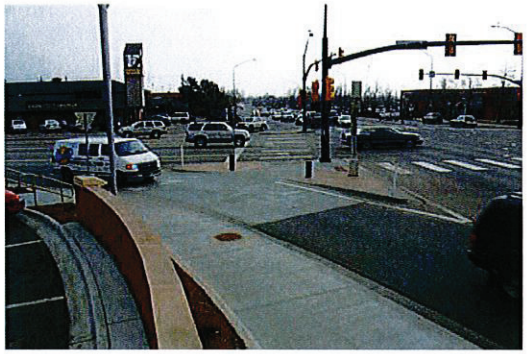
Some residential areas on the south side of 89A are currently designated as hazard areas, qualifying students to ride the school bus, even though they live less than one mile from school. (Figure 1, page 5) Students can cross at 6th and 89A, a signalized intersection, but the crossing distance is very long because of the number of lanes and the skew of the intersection. Potential improvements to improve this crossing include: evaluating signal timing to minimize pedestrian delay and ensure adequate crossing distance; adding pedestrian countdown clocks; and changing to the intersection's geometry to compensate for the skew.

Although three corners of this intersection have already been developed, the north-east corner is City-owned. Tightening the turning radius on the City's corner and adding a raised island in existing roadway on the southeast corner may be feasible. Pedestrians on the southeast corner would cross one uncontrolled right turn lane at a marked crosswalk to the raised island, then wait for the walk signal. These geometric changes would shorten pedestrian exposure to moving traffic, improve driver visibility of pedestrians preparing to cross, and reduce the amount of signal time required for a pedestrian crossing interval. Fully assessing feasibility and determining proper design requires an engineering evaluation.

Adding an in-street bicycle detector to activate the traffic signal at 89A at 6th Street would benefit cyclists waiting to cross. A pavement marking indicates where bicyclists must place their bike to actuate the signal. This improvement is consistent with Sixth Street's bike lane designation in the Draft Cottonwood Bicycle Plan dated May, 2009.



The angle at 6th and 89A creates a long and daunting pedestrian crossing. It may be feasible to tighten the radius on "A" and add a raised pedestrian island with a slip lane on "B" to shorten exposure to traffic and reduce pedestrian signal time requirements.



Although the geometry of 6th and 89A differs from the intersection pictured above, it may be feasible to provide a similar raised pedestrian island on the corner labeled "B"above. This Colorado example also has a flat-top raised speed table to slow traffic approaching the pedestrian crosswalk.

The pedestrian countdown clock above shows the seconds remaining to cross when the "don't start" hand is flashing. Studies show these inexpensive devices reduce pedestrian conflicts.

The curb extension above illustrates how pedestrian exposure to traffic can be reduced with the turning radius is tightened. Speeds are also reduced. The effective radius must also meet the needs of large vehicles. A similar design may be feasible on 6th and 89A at the corner labeled "A".

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Bike Racks

The bike rack at the school is a typical "wheel bender," nicknamed because bicycles fall easily and are damaged. A well -designed bike rack supports the bike frame in two places, such as the one shown above. Below is a spiral design that also supports the frame in two locations. The "helix" rack below holds 6 bikes.

Encouragement

The number of students who walk and bicycle to Cottonwood Middle School can grow through encouragement and improved facilities. Many students and their families are habituated to driving everywhere. Some effort will be required to change that "drive everywhere" culture. Public awareness of program benefits must precede any change in desired behavior. As parents start to see completion of a continuous sidewalk on major school routes they are more likely to allow their children to walk to school. Likewise, implementing the Cottonwood Bicycle Plan and adding a secure bike rack at the school should encourage more bicycle travel.

Some programs that work well to encourage elementary students to walk, such as the Walking School Bus, are not as effective for middle school students. However, developing middle school students are gaining an expanded awareness of social, cultural, and environmental issues. They may be very interested in how reducing vehicle trips through non-motorized trips or carpooling can favorably impact the environment.

Two students will be selected to serve on the SRTS Team when the Fall 2009 school session starts. The SRTS Team will work with them to develop programs to promote walking and bicycling safely to and from school and other destinations. Some potential encouragement strategies are in the Action Plan, but the students may choose their own direction as well.

The first suggested Action Plan strategy is to establish a bike club. Club members could learn bicycle repair, maintenance, and safety by fixing up bicycles from the Police Department's impound lot. A second strategy is for middle school students to assist with a Bike Rodeo that will be conducted at the Cottonwood Elementary School. By staffing various stations on the rodeo, students will learn as they teach. A third possibility not listed is for middle school students to help conduct the 3rd grade Body Walk hosted by Yavapai County Community Health Services. These students are at a creative age, and may have many other ideas. By allowing them to influence the program, it will be easier to get student buy-in.

Nearly three quarters of the parents responding to the Parent Survey felt the school neither encourages or discourages students to walk or bike to and from school. One step toward gaining parental support for students to walk or ride bicycles is for the school to inform parents about the benefits of active transportation. Information can be included in the School Handbook distributed each year.

Promoting the reduction of single-occupant vehicles is also helpful. Messages should encourage parents who are still going to drive to carpool.

One method to reduce the number of vehicles at the school during arrival and dismissal times is encouraging parents to have their children ride the bus, if that service is offered. A survey will determine why parents are driving the students rather than having them ride the bus. The results will help identify obstacles to school bus transit. When possible, changes will be made to make riding the school bus more appealing.

Education

Although middle school students are becoming more independent, they may not have acquired the skills and knowledge needed for safety in traffic. Many students have little education or practice as pedestrians. They probably know how to ride a bike, but may not know safety rules when they are in or near traffic.

Students who help with the Bike Rodeo or participate in the bike club will learn basic rules, such as riding with the traffic, using hand signals, and learning to look back without swerving. All students will hear age -appropriate safety messages as part of the Yavapai County Community Health Services education program. Messages will be delivered in the classroom environment, allowing for greater student interaction.

A network of bike lanes will be developed when the Cottonwood Bicycle Plan is implemented. Markings for bike lanes often include a directional arrow, as shown in the photo above. These arrows help validate the message that bicyclists must ride in the same direction as traffic. The City of Cottonwood also adds a "WRONG WAY" sign on the backs of signs. Wrong way riding is a major cause of crashes at intersections and driveways because drivers often do not see a bicyclist approach from the wrong direction.

