



Linn-Mar Community School District Safe Routes to School Plan

Final Draft

(Page left intentionally blank)

Acknowledgments

This plan could not have been done without the work of the individuals listed below. Planning services were provided to the City of Marion and the Linn-Mar Community School District (LMCSD) by the Corridor Metropolitan Planning Organization (CMPO).

City of Marion

Mike Barkalow
City Engineer

Kesha Billings
Associate Planner

Tom Daubs
Linn-Mar School Resource Officer



Corridor MPO

Liz Burke
MPO Manager

Hilary Hershner
Regional Transportation Planner

Roman Kiefer
Regional Transportation Planner

Linn County

Jacquie Montoya
Public Health Program Manager

Linn-Mar District

Bob Read
Associate Superintendent



Healthy Hometowns/YMCA

Sara Mentzer*
Director of Development and Marketing
*also a Marion City Council member representing Ward 4



*Page left intentionally blank for resolution and/
or a link, to meeting minutes online, showing the
plan's approval and adoption by the LMCSO and
the City of Marion*

Table of Contents

Introduction	2
Introduction and Organization	2
Schools Included in the Plan	3
What is Safe Routes to School (SRTS)?	4
Planning Process	5
Vision Statement	7
Plan Goals	7
Existing Conditions	9
Demographics	9
Transportation	15
Land Use	26
Linn-Mar	30
Areas of Improvement	45
Engineering	51
Evaluation	60
Education	67
Equity	75
Encouragement	78
Engagement	88
Appendix	96
Appendix 1 - FHWA Figures	96
Appendix 2 - Surveys	100
Appendix 3 - Maps	123
Appendix 4 - Social Vulnerability Index	147
Appendix 5 - Iowa DOT Bicycle and Pedestrian Infrastructure Analysis	153

List of Definitions

Active Transportation	A means of getting around that is powered by human energy, primarily walking and bicycling.
August 2020 Derecho	A powerful storm [derecho] that affected the Midwest United States on August 10, 2020. Some of the region's residents did not have power for weeks and telephone polls were knocked down. 60-65% of the tree canopy was lost.
Built environment	Man-made or modified structures that provide people with living, working, and recreational spaces. This includes infrastructure like roadways, bridges, and utilities.
Curriculum	A plan that outlines what students shall be taught.
Derecho	A widespread, long-lived, straight-line wind storm associated with fast moving group of severe thunderstorms. If the wind damage extends more than 240 miles and includes wind gusts of 58 mph or greater along most of its length, than that storm could be classified as a derecho.
Equity [in transportation]	Seeks fairness in mobility and accessibility to meet the needs of all community members regardless of ability, socio-economic status, race, or culture. A central goal is to provide equitable access to affordable and reliable transportation options based on a population's needs (particularly for underserved communities).
The four schools	Refers to the four schools included in this Safe Routes to School Plan: Echo Hill Elementary, Hazel Point Intermediate, Boulder Peak Intermediate, and Oak Ridge Middle Schools.
Idling	When a vehicle's engine is running but the vehicle is not in motion.
Implement	To fulfill, perform, carryout; to put into effect according to or by means of a definite plan or procedure.
Median Household Income	The middle of a distribution of incomes, including households with no income. One-half of the cases fall below the median and the other half are above the median.
Mid-block crossing	A place where people can cross a road between intersections. This is different than a crosswalk, as a mid-block crossing is not located at an intersection of two roadways.
Non-bused area	These are the areas that the LMCS D is not providing free busing. These are areas within two miles of the school.
Safe Systems Approach	Process involving anticipating human mistakes by designing and managing road infrastructure to keep the risk of a human mistake low, and when a mistake does lead to a crash, the impact on the human body does not result in a fatality or serious injury.
Side Friction	The effect felt by drivers to slow down their driving speeds due to items along the roadway. For instance, narrower lanes, row of trees, street with many parked cars, etc.
The three schools	Refers to the three schools located in the northwest part of the district, near Alburnett Road and Echo Hill Roads: Echo Hill Elementary, Hazel Point Intermediate, and Oak Ridge Middle Schools.

