



Active Transportation Plans for Caldwell School District and Vallivue School



July 2019



Saint Alphonus

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**United Way of
Treasure Valley**

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Supporting walking and bicycling to school efforts helps kids meet physical activity goals.



What Works to Get Kids Active
 Schools and communities can help kids get the 60 minutes of physical activity they need each day

- require daily P.E. **+23 min**
- provide in-class activity breaks **+19 min**
- add after-school programs **+10 min**
- renovate parks **+12 min**
- support walking/cycling to school **+16 min**

Bassett, D.R. et al. (2013). Estimated Energy Expenditures for School-Based Policies and Active Living. American Journal of Preventive Medicine. 42(2), 108-113. Link to paper <http://www.sciencedirect.com/science/article/pii/S0749379712008057>

Active Living Research is a national program of the Robert Wood Johnson Foundation
www.activelivingresearch.org

Robert Wood Johnson Foundation

Introduction

As part of an ongoing effort in Caldwell, supported by funding from United Way and Trinity Health Network, an evaluation of local schools was conducted. This document serves as the final report of that evaluation.

The specific series of plans can determine how city and state roadways can be improved through infrastructure projects to make walking and bicycling to each school safer and more appealing. Each school is unique in its circumstances and the results of this effort will be used for consideration by the City to implement recommendations.

The lens through which this report is written and compiled is through the 4C concept. Each of the four C's—Comfort, Context, Connectivity, and Crossings, add to the concept of walkability in their own way. Below is a description of these:

- **Comfort:** What human beings need to be comfortable while walking—their walk speeds, their operational needs, and how we experience walking through our senses.
- **Context:** Where we are drawn when walking, what we avoid—how land use, land forms, traffic volumes, traffic speeds, road width and lighting impact the desirability of a place.
- **Connectivity:** How linkages in sidewalks and pathways along streets, through parks, and within varying types of land development pose opportunities and barriers for people of all ages and abilities.
- **Crossings:** How access to crosswalks, crosswalk types, pedestrian signals, and signal timing influence how safe a crossing can be in terms of access, driver compliance, and suitability for walking.

If the elements are perfected over time, walking and bicycling rates should increase, safety figures improve, and a more hospitable and welcoming environment for school children realized. Infrastructure remains the key component of this effort for both usability and safety purposes. Efforts such as education and enforcement are only effective when the infrastructure is in place and safe for all users of all ages and abilities.



(Above) Designing Health Communities: Testing the Walkability Model, 2016, graphic

Justifying Improvements

The School District, City, and ITD are encouraged to utilize federal design guides aimed at promoting creative applications at lower costs to improve infrastructure for vulnerable road users like children. Some of the recommendations contained in this report do not resemble traditional curb, gutter, and sidewalk applications or conventional traffic signals. Yet, many state and local design standards only include these features. That limits the ability to spread the effect of infrastructure investments to more schools.

Vitruvian Planning is poised to provide the school district, city and ITD with representative examples from the many federal design guides to help maximize return on investment. These agencies are encouraged to update their policies and standards to endorse these guides. All are endorsed by the Federal Highway Administration to be used in these settings:

- FHWA Small Town and Rural Multimodal Networks Guide;
- NACTO Urban Street Design Guide and Urban Bikeway Design Guide;
- AASHTO's A Guide for Achieving Flexibility in Highway Design;
- AASHTO's Guide for the Planning, Design, and Operation of Pedestrian Facilities; and
- AASHTO's Guide for the Development of Bicycle Facilities.

School Activities and Transportation Considerations

Beyond hubs of education, schools are often also neighborhood parks and meeting places. When walking distances and purposes for walking are considered, people are more willing to travel there via an active mode of transportation.

However, it is essential that the route they use to get to the school is connected and has safe crossings with driver compliance. It must also be well lit, have continual walking spaces and adequate width for more than one person to walk, and be buffered from moving traffic to maximize comfort and safety.

With each degradation of the route, few people are likely to walk, which equals a lost opportunity for activity, a reduction in mobility choice, and a degradation of quality of life goals every community

seeks. Therefore it is important to look at a school site beyond the immediate street and intersections and continually address improvements within such one mile distances. The graphic below shows the types of destinations and time for which people are willing to walk.

Data like this are important for school districts and cities to consider since the only other available data source common to all places is Census and its journey to work data. The Census does not attempt to measure mode choice for people for other trips they take during the day. Even if someone is not able to walk or bike to work, they may already be doing so for other trip purposes or they may have a desire to walk or bike when not driving for their daily commute.



(Above) US DOT national Household Travel Survey shows how far we are willing to walk to places such as schools.



Why Infrastructure Matters Most

Children have physical and cognitive limitations, by nature, that make navigating streets and interpreting common traffic laws difficult. It's hard to see these factors at play as adults plan for, design, and implement school walk and bike route investments. There is a tendency to default to educating students on proper walking and bicycling skills in an attempt to overcome issues with unsafe street design.

While repetition about looking both ways, making eye contact, and waiting for cars to stop, is worthwhile, it must be recognized that its impacts are limited. The table below is from the Transportation Research Board and its National Cooperative Highway Research Program. The report titled *Improving Pedestrian Safety at Unsignalized Crossings* has a section on pedestrians that identifies the common walking characteristics of children. These factors aren't only applicable to unsignalized crossings, but for children navigating streets in any situation.

It is imperative that these factors, as well as others such as motor vehicle characteristics are understood

and considered in roadway design decisions. Even the seemingly common sense advice to "make eye contact" is made practically impossible for a child when considering both modern-day window tinting practices and windshield glare.

Vision Zero—a safe systems engineering approach to road design—is the dominant design philosophy that should drive school walk route decisions. It is prefaced on the fact that mistakes will be made by humans young and old, driving or walking and bicycling, but those mistakes should not be fatal. This is why targeted engineering practices such as speed management efforts, proactive signalization of school crossings, and recommendations like raised crosswalks and curb extensions work to slow cars and raise the visibility of children when they navigate streets. Streets designed through the lens of Vision Zero then give an opportunity for enforcement and education efforts to address outliers in behavior. Engineering influences 100% of a street's users 100% of the time whereas education and enforcement, at best, only influence a fraction of users a fraction of the time.

Walking Characteristics & Abilities of Different Pedestrian Groups

Young Children

At a young age, children have unique abilities and needs. Since children this age vary great in ability, it is important for parents to supervise and make decisions on when their child is ready for a new independent activity. Young children

- Can be impulsive and unpredictable,
- Have limited peripheral vision and sound source not located easily,
- Have limited training and lack of experience,
- Have poor gap/speed assessment,
- Think grown-ups will look out for them,
- Think close calls are fun,
- Are short and hard to see,
- Want to run and desire to limit crossing time, and
- Like to copy the behavior of older people.

Preteens

By middle school years, children have many of their physical abilities but still lack experience and training. Now there is greater desire to take risk. Preteens

- Lack experience,
- Walk and bicycle more and at different times (higher exposure),
- Ride more frequently under risky conditions (high traffic),
- Lack positive role models,
- Walk across more risky roadways (collectors and above), and
- Are willing to take chances.

High School Age

By high school and college age, exposure changes and new risks are assumed. Many walk and bicycle under low-light conditions. High school children

- Are very active and can go long distances and to new places;
- Feel invincible;
- Still lack experience and training;
- Are capable of traveling at higher speeds;
- Will overestimate their abilities on hills, curves, etc.;
- Attempt to use bicycles and in-line skates based on practices carried over from youth; and
- Are willing to experiment with alcohol and drugs.