Sidewalk riding is prohibited near the school. Students walk their bikes until they leave the school grounds.

Pavement markings help drivers and bicyclists understand the purpose of the space next to the curb. The directional arrow is a reminder that bicyclists are required by law to ride with the flow of traffic. AASHTO recommends a width of 5 feet from the face of a curb or guardrail to the bike lane stripe. There should be at least 4 feet of rideable surface, so if there is wide gutter pan with an uneven edge, additional width may be necessary.

Parents also need education about walking and bicycling, including the new bike lane network that will be in place when the Bicycle Plan is implemented. Parents may not understand the best places for children to ride and cross the street. Yavapai County Community Health Services will provide key walking and bicycling safety points to local media for use in their annual coverage of back-to-school days. Community Health Services will also attend parent night and distribute safety information. Cottonwood Middle School will include information about new pick up and drop off procedures in the student handbook to help parents understand the new process. The school will reinforce the message with printed reminders if necessary.

When a satisfactory walking and biking system within walking boundary of the school is complete, the City of Cottonwood will publish a Walk and Bike to School Map. The purpose of this map is to identify the safest routes for children to use. Arrows on the maps direct children to preferred streets and crossings. The routes may not always be the most convenient route to school, since it is sometimes wise to route students around an unsafe or challenging area. A sample is provided in the Appendix.

Enforcement

The Cottonwood Police Department is a partner on the SRTS Team, who eagerly support more children walking and bicycling to school. They provide police presence near the schools during arrival and dismissal times as resources permit and they will also help train crossing guards and driveway monitors at the beginning of each school year. However, their resources are limited.

Other enforcement efforts include teachers, who serve as crossing guards. They are stationed at the crosswalk between the building and the parking area, and at the crosswalk on E. Mingus Avenue and 6th Street.

An additional teacher or a citizen volunteer will be recruited to serve as a driveway monitor. The monitor will prevent vehicles

from pulling into the pick up queue unless they can do so without blocking the sidewalk, and prevent them from turning when students are crossing the driveway.

Evaluation

The table below shows how effectiveness overall program success will be measured. If goals are not being achieved, adjustments to the approach will be made.

Action Plan

A three-page Action Plan is presented on the following pages. It is a summary of strategies envisioned for the next two years. Along the way, the SRTS Team envisions updated and modifying the Action Plan to reflect the status of various efforts, revised priorities or funding, and other changes.

Goal	Baseline	Evaluation Method
Increase the number of children walking and bicycling to school by 10% in the year following implementation of early strategies; an additional 5% per year thereafter.	In-class student tallies	Repeat in-class student tallies at the beginning and end of each school year; count bicycles in racks
Reduce the number of vehicles picking up and dropping off students by 10% the year following program implementation; an additional 5% per year thereafter.	Driveway count	Conduct driveway counts at the beginning and end of each school year
Eliminate improper driver behavior following program implementation.	Observations during arrival and dismissal	SRTS Team to observe arrival and dismissal twice during school year.
Eliminate unsafe student behavior following program implementation.	Observations during arrival and dismissal; count number of students not wearing helmets at beginning of school year	SRTS Team to observe arrival and dismissal twice during school year; count number of students not wearing helmets after program implementation
Reduce or eliminate concerns about traffic speeds	Parent Survey	Repeat parent survey after implementing key strategies

Cottonwood Middle School SRTS Action Plan 2009/2010

Issue #	Issue	Strategies: Description	Education	Encouragement	Enforcement	Engineering	Tasks	Time Frame	Responsible Party	Potential Funding Source	Evaluation
1	Incomplete and narrow sidewalk on Mingus Ave adjacent to school	Complete Mingus Ave sidewalk; add sidewalk on opposite side of street				x	Apply for funding	Dec 2009	City of Cottonwood	NACOG	# students walking/biking before/after sidewalk installation
		Widen existing 4' sidewalks on Mingus				x	Identify future funding source	0	City of Cottonwood	NACOG	Eliminate students walking in roadway
2	Incomplete sidewalk on 10th St;	Complete sidewalk				x	Identify future funding source	Dec 2009 - Dec 2010	City of Cottonwood	ADOT SRTS Grant funding	Eliminate students walking in roadway
3	Incomplete sidewalk system on streets within walking boundary	Continue completing sidewalk systems on collector streets within school walking boundary				x	Inventory needs and select priorities; identify funding and apply/program	2010	City of Cottonwood	Not yet identified	Complete network with walk boundary
4	Traffic at dismissal is chaotic and creates unsafe conditions in loading area; traffic backup on street creates conflicts at driveways	Modify traffic flow patterns; provide signs and markings to clarify procedures				x	Apply for funding	Dec 2009	School	ADOT SRTS Grant funding	Eliminate conflicts
		Driveway monitor to prevent vehicles from blocking sidewalk or turning when students are present			x		Obtain high-visibility vests for each duty teacher; conduct training	?	School	?	Prevent drivers from blocking sidewalk

Cottonwood Middle School SRTS Action Plan 2009/2010

Issue #	Issue	Strategies					Tasks	Time Frame	Responsible Party	Potential Funding Source	Evaluation
		Description	Education	Encouragement	Enforcement	Engineering					
4	Traffic at dismissal is chaotic and creates unsafe conditions in loading area; traffic backup on street creates conflicts at driveways	Add pick up and drop off procedures to student handbook; reinforce with printed reminders if necessary	x				Create and distribute a handout illustrating and explaining the process	Create 2 weeks before work is complete; distribute 1 week before work is complete	School	School	Reduce/eliminate conflicts between vehicles and students
		Encourage carpooling and raise awareness of the benefits of students walking or bicycling safely to school	x	x			Develop/implement student-based activities focusing on carpooling, walking, bicycling	School year beginning 9/09	Middle School	?	Reduction in # vehicles during dismissal and drop off times
		Survey students/parents not using bus to determine & address reasons		x			Develop, distribute, compile, and respond to survey	2009 school year	School Transportation Partners	School District	Reduction in # vehicles during dismissal and drop off times
5	Unsafe behavior by students who walk or bike	Engage middle school students in elementary school events	x	x					School in partnership with Yavapai County Community Health Services		
		Develop and distribute Bike and Walk Routes to School Map	x	x			Assess routes, develop and distribute maps	After sidewalks on Mingus and one side of 10th are complete	City of Cottonwood	?	Number of students walking and crossing as shown on maps