Acronyms

AADT	Average Annual Daily Traffic
AOI	Areas of Improvement
AT	Active Transportation
CBG	Census Block Group
CMPO	Corridor Metropolitan Planning Organization
CSD	Community School District
DIS	Diversity Score Index
DOT	Department of Transportation
ESRI	Environmental Systems Research Institute, Inc.
FHWA	Federal Highway Administration
HH	Household
LM	Linn-Mar
LMCSD	Linn-Mar Community School District
MPH	Miles per hour
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
PUD	Planned Unit Development
NACTO	National Association of City Transportation Officials
RRFB	Rectangular Rapid Flashing Beacon
STEP	Safe Transportation for Every Pedestrian
SRTS	Safe Routes to School
US	United States

Lists of Tables, Images, and Graphs

Images

Image 1: <i>The four schools included in this Safe Routes to School plan</i>	3
Image 2: <i>CBGs included in the Linn-Mar District boundary</i>	9
Image 3: <i>School aged population (5 to 19 years old) in the LMCSD's boundary</i>	10
Image 4: <i>Median Household Income</i>	11
Image 5: <i>Diversity Index Scores</i>	12
Image 6: <i>Zero Vehicle Households</i>	13
Image 7: <i>Percentage of people who walk to work by CBG</i>	15
Image 8: <i>Percentage of people who bicycle to work by CBG</i>	16
Image 9: <i>2021 Average annual daily traffic (AADT)</i>	17
Image 10: <i>Non-Motorist Involved Crashes between 2019 and 2022</i>	19
Image 11: <i>Housing/Transportation Vulnerability Map</i>	20
Image 12: <i>Pedestrian Infrastructure Analysis</i>	21
Image 13: <i>Bicycle Infrastructure Analysis.</i>	22
Image 14: <i>Future Roadways in the Linn Mar Community School District</i>	23
Images 15 and 16: <i>Non-bused areas for the 2023-2024 school year</i>	24
Image 17: <i>Non-bused areas and households with zero vehicles</i>	25
Image 18: <i>Current zoning in the City of Marion</i>	26
Image 19: <i>Cedar Rapids and Marion Future Land Use in LMCSD</i>	27
Image 20: <i>Development shift from traditional grid to suburban grids</i>	28
Image 22: <i>Types of uses that will be around Boulder Peak School</i>	29
Image 21: <i>Uptown Marion is an example of a traditional street grid</i>	29
Image 23: <i>Alignment of Echo Hill Road once it is constructed to 10th Street</i>	51
Image 24: <i>Trees can help with speeding</i>	56
Image 25: <i>Sidewalk gaps near Boulder Peak School</i>	57
Image 26: <i>Sidewalk gaps near the three schools</i>	58
Image 28: <i>Parents drop off and Lowe Park parking lots</i>	90
Image 29: <i>Example of a high visibility crosswalk</i>	96

Image 30: <i>Example of a crosswalk markings</i>	96
Image 31: <i>Example of a raised crosswalk</i>	96
Image 32: <i>Example of a pedestrian refuge island</i>	97
Image 34: <i>Example of a pedestrian hybrid beacon</i>	97
Image 35: <i>Example of a pedestrian hybrid beacon on a stop light arm mast</i>	97
Image 33: <i>Example of a rectangular rapid flashing beacon</i>	97
Image 37: <i>A local example of a road diet in Cedar Rapids on Bowling Street SW</i>	98
Image 36: <i>Example of a road diet</i>	98
Image 38: <i>Leading pedestrian intervals give pedestrians a head start</i>	99
Image 39: <i>Example of a leading pedestrian interval</i>	99

Tables

Table 1: <i>Address, enrollment, grades taught, and capacity the four schools</i>	3
Table 2: <i>All AOs and Solutions included in LM SRTS Plan</i>	46
Table 3: <i>Proposed traffic calming techniques within the Alburnett Road Corridor</i>	52