Source: NCHRP Report 562 *Improving Pedestrian Safety at Unsignalized Crossings* .



Canyon Springs High School Overview

Canyon Springs High School is the alternative high school for the district and located in the center of Caldwell in the previous Van Buren Elementary School. Flanked by local neighborhoods and a busy 10th Street, the campus has seen some upgrades in the front of the school but needs additional upgrades around the perimeter and intersections. The upgrades would not only serve students who walk but also nearby residents seeking to access the greenspace and playground as well as the retail attractions on 10th Avenue.



The parking bays at the Salvation Army and the apartment complex promote drivers parking directly on the public sidewalk which blocks passage. The City of Caldwell and the two property owners should discuss a resolution to these conditions so that this simple problem is eliminated. Parking on public sidewalk is a clear code violation and for those with mobility impairments can be especially challenging since one parked vehicle can mean relegating a user into the street facing on-coming traffic.



Connections

Permitting a person to walk from one point to another in a straight line, without leaving a dedicated walk surface, without being placed in harms way of moving traffic, and without obstacles is what comprises a proper connection.

The streets and walking environment around Canyon Springs High School are in need of connections more than any other improvement. In some cases no sidewalks exist, while others simply need short additional segments or organization of parking.



East 8th Street/Denver Street/North 13th Street

The school perimeter streets are currently without sidewalk. The perimeter streets should be completed with concrete sidewalks and take advantage of the existing curbing already in place. Such projects can be jointly pursued by the District and the City and would benefit not only students, but area residents as well.

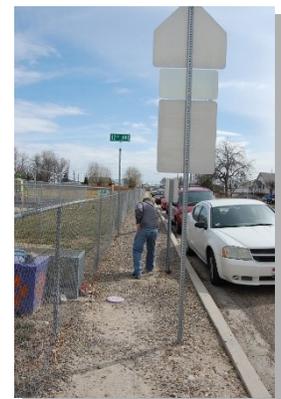
East 8th Street/11th Avenue

Make connection between residential property sidewalk and the driveway of the Wendy’s restaurant. This gap forces walkers into the street and minimizes utilization of existing infrastructure.



North 11th Avenue

The sidewalk segment on the north side of N. 11th Avenue needs to be better organized for safety.



Crossings

With regard to crossings, the school is served by a Pedestrian Hybrid Beacon at the intersection of North 10th Avenue and East 8th Street and a full traffic signal and crossing at North 10th Avenue and East Chicago. Other crossings in the area are frequent and often have a high visibility crosswalk. **One crossing that needs attention is the crossing at East Denver Street and North 12th Avenue.** Due to the allowance of on-street parking, the east side entry of the crossing is obscured. This can be a hazard as drivers may not see a crossing pedestrian as they travel north. To improve this, a curb extension should be considered but not of a typical concrete and rounded curb design. Since the curb ramps were recently rebuilt, adding simple reflective candles on both sides of the crossing in an arc shape can suffice and be simple to install.



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Context

East 8th Street has an opportunity due to the existing excessive width, the pedestrian hybrid beacon allowing crossings at 10th Avenue, and the less stressful parallel route to Chicago Street. Reusing the 40' of paved street, a number of new cross sections can be created to deliver a more inviting and holistic street environment. Starting with two 10' lanes (20'), the additional 20 feet could include on-street parking on one side with 6' buffered bike lanes, or could include occasional tree wells in the on-street parking lane for extra shade and esthetics. The 20' could also include newly constructed wider sidewalks with street trees or other landscaping features. The street is under used in its current configuration and considering a corridor design for the totality of East 8th Street suggested.



(Above) Redesigning the street to include tree wells in between on-street parking, and adding bike lanes for the duration of East 8th Street would improve walking and bicycling rates and safety, better serve the hybrid beacon on 10th Street, and add enhancements to the neighborhoods.

Other Suggestions

- Consider adding STOP signs to the north and south legs of the 11th/Denver intersection to permit better crossing of Denver and to add speed controls as driver speeding was viewed as a problem.
- Continue to strategically improve ADA facilities including directional curb ramps within proximity of the campus.
- The intersections near the school have minimal lighting. A night or dark time audit should occur and lighting conditions documented to determine where lighting improvements should be considered.



(Above) Details such as moving dumpsters, maintaining vegetation, enforcing parking lots, are ways to improve walkability without spending money or limited resources.



(Above) The Denver Street corridor is a parallel route to Chicago Avenue which can be busy with people and traffic. Drivers often use Denver as an alternative and have no real design prompts to slow travel speed. Adding stop controls at the 11th street intersection will reduce speeding traffic, highlight the presence of walking students, and minimize conflicts at the intersection.



Caldwell Schools Walkability Report

What the Surveys Say

Surveys were sent home with students to gauge the concerns and perceptions of parents and guardians. The surveys are from the National Safe Routes to School Partnership and include many questions such as: age, grade, nearest intersection, distance from school, travel mode, and general comments. The survey results were analyzed and used to help inform project recommendations and strategies. Survey results are as follows.

How many students walk or bike to school?

#	Field	Canyon Springs
1	Walk	3.33% 3
2	Bike	0.00% 0
3	School Bus	1.58% 6
4	Family vehicle	2.64% 7
5	Carpool	0.00% 0
6	Transit	0.00% 0
7	Other	0.00% 0

How long does it take to get to school?

#	Field	Canyon Springs
1	<5 minutes	0.00% 0
2	5-10 minute	3.18% 7
3	11-20 minute	3.73% 6
4	More than 20 minutes	1.08% 1
5	don't know/not sure	2.94% 2

How far do you live from school?

#	Field	Canyon Springs
1		0.63% 1
2	1/4 to 1/2	0.00% 0
3	1/2 to 1	1.36% 2
4	1 to 2	3.51% 4
5	more than 2	4.41% 9

What issues affected decisions to allow walk/bike?

#	Field	Canyon Springs
1	Distance	1.89% 6
2	Convenience	6.67% 4
3	Time	2.86% 4
4	Before/after school activities	2.44% 1
5	Speed of traffic along route	1.32% 4
6	Amount of traffic along route	1.32% 4
7	Adults to walk or bike with	1.11% 1
8	Sidewalks or pathways	2.00% 4
9	Safety of intersections and crossings	1.36% 4
10	Crossing guards	1.67% 2
11	Violence or crime	2.11% 4
12	Weather or climate	2.52% 7

How healthy is walking/biking?

#	Field	Canyon Springs
1	Very healthy	1.41% 4
2	Healthy	2.56% 7
3	Neutral	2.80% 4
4	Unhealthy	0.00% 0
5	Very unhealthy	0.00% 0

Parent comments:

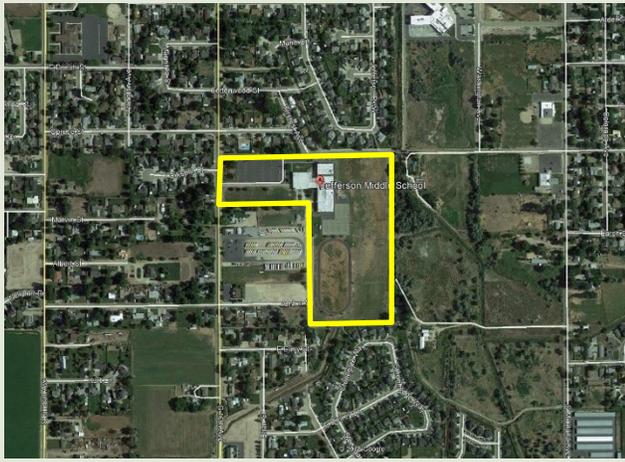
“Don’t allow him to walk because it is too far from school.”