Cottonwood Middle School SRTS Action Plan 2009/2010

Issue #	Issue	Strategies					Tasks	Time Frame	Responsible Party	Potential Funding Source	Evaluation
		Description	Education	Encouragement	Enforcement	Engineering					
		Equip crossing guards and others helping enforce rules with safety vests, optional hats, stop paddles if needed			x		Purchase high-visibility vests and equipment for crossing guards; train guards	2009 school year	School	ADOT SRTS Grant funding	Highly visible crossing guards following procedures
7	Few students bicycling to school	Larger, well designed bike racks				x	Order and install racks	within 3 months of funding award	School	ADOT SRTS Grant funding	Number of bicycles properly parked in racks
		Establish student bike club	x	x			Engage students in establishing a bike club with activities that include bike maintenance and bike handling skills	2009 school year	Kevin Dix, CMS teacher	ADOT SRTS Grant funding	Number of students involved and number who ride to school
		Bike maintenance course; acquire and fix impound bikes; distribute with helmets	x	x			Develop curriculum and obtain help from local bicycle enthusiasts	2009 school year	Kevin Dix, CMS teacher	Local Sponsors; Arizona Office of Highway Safety	Number of students riding bikes to school and wearing helmets
		Implement Cottonwood Bicycle Plan	x	x			Complete and adopt plan	2009	City of Cottonwood	n/a	

Appendix

DRAFT

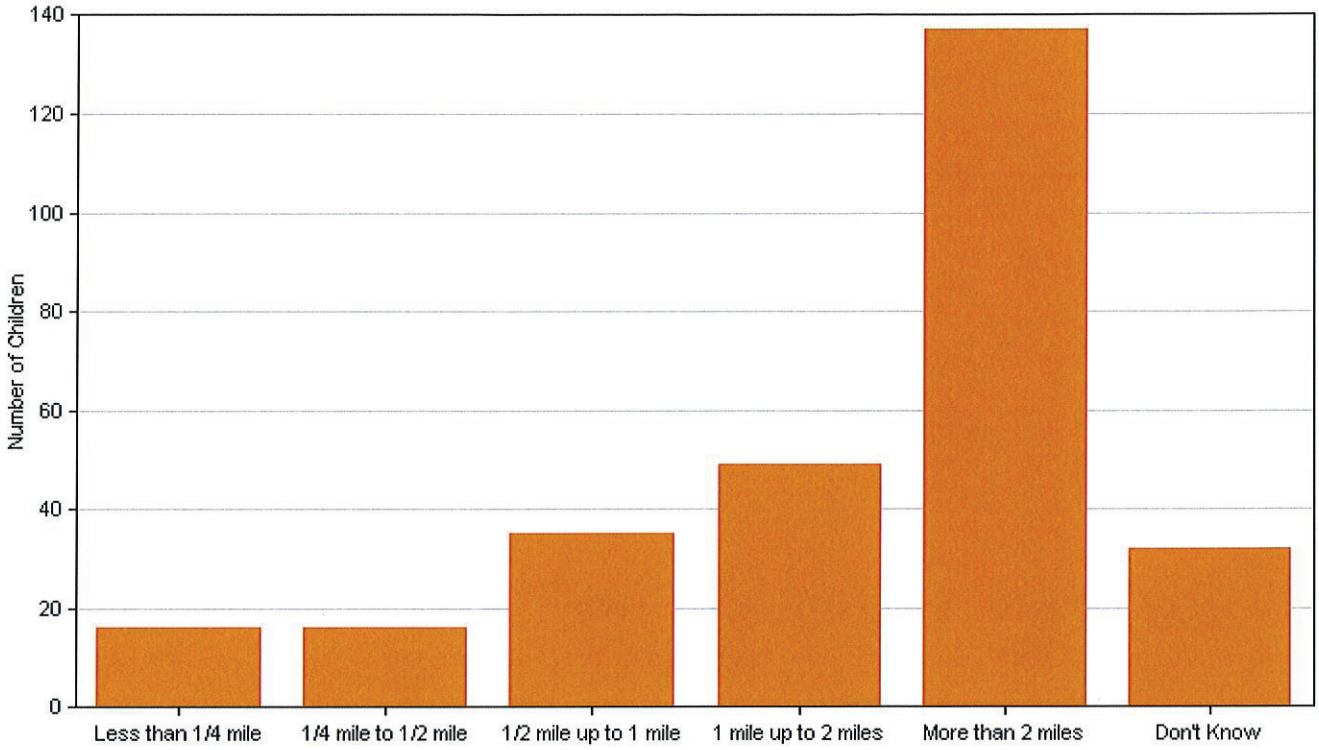
Parent Survey Summary Report:

Process Summary Information:

Program Name:	City of Cottonwood	**Survey Data Collected:**	Spring2009
School Name:	Cottonwood Middle Sc	**Data Collection Phase:** (pre = Before program began mid = During program; post = After program ended)	mid
Reported Enrollment:	765	**Number of Surveys Distributed:**	700
Date Report Generated:	06/03/2009	**Number of Surveys in Report:**	292

This report provides information from parents about their perceptions and attitudes on their child walking and bicycling to school. The data used in this report were collected using the Survey about Walking and Biking to School for Parents form from the National Center for Safe Routes to School.

Number of Children by Distance They Live From School:



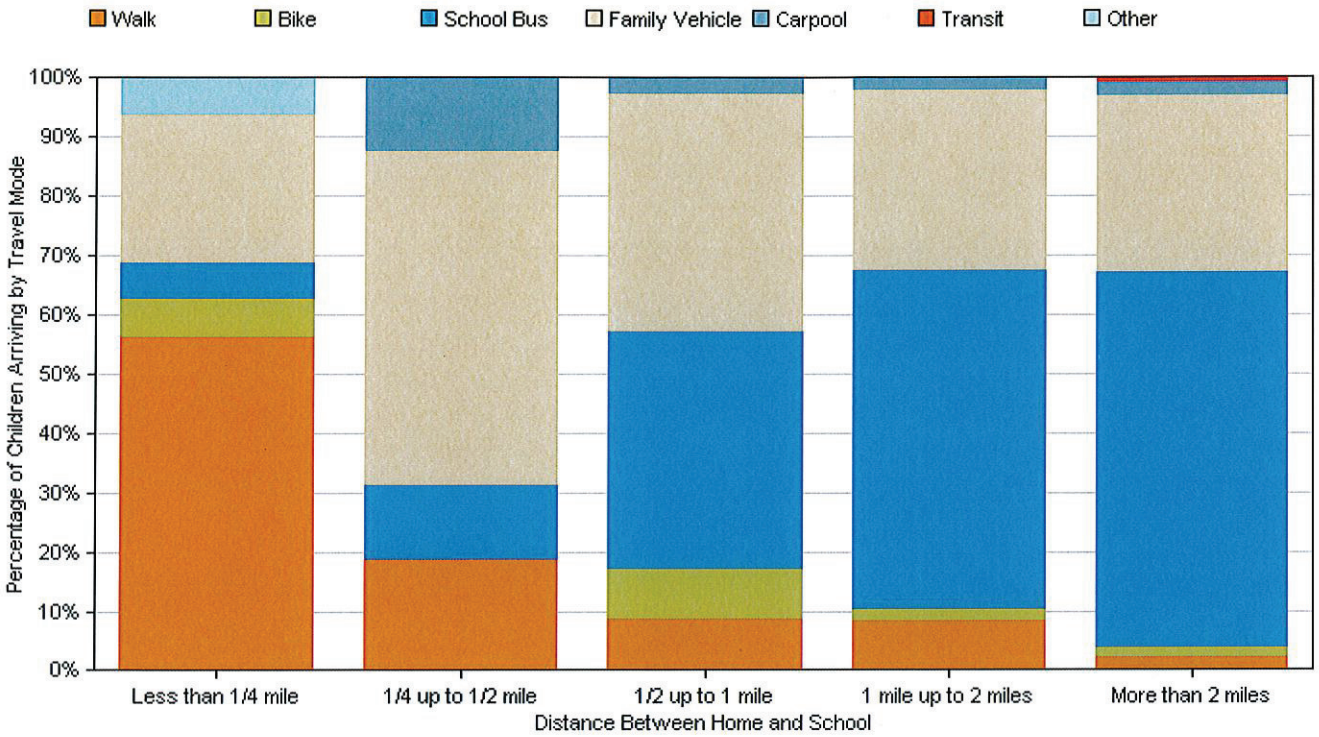
Number of Children by Distance They Live From School:

Distance from School	Number of Children
Less than 1/4 mile	16 (5.6%)
1/4 mile up to 1/2 mile	16 (5.6%)
1/2 mile up to 1 mile	35 (12.3%)
1 mile up to 2 miles	49 (17.2%)
More than 2 miles	137 (48.1%)
Don't know	32 (11.2%)

No response: 7

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Mode to School and Distance Between Home and School:



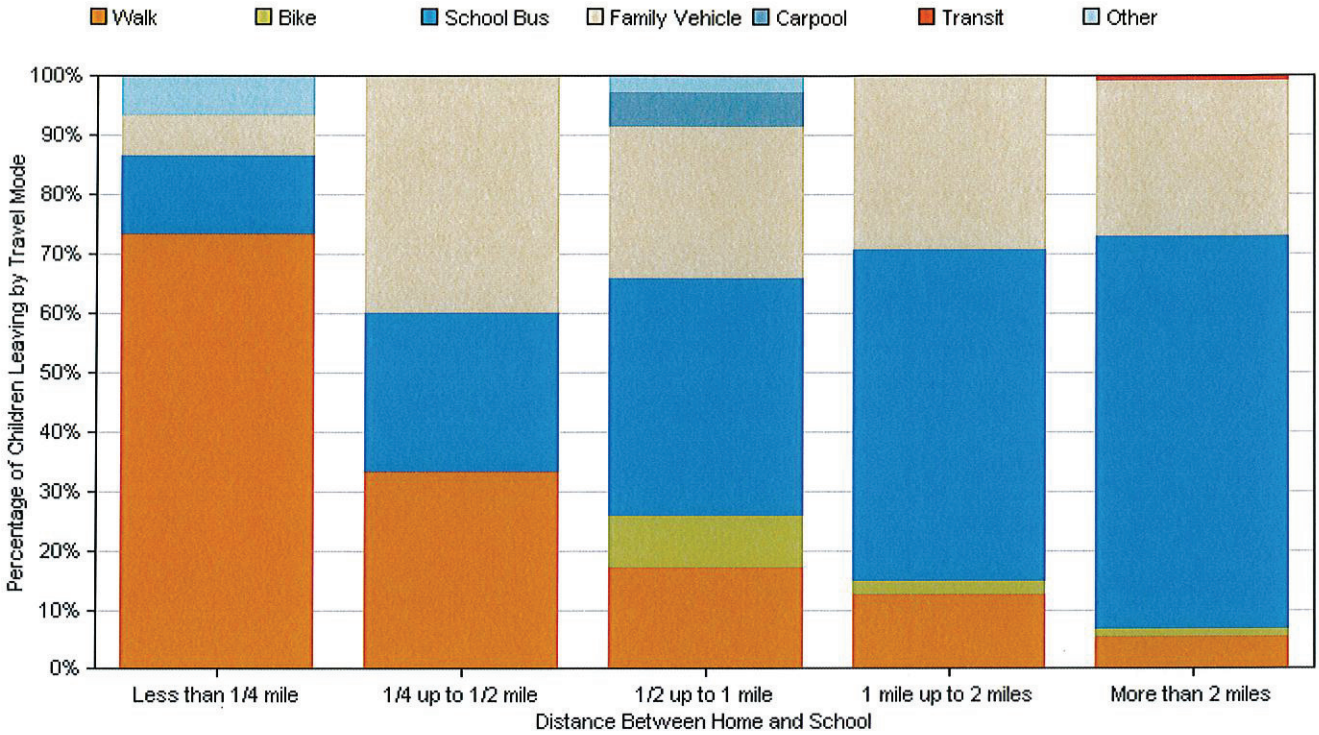
Number of Children by Travel Mode to School and Distance Between Home and School:

Mode	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles	Row Totals by Mode
Walk	9 (3.2%)	3 (1.1%)	3 (1.1%)	4 (1.4%)	3 (1.1%)	25 (9%)
Bike	1 (0.4%)	0 (0%)	3 (1.1%)	1 (0.4%)	2 (0.7%)	7 (2.6%)
School Bus	1 (0.4%)	2 (0.7%)	14 (4.9%)	28 (9.8%)	87 (30.5%)	155 (54.4%)
Family Vehicle	4 (1.4%)	9 (3.2%)	14 (4.9%)	15 (5.3%)	41 (14.4%)	89 (31.3%)
Carpool	0 (0%)	2 (0.7%)	1 (0.4%)	1 (0.4%)	3 (1.1%)	7 (2.6%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	1 (0.4%)
Other	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)
Column Totals by Distance	16 (5.8%)	16 (5.7%)	35 (12.4%)	49 (17.3%)	137 (48.2%)	

No Response: 7

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Mode from School and Distance Between Home and School:



Number of Children by Travel Mode from School and Distance Between School and Home:

Mode	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles	Row Totals by Mode
Walk	11 (3.9%)	5 (1.8%)	6 (2.2%)	6 (2.2%)	7 (2.5%)	41 (14.8%)
Bike	0 (0%)	0 (0%)	3 (1.1%)	1 (0.4%)	2 (0.7%)	6 (2.2%)
School Bus	2 (0.7%)	4 (1.4%)	14 (5.0%)	27 (9.7%)	89 (31.9%)	160 (57.3%)
Family Vehicle	1 (0.4%)	6 (2.2%)	9 (3.2%)	14 (5.0%)	35 (12.5%)	67 (24%)
Carpool	0 (0%)	0 (0%)	2 (0.7%)	0 (0%)	0 (0%)	2 (0.7%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	1 (0.4%)
Other	1 (0.4%)	0 (0%)	1 (0.4%)	0 (0%)	0 (0%)	2 (0.8%)
Column Totals by Distance	15 (5.4%)	15 (5.4%)	35 (12.6%)	48 (17.3%)	134 (48%)	

No Response: 13

(Percentages may not total 100% due to rounding.)

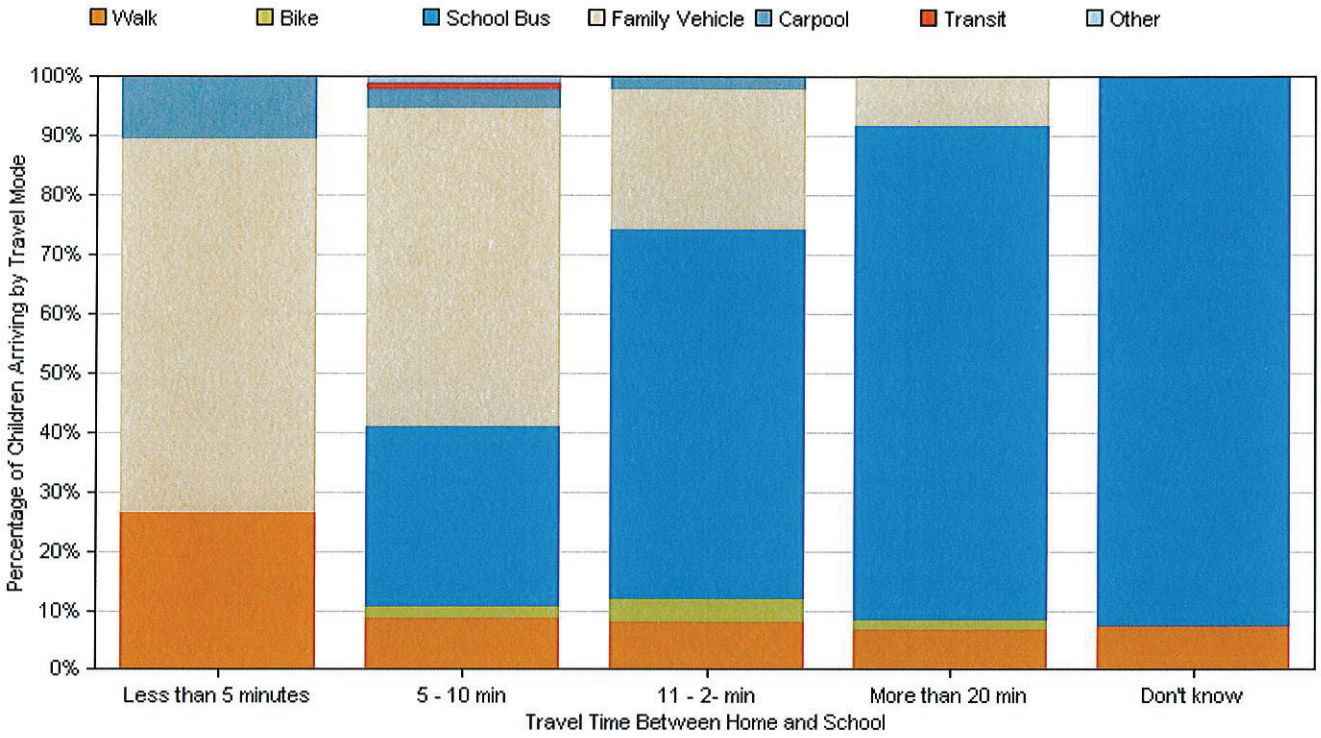
Number of Children by School Arrival Travel Mode and Travel Time to School:

Travel Mode	Less than 5 min	5 - 10 min	11 - 20 min	More than 20 min	Don't know	Row Totals by Mode
Walk	5 (1.7%)	8 (2.8%)	8 (2.8%)	4 (1.4%)	1 (0.3%)	26 (9%)
Bike	0 (0%)	2 (0.7%)	4 (1.4%)	1 (0.3%)	0 (0%)	7 (2.4%)
School Bus	0 (0%)	29 (10.0%)	63 (21.8%)	50 (17.3%)	13 (4.5%)	155 (53.6%)
Family Vehicle	12 (4.2%)	51 (17.6%)	24 (8.3%)	5 (1.7%)	0 (0%)	92 (31.8%)
Carpool	2 (0.7%)	3 (1.0%)	2 (0.7%)	0 (0%)	0 (0%)	7 (2.4%)
Transit	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)
Other	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)
Column Totals by Time	19 (6.6%)	95 (32.7%)	101 (35%)	60 (20.7%)	14 (4.8%)	

No Response: 3

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Time to School and School Arrival Travel Mode:



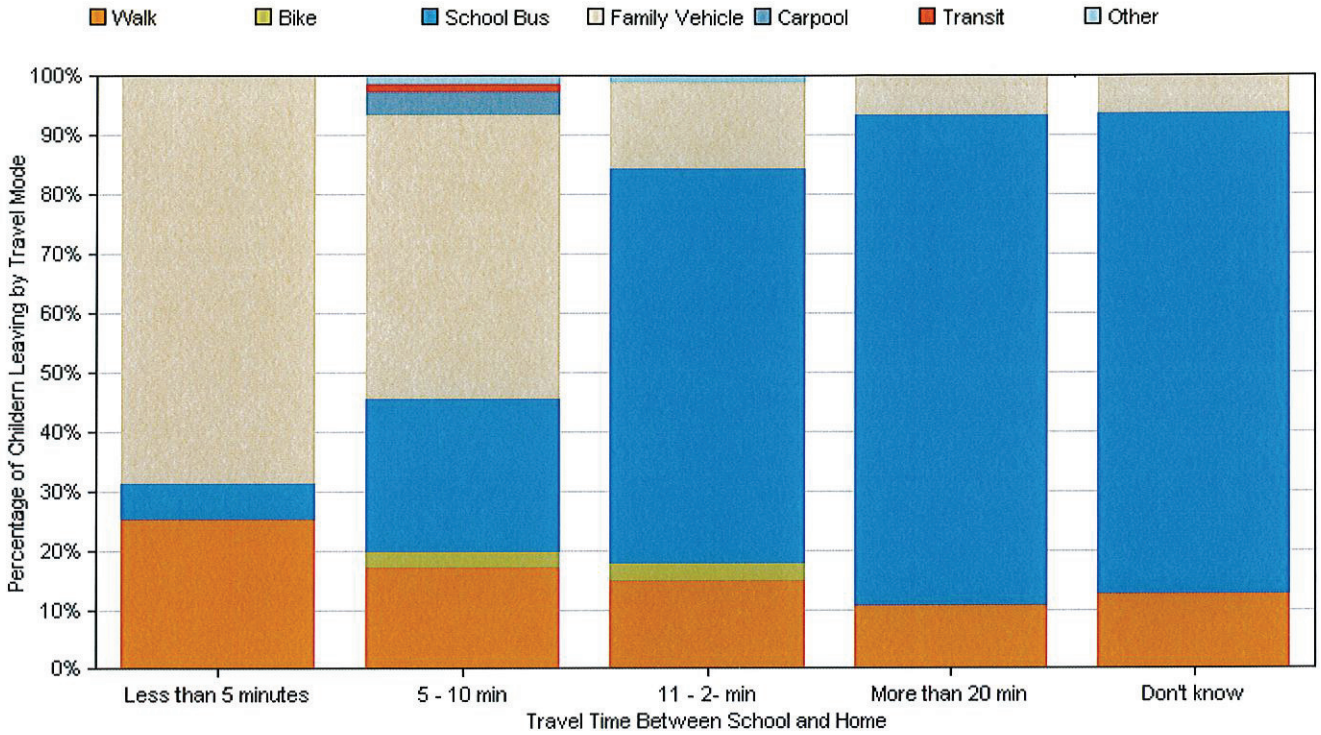
Number of Children by School Departure Mode and Travel Time from School:

Travel Mode	Less than 5 min	5 - 10 min	11 - 20 min	More than 20 min	Don't know	Row Totals by Mode
Walk	4 (1.4%)	13 (4.6%)	14 (5.0%)	8 (2.8%)	2 (0.7%)	41 (14.5%)
Bike	0 (0%)	2 (0.7%)	3 (1.1%)	0 (0%)	0 (0%)	5 (1.8%)
School Bus	1 (0.4%)	20 (7.1%)	64 (22.7%)	64 (22.7%)	13 (4.6%)	162 (57.5%)
Family Vehicle	11 (3.9%)	37 (13.1%)	14 (5.0%)	5 (1.8%)	1 (0.4%)	68 (24.2%)
Carpool	0 (0%)	3 (1.1%)	0 (0%)	0 (0%)	0 (0%)	3 (1.1%)
Transit	0 (0%)	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)
Other	0 (0%)	1 (0.4%)	1 (0.4%)	0 (0%)	0 (0%)	2 (0.8%)
Column Totals by Time	16 (5.7%)	77 (27.4%)	96 (34.2%)	77 (27.3%)	16 (5.7%)	

No Response: 10

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Time from School and School Departure Travel Mode:



Number of Children Who Have Asked Their Parent for Permission to Walk or Bike to/from School in the Last Year Separated by Distance They Live from School:

Distance from School	Have Asked	Have Not Asked
Less than 1/4 mile	11 (3.9%)	5 (1.8%)
1/4 mile up to 1/2 mile	11 (3.9%)	4 (1.4%)
1/2 mile up to 1 mile	25 (8.9%)	10 (3.6%)
1 mile up to 2 miles	19 (6.8%)	28 (10.0%)
More than 2 miles	44 (15.7%)	92 (32.7%)

No Response: 11

(Percentages may not total 100% due to rounding.)

Grade When Parent Would Allow Child Walk or Bike to/from School without an Adult Separated by Distance They Live from School:

Grade	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Kindergarten	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)
1st Grade	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	0 (0%)
2nd Grade	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)
3rd Grade	1 (0.4%)	0 (0%)	1 (0.4%)	0 (0%)	3 (1.1%)
4th Grade	1 (0.4%)	3 (1.1%)	2 (0.8%)	2 (0.8%)	2 (0.8%)
5th Grade	0 (0%)	2 (0.8%)	2 (0.8%)	1 (0.4%)	3 (1.1%)
6th Grade	4 (1.5%)	1 (0.4%)	7 (2.7%)	9 (3.4%)	10 (3.8%)
7th Grade	5 (1.9%)	0 (0%)	7 (2.7%)	8 (3.1%)	15 (5.7%)
8th Grade	0 (0%)	2 (0.8%)	9 (3.4%)	5 (1.9%)	25 (9.6%)
Not at any Grade	3 (1.1%)	7 (2.7%)	6 (2.3%)	18 (6.9%)	65 (24.9%)

No Response: 31

(Percentages may not total 100% due to rounding.)