Graphs

Graph 1: <i>Population by Age</i>	9
Graph 2: <i>Population pyramid of the CBG's within the Linn-Mar District</i>	10
Graph 5 and 6: <i>How many days a student walk/ bikes to school a week</i>	32
Graphs 3 and 4: <i>How students arrived and left school the day of the survey</i>	33
Graph 10: <i>Asking students about how far they live from school</i>	34
Graphs 7, 8, and 9: <i>Students access to active transportation items</i>	34
Graphs 11, 12, 13, and 14: <i>Students comfortability walking/ biking to school</i>	35
Graphs 15 and 16: <i>Parents identifying how student gets to and from school</i>	38
Graphs 17 and 18: <i>Parents identifying how many days a student walks/ bikes</i>	39
Graphs 19, 20, and 21: <i>Parents stating if student has access to items to walk/ bike</i>	40
Graphs 22, 23, and 24: <i>Parents identifying comfortability for student to walk/ bike</i>	41
Graphs 25 and 26: <i>Parents state if safety or convenience motivates walking/biking</i>	42
Graph 27: <i>Parents identifying what items they consider to have student to walk/ bike</i>	43

Introduction



Introduction

Introduction and Organization

The purpose of this plan is to provide Linn-Mar Community School District (LMCSD) and the City of Marion a blueprint that summarizes community input, education, and LMCSD administrative staff experience, along with the latest techniques and strategies to support safe travel to and from school for students and staff. The plan is designed to layout policy and infrastructure improvements that can be made in the short and longterm best interest of the students and the district as a whole. This plan is for the district but will specifically look at four schools: Echo Hill Elementary, Hazel Point Intermediate, Boulder Peak Intermediate, and Oak Ridge Middle Schools. It is anticipated that there will be Safe Routes to School (SRTS) plans for all of the Linn-Mar schools in the future.

It is highly encouraged that this document be utilized when City and school budgets are being formulated and reviewed to identify opportunities to leverage grant funding for infrastructure improvements to achieve recommendations in this plan. However, many of the recommendations made can be accomplished for low to no cost. All of the changes presented in this document can act to help foster more healthful, active, and safer, travel for all students regardless of transportation mode.

The plan is broken down into several sections to aid in review.

- **Introduction:** This first section of the plan provides an overview of how the plan is laid out, what Safe Routes to School (SRTS) is, this plan's planning process, and the vision statement and goals of the plan. The objectives in the plan are considered to be the "solutions" to the Areas of Improvement.
- **Existing Conditions:** This section discusses the current demographics of residents and students within the district boundary. It also covers infrastructure, for instance by outlining the current traffic volumes and land use. This section includes survey responses done at the beginning of the planning process from parents and students.
- **Areas of Improvement (AOI):** This section is the implementable part of the plan. The AOIs are things identified in the built environment and at the schools that could be improved. The solutions to the AOIs are the objectives of the plan, what we need to do to reach our goals. The AOI section is organized by the SRTS E's and in each section includes the solutions applicable to all four schools.
- **Appendix:** This section contains more detailed and technical information that supports the previous two sections of the plan.

Schools Included in the Plan

The LMCS D has twelve schools in the district. Currently, the SRTS plan for Linn-Mar includes only four schools: Boulder Peak Intermediate, Echo Hill Elementary, Hazel Point Intermediate, and Oak Ridge Middle Schools. These schools are all located in the City of Marion and located in areas where the City is growing. Echo Hill Elementary had 488 students enrolled in 2022, Hazel Point Intermediate had 556 students, Boulder Peak Intermediate had 616 students, and Oak Ridge Middle School had 540 students enrolled in 2022. See Image 1 for the location of the schools within the Linn-Mar District boundary.