“Our family really likes Canyon Springs staff. We would travel as far away as needed to stay at this school.”



Jefferson Middle School Overview

Jefferson Middle School is located in south Caldwell off 10th Avenue. The school has a limited few connections to nearby parcels but does have walking paths connecting with 10th Avenue, Firecrest Drive, and the canal pathway that bisects the Jefferson Middle School and Washington Elementary School campuses. The biggest barrier to walking is crossing and walking along 10th Avenue. A significant arterial road, 10th Avenue is multiple lanes in width, 35 mph, and heavily traveled for Caldwell streets.



Connections

Because the school is in a fairly established neighborhood and located between two major intersections, new connections are limited. However, there are existing connections that should be considered for improvement.

10th Street Walkways - There are a number of gaps along the 10th Street corridor near Jefferson Middle School. The gaps between Ustick Road and Linden Street should be of the highest priority to fill. In already developed areas, curb, gutter, and sidewalk should be added. In areas where future development will occur, an extruded curb and 5' asphalt treatment should be applied until the final development takes place.

Canal Pathway - The canal path is a Caldwell asset in the given area. Additions worth considering could be wayfinding signage, lighting, and vertical curbing in areas near the canal banks, especially at key junctions where a confluence of bicyclists and walkers may occur.



Spruce Street - Spruce Street/pathway between South 10th Avenue and Montana Avenue is not a fully functioning street and serves primarily walkers and bicyclists choosing to connect between the two neighborhoods, accessing the schools, or the pathway. The street can be turned into a more obvious bikeway and include designated walking space to help organize users and reduce conflicts. Also, at some point the major parcels yet to develop will see changes and Spruce will likely turn into a street. If and when this occurs, ensuring significant facilities for walkers and bicyclists is necessary to maintain the vibrancy of the trail and the connection.

Crossings

The 10th Street mid-block crossing is a good example of such a style of crosswalk given the limited number of full intersections near the front of the campus. However, the push button locations exceed ADA standards of 10" from a flat landing and need to be relocated. The push buttons should be accessible without being pulled into the street and aligned with the direction of travel.

The 10th Street mid block crossing is an example that should be used throughout Caldwell in certain contexts. The flashing beacon, high visibility striping, and overhead lights work to complement each other and improve visibility of pedestrians trying to cross.

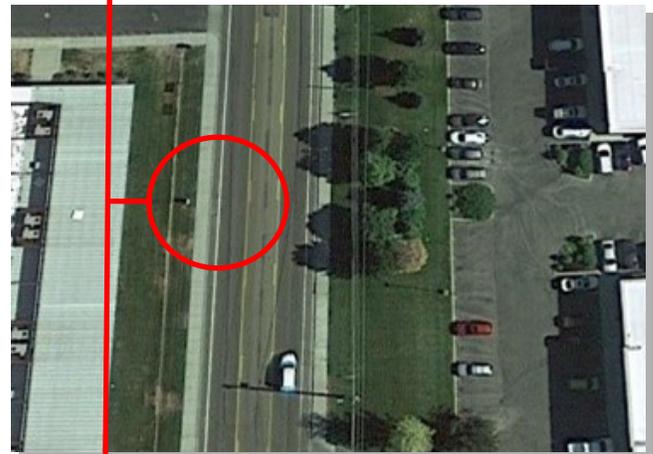
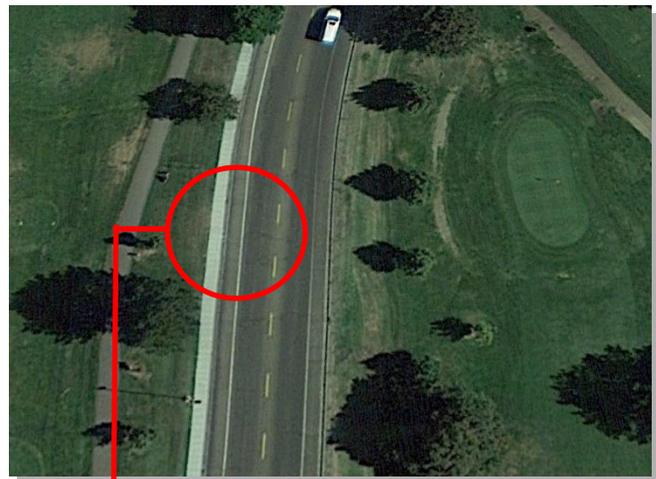


Comfort

10th Street - South 10th Avenue is a major corridor in Caldwell that connects the southern part of the city with downtown and onto Interstate 84. The roadway is important to residents, businesses, schools, and many more uses and should really be considered for a master planning effort. Currently, the road changes between a two and three lane configuration towards the south and a five lane configuration through downtown and near the Interstate. In sections the corridor includes bike lanes that can range between exceedingly narrow and excessively wide, which often gets them confused for on-street parking. In the area around Jefferson Middle School, the roadway is currently not signed as a school zone during arrival or departure times. This issue has been brought up by many individuals our team has spoken with including Caldwell Police Department.

Ideally, the road would include three lanes to maintain an adequate flow of traffic and minimize conflicts, buffered bike lanes that satisfy prevailing best practice guidelines, and sidewalks that meet the capacity and spacial needs of area pedestrians. Also, street trees, lighting, additional signalized crosswalks, and perhaps celebration of place using art and signage, can all be part of the final design.

The width of the bicycle facilities along South 10th Avenue range considerably. In certain locations the bike lanes are wider than guidelines would suggest and result in high numbers of on-street parking users while in other locations such as near Linden Avenue, bike lanes are narrower than suggested guidelines and can result in unnecessary confrontations between bicyclists and motorists.





Caldwell Schools Walkability Report

What the Surveys Say

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How many students walk or bike to school

#	Field	Jefferson
1	Walk	7.78% 7
2	Bike	9.09% 1
3	School Bus	0.26% 1
4	Family vehicle	3.02% 8
5	Carpool	4.55% 1
6	Transit	0.00% 0
7	Other	0.00% 0

How long does it take to get to school?

#	Field	Jefferson
1	<5 minutes	3.59% 8
2	5-10 minute	3.18% 7
3	11-20 minute	1.24% 2
4	More than 20 minutes	0.00% 0
5	don't know/not sure	1.47% 1

How far do you live from school?

#	Field	Jefferson
1		2.52% 4
2	1/4 to 1/2	7.41% 6
3	1/2 to 1	3.40% 5
4	1 to 2	1.75% 2
5	more than 2	0.00% 0

What issues affected decisions to allow walk/bike?

#	Field	Jefferson
1	Distance	0.63% 2
2	Convenience	0.00% 0
3	Time	0.71% 1
4	Before/after school activities	0.00% 0
5	Speed of traffic along route	1.32% 4
6	Amount of traffic along route	0.99% 3
7	Adults to walk or bike with	0.00% 0
8	Sidewalks or pathways	1.50% 3
9	Safety of intersections and crossings	1.02% 3
10	Crossing guards	1.67% 2
11	Violence or crime	1.58% 3
12	Weather or climate	0.36% 1

How healthy is walking/biking?