Issues which Affect Parent's Decision to Allow or Not Allow Their Child to Walk or Bike to/from School Separated by Children who Do and Do Not Already Walk or Bike To/From School:

Issue	Child walks/bikes to school	Child does not walk/bike to school
Distance	25 (54.3%)	175 (71.1%)
Convenience of driving	6 (13.0%)	22 (8.9%)
Time	13 (28.3%)	70 (28.5%)
Before/after-school activities	9 (19.6%)	35 (14.2%)
Traffic speed along route to school	13 (28.3%)	111 (45.1%)
Traffic volume along route	13 (28.3%)	117 (47.6%)
Adults to walk/bike with	2 (4.3%)	17 (6.9%)
Sidewalks or pathways	13 (28.3%)	58 (23.6%)
Safety of intersections & crossings	12 (26.1%)	113 (45.9%)
Crossing guards	5 (10.9%)	31 (12.6%)
Violence or crime	16 (34.8%)	80 (32.5%)
Weather or climate	18 (39.1%)	80 (32.5%)
Number of Respondents Per Category	46	246

No Response: 0

(Percentages may not total 100% due to rounding.)

For Parents Whose Children Do Not Walk or Bike to/from School, Number of Parents Responding to question: Would You Probably let Your Child Walk or Bike to/from School Issues Were Changed or Improved?

	Number of parents reporting that:		
Issue	**Change Would affect decision**	**Change Would Not affect decision**	**Not Sure if change would affect decision**
Distance	74 (30.1%)	113 (45.9%)	53 (21.5%)
Convenience of driving	18 (7.3%)	73 (29.7%)	35 (14.2%)
Time	45 (18.3%)	68 (27.6%)	31 (12.6%)
Before/after-school activities	31 (12.6%)	70 (28.5%)	30 (12.2%)
Traffic speed along route to school	57 (23.2%)	82 (33.3%)	32 (13.0%)
Traffic volume along route	58 (23.6%)	88 (35.8%)	37 (15.0%)
Adults to walk/bike with	27 (11.0%)	61 (24.8%)	24 (9.8%)
Sidewalks or pathways	50 (20.3%)	58 (23.6%)	25 (10.2%)
Safety of intersections & crossings	70 (28.5%)	74 (30.1%)	31 (12.6%)
Crossing guards	41 (16.7%)	55 (22.4%)	29 (11.8%)
Violence or crime	52 (21.1%)	72 (29.3%)	27 (11.0%)
Weather or climate	40 (16.3%)	75 (30.5%)	34 (13.8%)

Number of Respondents That Selected at Least 1 Issue: 246

No Response: 0

(Percentages may not total 100% due to rounding.)

Number of Parents Who Feel Their Child's School Encourages or Discourages Walking and Biking to/from School:

	Strongly Encourage	Encourage	Neutral	Discourage	Strongly Discourage
Number	9 (3.3%)	46 (16.9%)	201 (73.9%)	12 (4.4%)	4 (1.5%)

No Response: 20

Number of Parents Reporting the Level of Fun Walking and Biking to/from School is for Their Child:

	Very Fun	Fun	Neutral	Boring	Very Boring
Number	23 (8.5%)	81 (30.0%)	130 (48.1%)	20 (7.4%)	16 (5.9%)

No Response: 22

Number of Parents Reporting How Healthy Walking and Biking to/from School is for Their Child:

	Very Healthy	Healthy	Neutral	Unhealthy	Very Unhealthy
Number	112 (40.4%)	107 (38.6%)	55 (19.9%)	0 (0%)	3 (1.1%)

No Response: 15

Parent Comments

This table displays the comments provided by parents as part of this Parent Survey. These comments have been entered in two ways — they may have been entered by the local program, or they may have been scanned and processed by the National Center for Safe Routes to School (NCSRTS). Comments scanned and processed by NCSRTS may have not been edited for content, spelling, and other typographical errors that may have as part of the scanning and handwriting recognition process.

Comments from: Cottonwood Middle Sc

SurveyID	Comment
1398854	0
1398855	Too far away
1398856	0
1398857	0
1398858	0
1398859	0
1398860	Pot holes in parking lot is difficult to get out of
1398861	0
1398862	0
1398863	0
1398864	0
1398865	0
1398866	0
1398867	0
1398868	0
1398869	0
1398870	0
1398871	0
1398872	0
1398873	0
1398874	0
1398875	0
1398876	0
1398877	0
1398878	0
1398879	0
1398880	0
1398881	0

1398882	0
1398883	0
1398884	0
1398885	Need more bike lanes especially on Hwy 260
1398886	0
1398887	0
1398888	0
1398889	0
1398890	0
1398891	0
1398892	The intersections along Mingus are very dangerous
1398893	0
1398894	0
1398895	0
1398896	0
1398897	0
1398898	0
1398899	We need sidewalks
1398900	0
1398901	0
1398902	Too far away
1398903	0
1398904	0
1398905	0
1398906	0
1398907	0
1398908	0
1398909	0
1398910	0
1398911	Kidnapping
1398912	0
1398913	0
1398914	0
1398915	0
1398916	0
1398917	0

1398918	0
1398919	0
1398920	0
1398921	0
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1398949	0
1398950	0
1398951	0
1398952	0
1398953	0

1398954	0
1398955	0
1398956	0
1398957	Too much traffic
1398958	0
1398959	0
1398960	0
1398961	0
1398962	0
1398963	0
1398964	Kidnapping
1398965	0
1398966	0
1398967	0
1398968	0
1398969	0
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1398971	0
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1398982	0
1398983	0
1398984	0
1398985	0
1398986	0
1398987	0
1398988	0
1398989	0