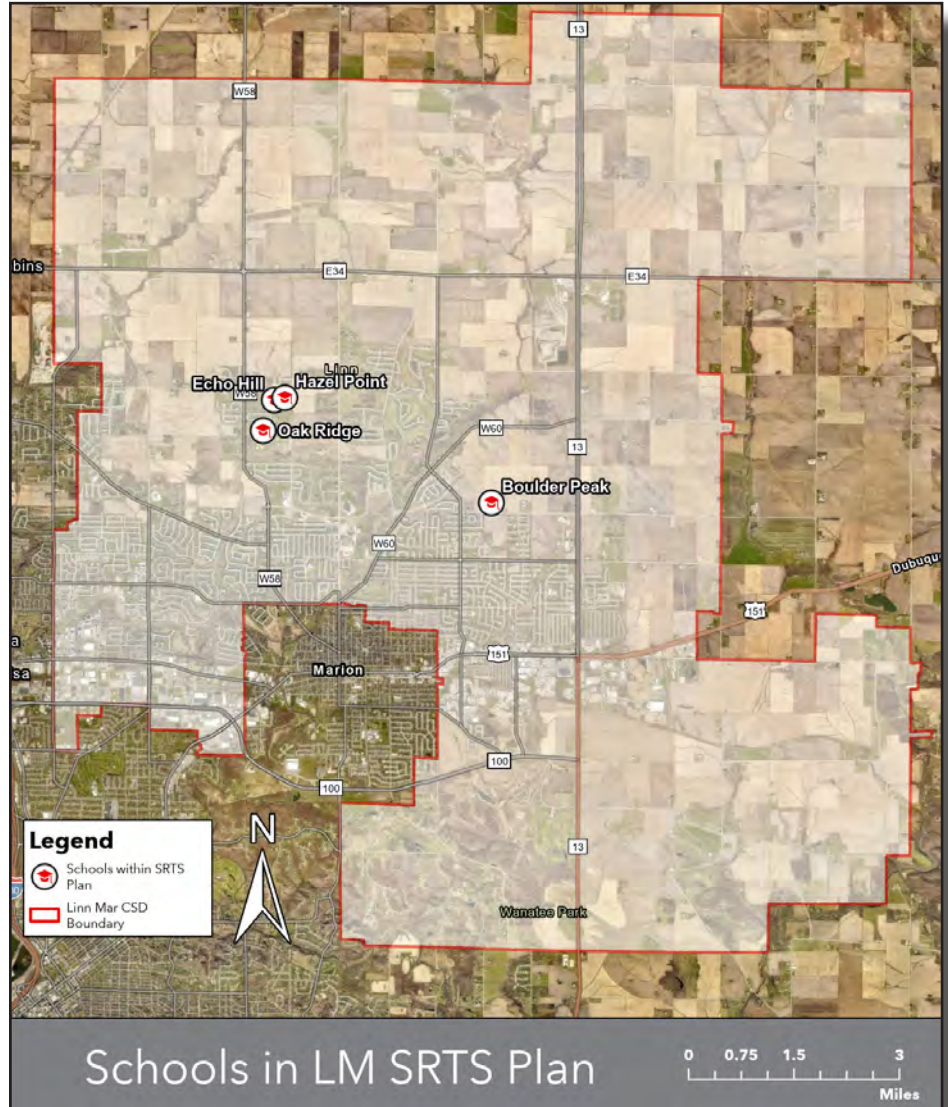


Image 1: The four schools included in this Safe Routes to School plan for the Linn-Mar District.

School (Grades)	Address	Enrollment (2022)	Grades Taught	Capacity (% full)
Echo Hill Elementary	400 Echo Hill Rd, Marion, IA 52302	488	K- 4	600 (81.3%)
Hazel Point Intermediate	453 Echo Hill Rd, Marion, IA 52302	556	5 & 6	800 (69.5%)
Boulder Peak Intermediate	3920 35th Ave, Marion, IA 52302	616	5 & 6	800 (80.8%)
Oak Ridge Middle	4901 Alburnett Rd, Marion, IA 52302	540	7 & 8	750 (72.0%)

Table 1: The address, enrollment, grades taught, and capacity (total and percentage) at each of the four schools in the LM SRTS Plan.