#	Field	Jefferson
1	Very healthy	3.53% 10
2	Healthy	1.83% 5
3	Neutral	0.70% 1
4	Unhealthy	0.00% 0
5	Very unhealthy	0.00% 0

Parent comments:

"I walk my daughter to school each morning, at least once a week we see cars not stop or turn to go around stopped cars. There is no longer a sign in the street it was hit by the snow plow 2 years ago. I'd love to see a school zone put in as well as a crossing guard. I don't feel 10th is a safe crossing area."

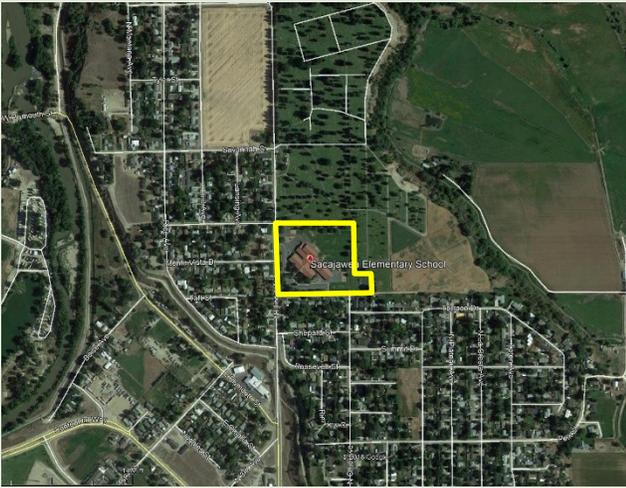
"Busy intersection in the dark in the morning - cars don't see kids. It is very scary!"

"He has to walk. I don't feel it is safe. Traffic is bad and I have seen incidents of bad behavior on several occasions from students walking."



Sacajawea Elementary School Overview

Sacajawea Elementary School is located on the bluff atop Canyon Hill. The school is situated mostly among residential areas and serves as the defacto park given there are no park facilities in the immediate area. The main street serving the school, Illinois Avenue, traverses down the hill into the rest of Caldwell. Recent and significant upgrades such a new sidewalk sections and crosswalk beacons have been added to Illinois to make walking and crossing the street safer for students.



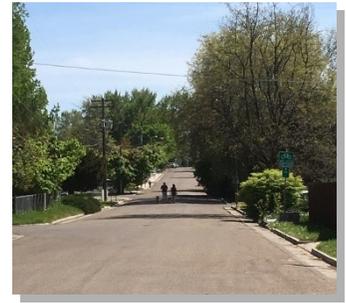
Connections

Rochester/Monte Vista - Both Rochester and Monte Vista are historic residential streets without pedestrian facilities. Due to the low volumes and slower speeds, examining the potential to use a yield roadway or pedestrian advisory shoulder may be suitable.

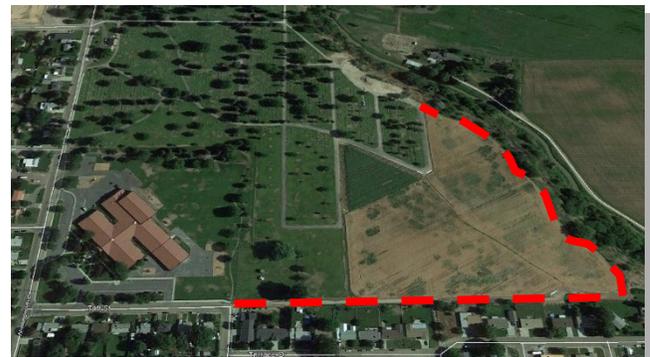


Both examples are found in FHWA’s STAR Guide (excerpt above) (https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf) These treatments do not require curb, gutter, and sidewalk, and can be contextually appropriate given the use and history of the streets near Sacajawea.

Ohio Avenue - Similar to Rochester and Monte Vista, Ohio Avenue is without sidewalks for most of the section. This street should have all sidewalk gaps filled over time. In the short term, approaching the pedestrian facilities using the same yield roadway or pedestrian advisory shoulder could be possible, or a third option of extruded curbs with reflective posts can also be explored.



Trail Easement - Toward the back portion of the school campus exists a trail easement via a utility corridor. The trail splits between a section aligned behind homes on Terrance Drive and one that enters the rear fence line of the school that turns and connects back with Illinois Avenue. Paving the trail connection and expanding the trail to run the perimeter of the cemetery is recommended to improve the recreational opportunities on the hill and near the school grounds.



Crossings

Taft Street - The current crosswalk spanning Ohio Avenue aligned with Illinois Avenue does not fully connect with any pedestrian facility. The crosswalk connects directly into shrubs and forces pedestrians to stray from the crosswalk in order to access the sidewalk. This is a hazard as it keeps pedestrians in a vulnerable position potentially facing on-coming turning traffic and forces them to traverse through the valley gutter. Eliminating the shrubs and extending the sidewalk with a new direction ramps is suggested.





Caldwell Schools Walkability Report

What the Surveys Say

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How many students walk or bike to school

#	Field	Sacajawea
1	Walk	22.22% 20
2	Bike	0.00% 0
3	School Bus	17.15% 65
4	Family vehicle	10.57% 28
5	Carpool	4.55% 1
6	Transit	0.00% 0
7	Other	0.00% 0

How long does it take to get to school?

#	Field	Sacajawea
1	<5 minutes	12.56% 28
2	5-10 minute	12.27% 27
3	11-20 minute	15.53% 25
4	More than 20 minutes	16.13% 15
5	don't know/not sure	23.53% 16

How far do you live from school?

#	Field	Sacajawea
1		17.61% 28
2	1/4 to 1/2	8.64% 7
3	1/2 to 1	12.93% 19
4	1 to 2	22.81% 26
5	more than 2	8.82% 18

What issues affected decisions to allow walk/bike?

#	Field	Sacajawea
1	Distance	14.20% 45
2	Convenience	11.67% 7
3	Time	13.57% 19
4	Before/after school activities	7.32% 3
5	Speed of traffic along route	13.25% 40
6	Amount of traffic along route	10.86% 33
7	Adults to walk or bike with	17.78% 16
8	Sidewalks or pathways	15.00% 30
9	Safety of intersections and crossings	13.27% 39
10	Crossing guards	10.00% 12
11	Violence or crime	16.32% 31
12	Weather or climate	15.47% 43

How healthy is walking/biking?

#	Field	Sacajawea
1	Very healthy	13.78% 39
2	Healthy	11.72% 32
3	Neutral	14.69% 21
4	Unhealthy	25.00% 2
5	Very unhealthy	41.67% 5

Parent comments:

"If 10th avenue was safer I would let my kids ride their bikes... but that street doesn't have sidewalks or safe places to cross."

"My child will not walk or bike to school until he is in high school, and even this not sure, too many crimes going on."