1398990	Too far away
1398991	0
1398992	0
1398993	0
1398994	0
1398995	0
1398996	0
1398997	0
1398998	0
1398999	0
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1399007	0
1399008	0
1399009	0
1399010	0
1399011	0
1399012	0
1399013	0
1399014	0
1399015	Too far away
1399016	0
1399017	0
1399018	0
1399019	0
1399020	0
1399021	0
1399022	0
1399023	0
1399024	0
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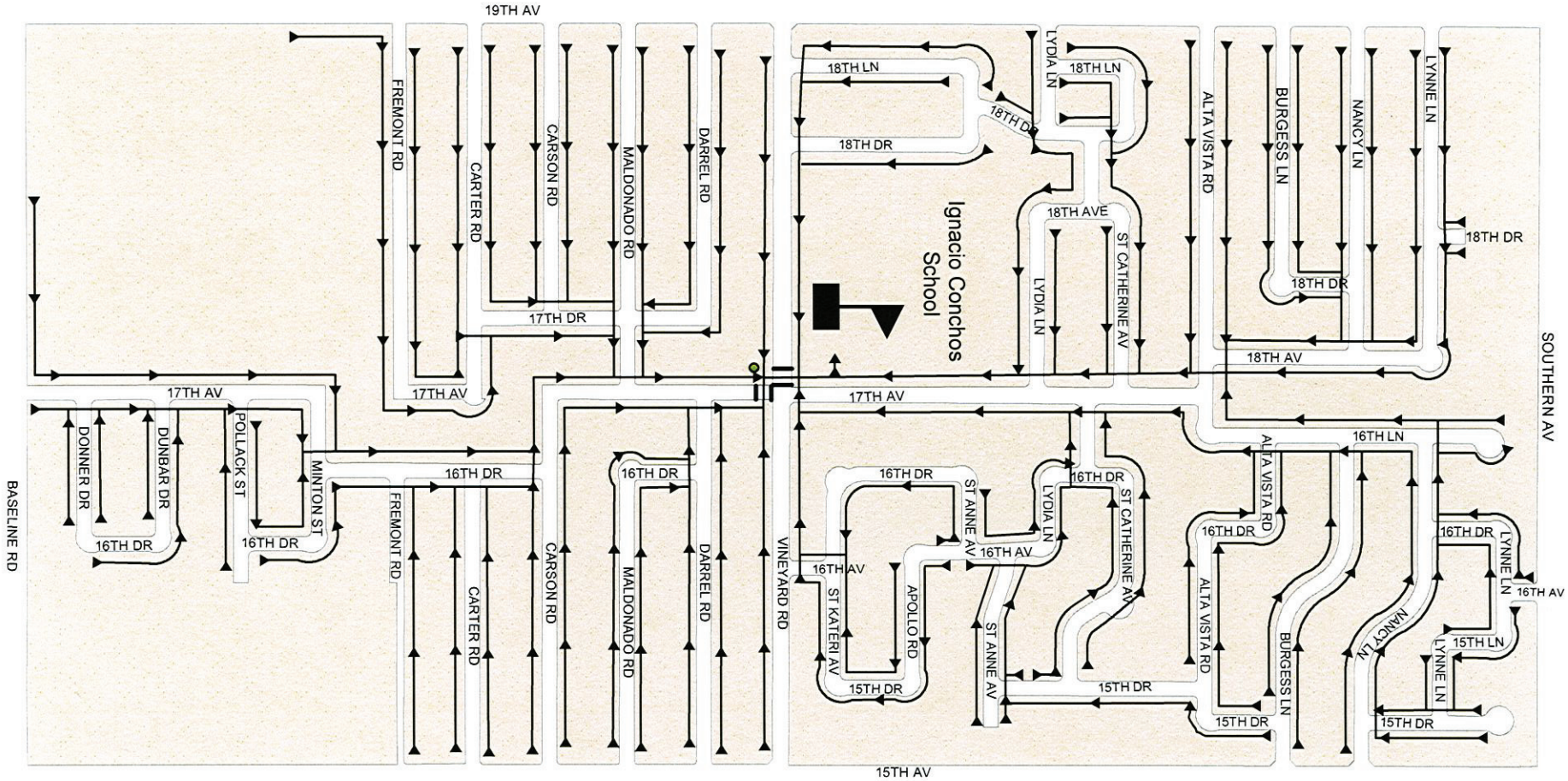
1399066	0
1399067	0
1399068	0
1399069	0
1399070	0
1399071	0
1399072	0
1399073	0
1399074	Too far away
1399075	0
1399076	0
1399077	0
1399078	0
1399079	0
1399080	Cottonwood Middle School
1399081	0
1399082	Need crossing guards in the morning
1399083	0
1399084	0
1399085	0
1399086	0
1399087	0
1399088	0
1399089	0
1399090	0
1399091	0
1399092	0
1399093	0
1399094	0
1399095	0
1399096	0
1399097	0

1399098	0
1399099	0
1399100	0
1399101	0
1399102	0
1399103	0
1399104	0
1399105	0
1399106	0
1399107	0
1399108	0
1399109	0
1399110	0
1399111	0
1399112	0
1399113	0
1399114	0
1399115	0
1399116	0
1399117	0
1399118	0
1399119	0
1399120	Need crossing guard at Minus and Willard
1399121	0
1399122	0
1399123	0
1399162	no puedo dejar a mi hijo vaya a pie o bicicleta por lo lejos
1399172	no me sentiria comodo que my hijo se fuera caminando en bicicleta y patineta
1399175	agradecemos cualquier informacion tomadia al respecto gracias

End of Report

Ignacio Conchos School
Safest Route to School Walking Plan
La Ruta Mas Segura para Caminar a la Escuela



Follow the solid line in the direction of the arrows to get to school.
Siga la linea en la direccion de la flecha para llegar a la escuela.

Created 2/27/2003 by glh

Cottonwood, AZ
Estimate of Potential Construction Cost
ADOT Safe Routes to School Program

July 8, 2009

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	ITEM TOTAL
1	PCC Sidewalk (Includes sidewalk in figure notes, not shown on figure)	LF	4,195	$ 20.00	$ 83,900.00
2	PCC Curb and Gutter (includes C&G in figure notes, not shown on figure)	LF	4,195	$ 15.00	$ 62,925.00
3	Truncated Dome Curb Ramps	EA	20	$ 1,500.00	$ 30,000.00
4	Drop Inlets/Storm Drain	LS	1	$ 30,000.00	$ 30,000.00
5	Concrete bumpers for traffic separation on school grounds	EA	5	$ 250.00	$ 1,250.00
6	Painting, cones, chains, etc.	LS	1	$ 5,000.00	$ 5,000.00
7	Bike racks	EA	20	$ 150.00	$ 3,000.00
8	Signs	EA	8	$ 250.00	$ 2,000.00
			Subtotal		**$ 218,075.00**
			10% Contingency		**$ 21,807.50**
			Grand Total		**$ 239,882.50**