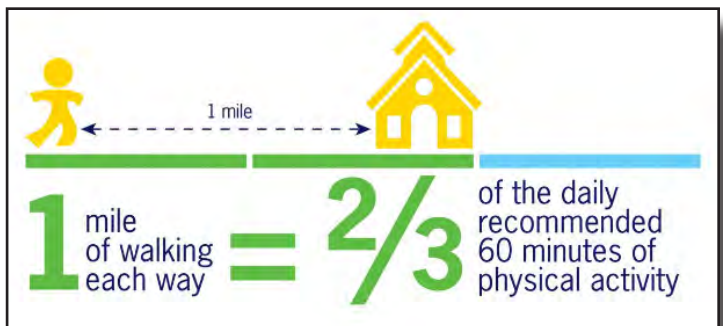
What is Safe Routes to School (SRTS)?

SRTS is a movement at the local, state, and federal governmental levels which aims to make it safer for students walk, bike, and roll to and from school. The purpose of the program is to enable and encourage students, including those with differing abilities, to walk and bicycle to school; to make bicycling and walking a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age; and to assist in the planning, development, and implementation of projects, policies, and activities that will improve safety and reduce traffic, fuel consumption, and air pollution near schools.

Comprehensive SRTS programs have been shown to be more effective at increasing physical activity and reducing injuries. A successful SRTS plan includes the 6 E's of SRTS. Those serve as a framework to a comprehensive, integrated approach to SRTS.

The 6 E's of SRTS are the following:

- **Engagement:** All Safe Routes to School initiatives should begin by listening to students, families, teachers, and school leaders and working with existing community organizations, and build intentional, ongoing engagement opportunities into the program structure.
- **Equity:** Ensuring that Safe Routes to School initiatives are benefiting all demographic groups, with particular attention to ensuring safe, healthy, and fair outcomes for low-income students, students of color, students of all genders, students with disabilities, and others.
- **Engineering:** Creating physical improvements to streets and neighborhoods that make walking and bicycling safer, more comfortable, and more convenient.
- **Encouragement:** Generating enthusiasm and increased walking and bicycling for students through events, activities, and programs.
- **Education:** Providing students and the community with the skills to walk and bicycle safely, educating them about benefits of walking and bicycling, and teaching them about the broad range of transportation choices
- **Evaluation:** Assessing which approaches are more or less successful, ensuring that programs and initiatives are supporting equitable outcomes, and identifying unintended consequences or opportunities to improve the effectiveness of each approach.



Source: Safe Routes Partnership

Benefits of SRTS include increased walking and biking to school, lower transportation costs for school districts and families, reduced traffic congestion, healthier students, and improved academic performance. SRTS initiatives have health and safety benefits for students, but the benefits extend to the whole community as well. An improved sidewalk that allows a person with a wheelchair to ramp on to the curb will also benefit a parent pushing their child in a stroller: that student using a wheelchair can access the sidewalk but so can others in the community.

Planning Process

Safe Routes to School (SRTS) at Linn-Mar started during the 2019-2020 school year with interested, like-minded stakeholders meeting on occasion to initiate the development of the first SRTS Plan for the Linn-Mar Community School District (LMCSD). MPO staff felt it was time to reconvene the group in an official capacity and officially kickoff starting the planning process for the LM SRTS Plan. The group of individuals from several local governments and community organizations came together to create the Linn-Mar Safe Routes to School Committee. Committee members included staff from the Corridor MPO, the City of Marion's Community Development, Engineering, and Police Departments, Healthy Hometowns/YMCA, Linn-County Public Health, and the Linn County Secondary Roads Department.