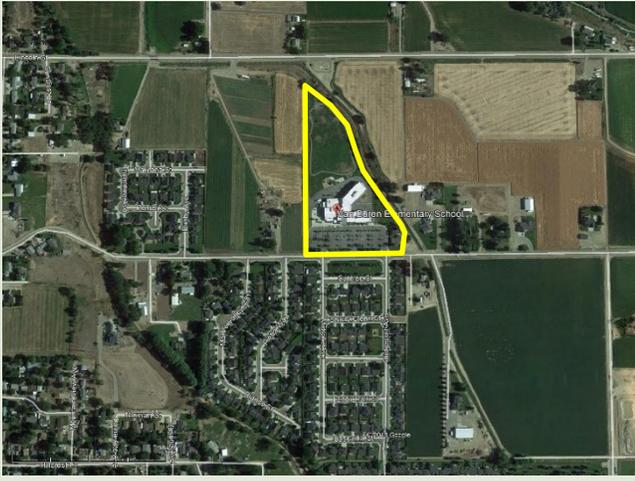
"I don't feel comfortable letting my elementary child walk to school because of the increase in child abductions and the neighborhood around the school."

"People don't pay attention when driving. People get hit by cars more than need to. NOT safe at all."



Van Buren Elementary School Overview

Van Buren Elementary School is located in northeast Caldwell off Marble Front Road. Many parcels near the school are still undeveloped and those that are developed, all comprised of single family housing neighborhoods. Currently, the school has no real connections with nearby neighborhoods with the exception of crossings directly across from the campus. The area will see growth in the coming years and upgraded walking infrastructure will be needed and helpful.



Future Subdivision Connections - Van Buren Elementary is surrounded by undeveloped properties and an adjacent canal. As the area fills in with new development, connecting with the campus to students can walk to school is essential. If such connections are not made, kids would like be unnecessarily safety bussed costing the district considerable funds.



Connections

Marble Front Extruded Curbs - The main road in front of the campus, marble Front Road, is a mix of developed and undeveloped properties. Because of this, many sections are without any kind of walking facilities and can be prohibitive to walking. Installing extruded curbs and adding asphalt shoulders from the campus to Illinois Avenue is recommended until such time as development install permanent curb, gutter, and sidewalks.



Using extruded curbing with shortened flex posts can be an effective way to define a walk space without the expense and challenge of full curb and gutters.

Crossings

Midvale Avenue - The Marble Front Road and Midvale crosswalk is a high visibility crosswalk but not used for afternoon departure due school policy which is that students are required to crossing at Bridgeport Avenue due to the presence of the crossing guard. However, for many students this crosswalk is unnecessarily out of their way and adds to the length of their walk. Adding an RRFB to the Midvale crosswalk is recommended to shorten the distance and heighten awareness of crossing students to drivers.

The Bridgeport crosswalk is a full 600' farther for students who live near the Midvale Avenue crosswalk to the west.



New In Pavement Markers - Replace in pavement markers at both crosswalks along Marble Front as they are damaged and lost conspicuity.





Caldwell Schools Walkability Report

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Surveys were sent home with students to gauge the concerns and perceptions of parents and guardians. The surveys are from the National Safe Routes to School Partnership and include many questions such as: age, grade, nearest intersection, distance from school, travel mode, and general comments. The survey results were analyzed and used to help inform project recommendations and strategies. Survey results are as follows.

How many students walk or bike to school

#	Field	Van Buren
1	Walk	10.00% 9
2	Bike	0.00% 0
3	School Bus	15.57% 59
4	Family vehicle	12.45% 33
5	Carpool	13.64% 3
6	Transit	0.00% 0
7	Other	0.00% 0

How long does it take to get to school?

#	Field	Van Buren
1	<5 minutes	10.31% 23
2	5-10 minute	14.55% 32
3	11-20 minute	15.53% 25
4	More than 20 minutes	12.90% 12
5	don't know/not sure	13.24% 9

How far do you live from school?

#	Field	Van Buren
1		9.43% 15
2	1/4 to 1/2	8.64% 7
3	1/2 to 1	13.61% 20
4	1 to 2	12.28% 14
5	more than 2	15.20% 31

What issues affected decisions to allow walk/bike?

#	Field	Van Buren
1	Distance	13.56% 43
2	Convenience	10.00% 6
3	Time	8.57% 12
4	Before/after school activities	12.20% 5
5	Speed of traffic along route	11.92% 36
6	Amount of traffic along route	12.17% 37
7	Adults to walk or bike with	11.11% 10
8	Sidewalks or pathways	14.00% 28
9	Safety of intersections and crossings	10.20% 30
10	Crossing guards	8.33% 10
11	Violence or crime	14.74% 28
12	Weather or climate	13.31% 37

How healthy is walking/biking?

#	Field	Van Buren
1	Very healthy	10.60% 30
2	Healthy	13.55% 37
3	Neutral	19.58% 28
4	Unhealthy	0.00% 0
5	Very unhealthy	8.33% 1

Parent comments:

"I will not let my child walk or bike to school!!"

"The hill/curve on Marble Front NEEDS a sidewalk!"

"I wish there were crossing guards at both sides of the school both before + after school, that way my kids would have a safer more direct walk home."

"He would love to walk to school but no safe path there. Crazy drivers."

"In this day and age I wouldn't encourage anyone to walk much less a child. If you can get robbed by gun in daylight hours, I don't want to imagine what else can happen."



Desert Springs Elementary School Overview

Desert Springs Elementary School is within the Vallivue School District and located in southeast Caldwell. The school is co-located with Sage Middle School and assessed off Ustick Road. Much of the area near the campus is undeveloped, yet major projects are slated for construction, mostly comprised of single family housing units. Ustick Road is a major dividing line between existing neighborhoods and the school as it is a Principal Arterial and four lanes wide.



Undeveloped Areas Future Connections - Similar to Van Buren Elementary, Desert Springs is flanked by undeveloped areas that as they fill in, should connect with the school to minimize walking distance and the use of safety bussing. There will likely be a need for a mid-block PHB crossing on Ustick, additional crossing of Midland Avenue, and once connected, crossings of Spruce Street.



Connections

Santa Ana Avenue - The frontage street for both school campuses, Santa Ana Avenue is a street that will eventually be extended and completed as development occurs. The roadway should be built with full buffered bike lanes to maximize comfort for school aged children and to provide a buffer for walkers.



Using existing curb to curb pavement, adding buffered bike lanes along Santa Ana Avenue would calm traffic and add a critical element for improved active transportation use while also improving quality of life for local residents.



Crossings

Ustick Road - Several students were seen crossing Ustick Road to access the subdivision south on Santa Ana Avenue. There is no marked crosswalk and the midblock crossing to the west is several hundred feet away. This intersection will be fully signalized once development occurs, but adding a PHB now, and recouping the costs as development transpires is suggested to improve safety and potentially increase walking participation.



School Zone Flasher Timing - Another observation made along Ustick Road was that the school zone flashers would only illuminate after the PHB actuation button was pushed. The street is a full school zone with students crossing not only at the mid-block crossing, but also at Santa Ana. Making the school zone official complete with flashes during designated times and accompanying the zone with reduced speed limits, is advised.





Caldwell Schools Walkability Report

What the Surveys Say

Surveys were sent home with students to gauge the concerns and perceptions of parents and guardians. The surveys are from the National Safe Routes to School Partnership and include many questions such as: age, grade, nearest intersection, distance from school, travel mode, and general comments. The survey results were analyzed and used to help inform project recommendations and strategies. Survey results are as follows.

How many students walk or bike to school

#	Field	Desert Spring
1	Walk	21.11% 19
2	Bike	63.64% 7
3	School Bus	15.83% 60
4	Family vehicle	33.58% 89
5	Carpool	18.18% 4
6	Transit	33.33% 1
7	Other	100.00% 1

How long does it take to get to school?