Echo Hill Elementary School
Source: Echo Hill Facebook Page



Boulder Peak Intermediate School
Source: helpmecovid.com

The SRTS Committee began meeting in July 2020. From then to June 2022, committee meetings were facilitated by MPO staff and held virtually. The first meeting kicked off with providing an overview of the SRTS initiative and determining the plan's vision statement and goals.

Two and a half weeks after the first SRTS committee meeting, the entire Cedar Rapids metropolitan area was hit with severe thunderstorm called a derecho. This storm affected a majority amount of structures, including trees, in the metropolitan area. SRTS efforts were halted as the region recovered and rebuilt after the storm.

The LM SRTS Committee reconvened in October. The group continued to establish the plan's vision statement and goals of the plan through the end of December. Around that time, the committee moved to discussing potential improvements and opportunities for SRTS projects, policies, and programs. At first, the discussion focused on identifying and providing solutions to problem areas at or nearby the four schools included in the plan. A survey went out to parents and students at the four schools and interviews were held with principals. Students in grades Kindergarten through 4th grade, at Echo Hill Elementary, were asked by their teachers how they arrived and were planning to leave school that day. These "teacher tallies" were completed in March and April of 2022.

During the meetings at the beginning of 2022, the committee determined that that data gathering for the LM SRTS Plan should continue into the 2022-2023 year. This was primarily due to COVID 19's impact on the 2020-2021 and 2021-2022 school years. However, despite the committee seeking additional information, they did not want to wait until the data gathering process finished to start working on

aspects of the plan. The SRTS Committee finalized the areas of improvement then shifted towards short term messaging regarding SRTS at the four Linn-Mar schools and active transportation. This effort to provide educational information began prior to and continued into the school year. MPO staff provided information about navigating new Echo Hill Road/Alburnett Road roundabout and SRTS in general in the City of Marion's community newsletter and Linn-Mar's Newsletter.



Hazel Point Intermediate School
Source: OPN Architects

At the start of the 2022-2023 school year most of the areas of improvement had been identified. MPO staff started coordinating with the Echo Hill Principal to set up a focus group with parents at the school. This listening session took place on December 12, and had four parents participate.



Oak Ridge Middle School entrance.
Source: Oak Ridge Facebook page

MPO staff started work on the planning document, beginning with the existing conditions section. Writing the existing conditions section took place from the fall of 2022 and went into spring 2023. The group then focused on public engagement of the plan, primarily seeking input on the areas of improvement and proposed solutions. MPO staff participated in the joint Healthy Kids Day and Marion City Showcase event, held on April 29. This event took place at the Marion YMCA and was planned with the City of Marion. MPO staff and Marion City staff also attended the Marion Farmers' Market on May 20 at Taube Park. That same day, to take advantage of the large presence of people in Uptown Marion for the Marion Arts Festival, MPO staff along with Linn-Mar and Public Health staff had a table set up at the Marion Public Library. A survey was released and promoted at these events and in the Marion City Manager's weekly newsletter, *In Focus*. The survey was opened prior to the April 29 event and closed after the May 20 event.

At the end of the school year, MPO and Linn-Mar staff observed each of the four schools during morning drop off and afternoon pick up. The purpose of this was not only to see how students were arriving and leaving school, but to also gauge how well the drop-off and pick-up processes operated.

MPO staff finalized a draft of the SRTS plan for the committee to review. First, an internal review by MPO staff was done. Then, committee had about a week to review the plan and the MPO staff incorporated both internal and community comments into the planning document. The LM SRTS Plan will go to the Linn-Mar School Board for approval and adoption. After the school board adopts the document, the plan will go to the Marion City Council for approval.

The SRTS Committee's first action item to be accomplished after adoption is re-gathering the SRTS Committee to review implementable items for the 2023-2024 school year. This will be the first annual

evaluation meeting regarding the SRTS Plan. The solutions identified in the plan, depending on their timeline, will start to be implemented beginning prior to the 2023-2024 school year. The LM SRTS Committee will continue to meet at least annually to review the execution of the solutions and review the plan.