#	Field	Desert Spring
1	<5 minutes	37.22% 83
2	5-10 minute	21.36% 47
3	11-20 minute	14.91% 24
4	More than 20 minutes	19.35% 18
5	don't know/not sure	14.71% 10

How far do you live from school?

#	Field	Desert Spring
1		34.59% 55
2	1/4 to 1/2	28.40% 23
3	1/2 to 1	26.53% 39
4	1 to 2	17.54% 20
5	more than 2	17.16% 35

What issues affected decisions to allow walk/bike?

#	Field	Desert Spring
1	Distance	20.50% 65
2	Convenience	28.33% 17
3	Time	26.43% 37
4	Before/after school activities	34.15% 14
5	Speed of traffic along route	25.83% 78
6	Amount of traffic along route	25.00% 76
7	Adults to walk or bike with	23.33% 21
8	Sidewalks or pathways	17.50% 35
9	Safety of intersections and crossings	25.17% 74
10	Crossing guards	30.00% 36
11	Violence or crime	19.47% 37
12	Weather or climate	24.82% 69

How healthy is walking/biking?

#	Field	Desert Spring
1	Very healthy	25.80% 73
2	Healthy	27.47% 75
3	Neutral	17.48% 25
4	Unhealthy	12.50% 1
5	Very unhealthy	16.67% 2

Parent comments:

"We feel comfortable since there are so many kids that walk in groups and there are plenty of adults."

"Crossing Ustick...I feel is unsafe, even with light. Cars speed down to try to beat the light constantly."

"School should start later, it's DARK in the mornings and causes many safety concerns for walking..."

"The intersection of Santa Ana & Ustick needs better lighting & a crossing guard."

"The school light on Ustick is never flashing yellow. Cars speed on Ustick, + no crossing guard on Ustick for children to cross safely..."



Skyway Elementary School Overview

Skyway Elementary School is in East Caldwell and within the Vallivue School District. The nearby area is growing with new subdivisions and newer housing in the approximate area. The school is located off Ward Road. The campus currently has no direct connections to nearby neighborhoods and significant opportunity to connect with developing parcels to the east and south as development occurs. The area near the school can realize improved walking and bicycling rates with improvements and good land use policy.



Connections

Undeveloped Area Future Connections - The Skyway Elementary campus is located in a newer part of Caldwell that has room to grow. Future connections should be made to the campus from the large parcels behind to the east, and to the south. These connections can be made safe and convenient and would save students time instead of either being bussed or driven due to the direct connection of the routes.



Pathway connections with elementary schools have been in place since schools were built. Numerous schools in the area have connections and have had them without incident. It is projects like these that can make a major difference in future years and minimize the effects of growth and new housing. Ensuring these connections are made is paramount.

Crossings

Jump Creek Drive - The entrance to a major subdivision directly across from Skyway has only one

marked crosswalk spanning Ward Road. While the intent is to channelize students, this forces students to cross Jump Creek Drive either before or after using the crosswalk to cross Ward Road. Marking the Jump Creek Drive crossing would help to further heighten awareness to drivers should the Ward Road crossing be maintained in its current configuration.



Skyway Drive - Skyway Drive is likely the busiest crossing near the campus at this time. Due to the undeveloped parcel to the west, the east/west through lane alignments are offset. One recommendation is to retrofit a curb extension on the southeast corner to minimize crossing distance and increase visibility of children. Due to the presence of on-street parking, such a treatment is feasible and does not need to be built with curb and concrete but can be done with reflective posts and other materials. Also, the northeast corner should be reconstructed with directional ramps and not diagonal ramps as currently constructed. Curb extensions can also be placed at the Saranac Court crosswalk due to the same reasons of on-street parking and diagonal ramps.



Highway 20/26 - This crossing will be or paramount importance as development continues in the area. The intersection will not likely be signaled due to ITD policy and will remain a two-way stop for the foreseeable future. For pedestrians trying to cross the road, this intersection will continue to be hazardous. Two solutions possible include the installation of a pedestrian hybrid beacon to stop traffic only when pedestrians are attempting to cross, or a full underpass that would not stop traffic yet provide a safe crossing for all users.

Comfort

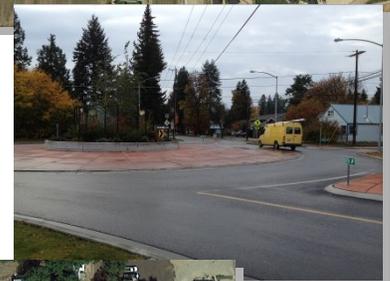
Ward Road - Ward Road is a street that will continue to lengthen over time and become more of an important street for local movement. The road is a parallel route to Middleton Road and connects not only Skyline but also a number of residential subdivisions. This road is critically important and should be designed to accommodate all users with maximum comfort. Adding buffered or separated bicycle lanes now will establish the route as a comfortable, low-stress street so that as it is lengthened, the new residents of the area will understand the circumstances as is, rather than trying to retrofit the street with such facilities which may be met with resistance. This street is the ideal candidate for bicycle trips traveling north-south and can help intercept trips from being taken on a much heavier used road such as Middleton Road.



Buffered bike lanes can take many forms and use several tools to separate the bike lane from the travel or parking lane.



Skyway Drive - Nearly identical in nature to Ward Road, Skyway Drive is a road that will grow over time and parallels a major route, Chinden or Highway 20/26. Adding similar features to Skyway as described for Ward Road would be ideal in addition to the installation of section line road roundabouts. Roundabouts increase safety exponentially, maintain traffic flow, and have a significantly lower life cycle cost than signalized intersections. Adding roundabouts in the area is still possible, especially in the City adopts locations in their long range transportation plan prior to development applications.



Roundabouts continue to grow in appeal throughout the Valley and Idaho. Nearby Middleton (top) has several varieties which could be similar to those employed on Skyway Drive. Other roundabouts such as in Sandpoint (middle) are located in neighborhood areas and accommodate all vehicle types with a mountable apron and in Kuna (bottom) where a roundabout has worked as the gateway entrance into the eastern side of downtown.



Caldwell Schools Walkability Report

What the Surveys Say

Surveys were sent home with students to gauge the concerns and perceptions of parents and guardians. The surveys are from the National Safe Routes to School Partnership and include many questions such as: age, grade, nearest intersection, distance from school, travel mode, and general comments. The survey results were analyzed and used to help inform project recommendations and strategies. Survey results are as follows.

How many students walk or bike to school

#	Field	Skyway
1	Walk	33.33% 30
2	Bike	27.27% 3
3	School Bus	38.79% 147
4	Family vehicle	29.81% 79
5	Carpool	50.00% 11
6	Transit	33.33% 1
7	Other	0.00% 0

How long does it take to get to school?

#	Field	Skyway
1	<5 minutes	30.94% 69
2	5-10 minute	35.91% 79
3	11-20 minute	39.75% 64
4	More than 20 minutes	43.01% 40
5	don't know/not sure	30.88% 21

How far do you live from school?

#	Field	Skyway
1		32.08% 51
2	1/4 to 1/2	41.98% 34
3	1/2 to 1	34.69% 51
4	1 to 2	21.93% 25
5	more than 2	47.55% 97

What issues affected decisions to allow walk/bike?

#	Field	Skyway
1	Distance	39.43% 125
2	Convenience	38.33% 23
3	Time	40.71% 57
4	Before/after school activities	36.59% 15
5	Speed of traffic along route	37.75% 114
6	Amount of traffic along route	39.47% 120
7	Adults to walk or bike with	36.67% 33
8	Sidewalks or pathways	40.50% 81
9	Safety of intersections and crossings	40.48% 119
10	Crossing guards	38.33% 46
11	Violence or crime	35.79% 68
12	Weather or climate	33.81% 94

How healthy is walking/biking?

#	Field	Skyway
1	Very healthy	37.10% 105
2	Healthy	34.43% 94
3	Neutral	37.76% 54
4	Unhealthy	50.00% 4
5	Very unhealthy	16.67% 2

Parent comments:

"It is too risky in today's society. KIDS DISAPPEAR ALL the time."

"The intersection at Ward and Skyway needs to be a 4-way stop for safety and for cars traveling across Skyway."

"Violence and fast traffic scares me, no cross flashing light to cross hwy 20/26."

"Both law enforcement and staff should be more present before and after school. Dropping off my child at school has become somewhat chaotic as other parents double park to pickup or drop off their children."



Caldwell School Walkability Report

Washington Elementary & Syringa Middle Schools Overview

These two schools are adjacent to one another southwest of the intersection of Linden St. and Montana Ave. The school zone boundaries lie primarily east of the schools, with neighborhoods between Montana Ave and Indiana Ave serving as the residential areas most conducive to attracting walking and bicycling trips. Montana Ave lacks sidewalks on both sides, but has signed school crossings at several intersections. Survey results are for Washington Elementary only.



Connections

Montana Ave - The area to most likely draw walking and bicycling trips, both to the schools, and the pathways on the west side, is from the residential areas east of Montana Avenue. Montana Avenue lacks completed sidewalks on both side of the road between Linden and Alder St.

The street has sidewalks on the west side from Linden to Cherry St. A short-term solution to creating a walkway on both sides would be an extended shoulder of the roadway with an extruded curb. People

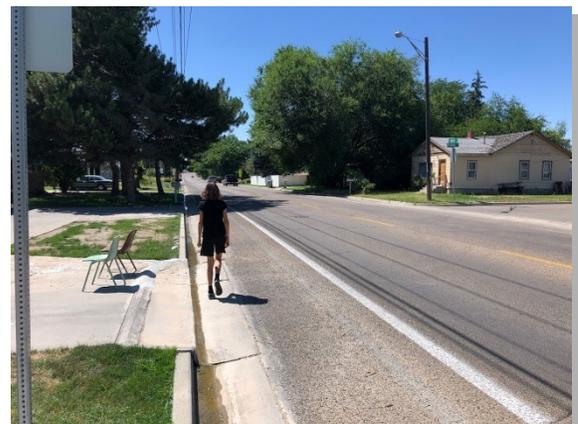


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were observed walking on dirt shoulders during the field observations. The image below shows a worn pathway adjacent to the curb along Montana Avenue just south of the Linden intersection.



Linden Sidewalks—Streets like Linden were built with curb and gutter but not sidewalks. This make them difficult to upgrade to include sidewalks due to the presence of trees, landscaping, and other features in the front yards from residential properties that front the street. Upgrading Linden to have a walkway—either a curb-protected walkway in the street or picking one side for conventional sidewalks—would increase walking and biking trips to the pathway along the Dixie Drain.



Crossings

Alder St - The Alder Street crossing to Washington Elementary has both sight distance issues and connectivity problems, as well as minimal crossing treatments. Ideally a sidewalk connection should be made to this crosswalk, with it upgraded to RRFBs in combination with a trimming or removal of shrubs that hinder the ability of driver's to see people waiting to cross or rounding the corner to access this crosswalk. The image below shows these issues.



Locust St - The Locust St crossing to Syringa Middle has sidewalks on the west side to connect to the school but lacks a receiving sidewalk on the east side. Upgrading the crosswalk to have RRFBs in combination with wrapping a short walkway onto Locust for a short distance with a ramp connecting to the street, would make this crossing more attractive.



This sign located in the pedestrian circulation route along Montana Ave, just south of Linden, does not comply with MUTCD and ADA requirements for vertical clearance. In this example, a child that is 5'2" tall illustrates how the bottom of the sign is a safety issue for her. The sign must be raised and preferably moved to the back of sidewalk instead of being mounted in the sidewalk.

An Observation

A commonly used "safety tip" used in traffic safety circles is for pedestrian and bicyclists to wear bright or reflective clothing so motorists see them.

This image of a school crossing sign placed in the middle of Montana Avenue illustrates the fallacy in that statement This sign has reflective qualities and brightness greater than any vest, jacket or clothing can provide. Yet, it shows direct evidence of motorists hitting it within the street.

This is why infrastructure, along with managing vehicle speeds, is the critical element of safe routes to schools; not bright or reflective clothing.





Caldwell Schools Walkability Report

What the Surveys Say

Surveys were sent home with students to gauge the concerns and perceptions of parents and guardians. The surveys are from the National Safe Routes to School Partnership and include many questions such as: age, grade, nearest intersection, distance from school, travel mode, and general comments. The survey results were analyzed and used to help inform project recommendations and strategies. Survey results are as follows.

How many students walk or bike to school

#	Field	Washington
1	Walk	2.22% 2
2	Bike	0.00% 0
3	School Bus	10.82% 41
4	Family vehicle	7.92% 21
5	Carpool	9.09% 2
6	Transit	33.33% 1
7	Other	0.00% 0

How long does it take to get to school?

#	Field	Washington
1	<5 minutes	5.38% 12
2	5-10 minute	9.55% 21
3	11-20 minute	9.32% 15
4	More than 20 minutes	7.53% 7
5	don't know/not sure	13.24% 9

How far do you live from school?

#	Field	Washington
1		3.14% 5
2	1/4 to 1/2	4.94% 4
3	1/2 to 1	7.48% 11
4	1 to 2	20.18% 23
5	more than 2	6.86% 14

What issues affected decisions to allow walk/bike?

#	Field	Washington
1	Distance	9.78% 31
2	Convenience	5.00% 3
3	Time	7.14% 10
4	Before/after school activities	7.32% 3
5	Speed of traffic along route	8.61% 26
6	Amount of traffic along route	10.20% 31
7	Adults to walk or bike with	10.00% 9
8	Sidewalks or pathways	9.50% 19
9	Safety of intersections and crossings	8.50% 25
10	Crossing guards	10.00% 12
11	Violence or crime	10.00% 19
12	Weather or climate	9.71% 27

How healthy is walking/biking?

#	Field	Washington
1	Very healthy	7.77% 22
2	Healthy	8.42% 23
3	Neutral	6.99% 10
4	Unhealthy	12.50% 1
5	Very unhealthy	16.67% 2

Parent comments:

“My biggest concerns are someone kidnapping her and her getting hit by a car. I probably will never let her go alone.”

“Don't feel safe allowing my daughter to walk because of all the inattentive drivers nowadays”

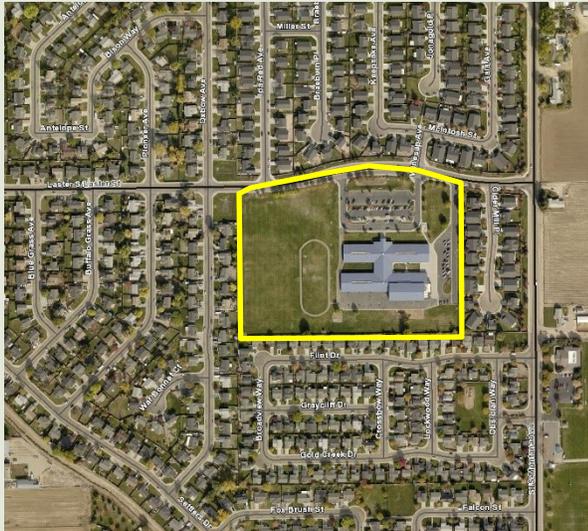
“The intersection at Montana & Alder needs more improvement for safety. Hardly any cars stop at the cross walk.”

“The streets do not have sidewalks for people who walk safely.”



Lewis & Clark Elementary School Overview

Lewis Clark Elementary School is in south Caldwell and within the Caldwell School District. The main road to the east, Montana Avenue, is the school district boundary with the school service area consisting primarily of residential areas surrounding it and largely undeveloped land to the west. The sidewalk network in the neighborhood is complete and there are marked school crossings along Laster Street along the north side of the school. There are no connections for children walking or bicycling on the south side of the school property. There are no survey results for Lewis and Clark Elem.



Connections—Flint Drive Connections

A great opportunity for child safety was lost when subdivisions were approved without connections to the school from the south. The neighborhood that includes Flint Drive is isolated with no linkages to the school other than requiring children to walk or bike along Montana Ave.

The unfortunate result is 120 households lack good access to the school site. The only solution would be to pursue easements between two properties or purchase one of the homes when it comes up for sale



and carve off an easement to provide a micro-path connection.

While this is potentially a costly endeavor, it should be a lesson to the city and school district to more closely watch subdivision activity in the future and require micro-path connections to schools. These connections don't have to be elaborate, as the image below from a subdivision connection to a school in Blackfoot, Idaho, shows.



Crossings – Winesap and Ida Red

There are marked crosswalks with center lane signage at these two intersections. Caldwell School District staff expressed concerns over these crossings due to past motorist activities. Converting these to raised crosswalks would serve to both calm traffic and provide a more protected space for kids. Some may express concern over raised crosswalks related to emergency services and snow plows, but there is ample research and design guidance to show these are not an issue when engineered properly.



Caldwell School Walkability Report

Caldwell High School Overview

Caldwell High is in southeast Caldwell and serves the overall city. Its primary access is along Indiana Avenue. Bus operations were recently moved to the northeast side of the campus, accessing the site from Georgia Avenue. The areas most conducive for drawing walking and bicycling trips are neighborhoods to the northwest and north of the campus. Undeveloped areas to the south could create more demand in the future. School release time observations revealed a large number of students walking north from the campus, with roughly half crossing to the west side. It was determined that the survey used for younger kids was not aligned for high school interests, so no survey was done.

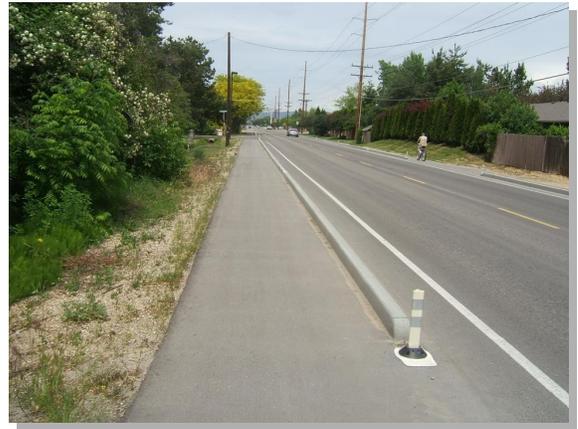


Connections

Georgia Avenue - The movement of school bus operations to Georgia Avenue means more traffic on this route, which lacks sidewalks (image below). This impacts not only students walking or bicycling to and from school, but also neighborhood residents who use the street for those purposes. Given lack of drainage facilities, an extruded curb treatment may be most suitable along this route as an interim improvement (sample image top right.)



Caldwell, Idaho Summary—June 2019



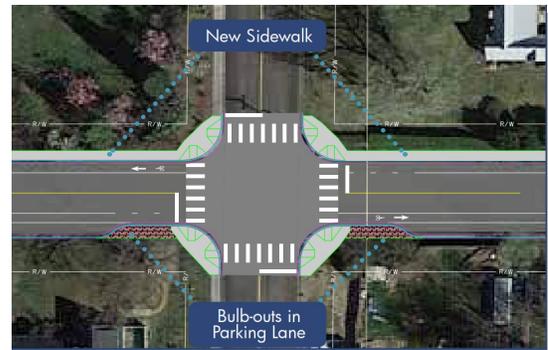
Extruded curbing, shown from Ada County, consists of an extended shoulder with curbing to create a space to walk and bike, with appropriate breaks in the curbing to allow for drainage.

Indiana Avenue - This section line road is like many in south Caldwell as it lacks sidewalks and contains curbed sections in front of residential properties.

This makes it difficult to retrofit for sidewalks as it means either placing sidewalk behind the curb and impacting existing trees and landscaping, as well as relocating utility poles, or building a protected walkway within the existing curb section.

The latter option may mean removing on-street parking from one side of the street. In terms of safety, it's a question of whether the storage of private property on the street (parking) is a greater concern than the safety of kids walking to and from school. That's a community decision to make and unfortunately, not an easy one.

ACHD in Ada County recently faced this issue on Kootenai Street on the Boise Bench. They conducted parking utilization studies to show that while on-street parking was allowed, it was rarely used. This helped decision makers adopt a street reconfiguration plan that included building a protected walking route within the existing curbed sections of the street (image below).



Crossing + Connection -

Canal - The Caldwell Lowline Canal forms the northern boundary of the Caldwell High School campus. The canal's corridor is also a walk route for students accessing the campus from the west. While likely prohibited and not welcome by Pioneer Irrigation District, the fact is this will likely continue to be an informal pathway.

There are success stories in Meridian and elsewhere in Idaho of canal corridors being used as pathways. Given the connectivity this provides for the High School, it is advised that City and School District officials pursue agreements to determine how to formalize this pathway and make it safe.

The existing walkways on the Caldwell High campus lead straight to the canal, which serves as a line of sight and thus creates walking demand for students. A crossing upgrade should also be considered in the form of a Pedestrian Hybrid Beacon at this location. While it may be desirable to try to channelize high school kids into another crossing (and could be an interim treatment), research shows that is not likely given the natural abilities and desires of adolescents and their characteristics in making walk route decisions are drastically different than what adults perceive them to be or think they should be.



View across Indiana Ave from canal to Caldwell High School.



View from high school walkway, looking toward Indiana Avenue and canal.



A Hybrid Pedestrian Hybrid Beacon

A notable treatment deployed in Caldwell is a modified version of a Pedestrian Hybrid Beacon (PHB, also called HAWK signal). Instead of a traditional signal, the PHB allows motorist to come to a complete stop before proceeding on a flashing red if no pedestrian are present after they fully stop for a solid red. Caldwell has designed a more cost-conscious PHB type that mounts signals on side poles rather than overhead mast arms. This treatment should provide comfort for designers to allow them in areas that may not expressly meet MUTCD warrants since MUTCD warrants for pedestrian signals are based primarily on cost considerations, with number of pedestrians being a secondary driving factor to those warrant thresholds.