Vision Statement

Foster a culture of active transportation at Oak Ridge, Hazel Point, Boulder Peak, and Echo Hill Schools by which active transportation becomes the preferred mode to travel to and from school. Actions and policies developed as a part of this plan shall be adaptable to current and future conditions and shall ensure the safety all students and staff arriving to and departing from school.

Plan Goals

1. Ensure Linn-Mar students, staff, and administration arrive to and depart school safely.
2. Foster a culture of active transportation at LMCSO that is inclusive of all, regardless of ability, ethnicity, race, income, or English proficiency.
3. Increase the mental and physical health of the LMCSO community.
4. Ensure the plan that is developed has projects that can be implemented, is adaptable to changing conditions, and is sustainable long-term.

Existing Conditions



Existing Conditions

Demographics

To better understand whom this plan is serving, an analysis of the community was conducted. To conduct this analysis, 2020 data from the United States of America Census Bureau was utilized. This data was broken into Census Block Groups. By breaking the census data down to this level, a better understanding of different areas throughout the school district can be had. This allows us to understand any barriers that these areas face and what solutions could be implemented through this plan to address them. It should be noted that the CBG data used includes the entire CBG area and not just the portion of the CGB within the district boundary. Some of the CBGs extend beyond the Linn-Mar District boundary and that the data provided for those CBGs on the edge include the entire CBG and not just the portion in the District (see Image 2).

Population Age

Overall, within the CBGs that make up the Linn-Mar Community School District, there are 21,112 females (51.3%) and 19,965 males

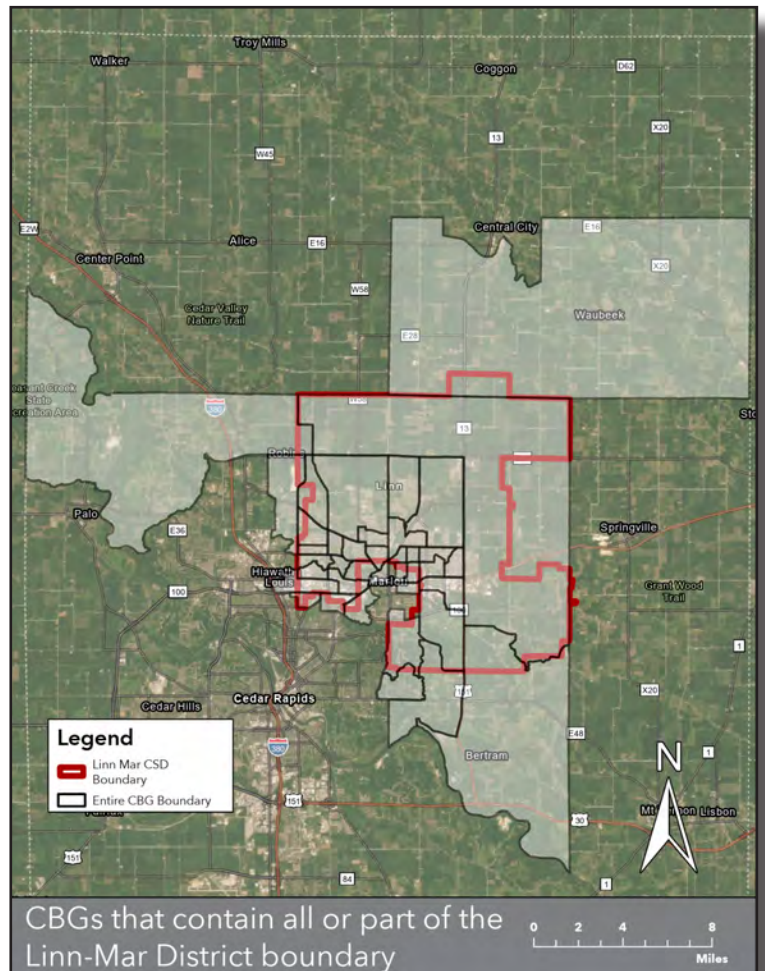
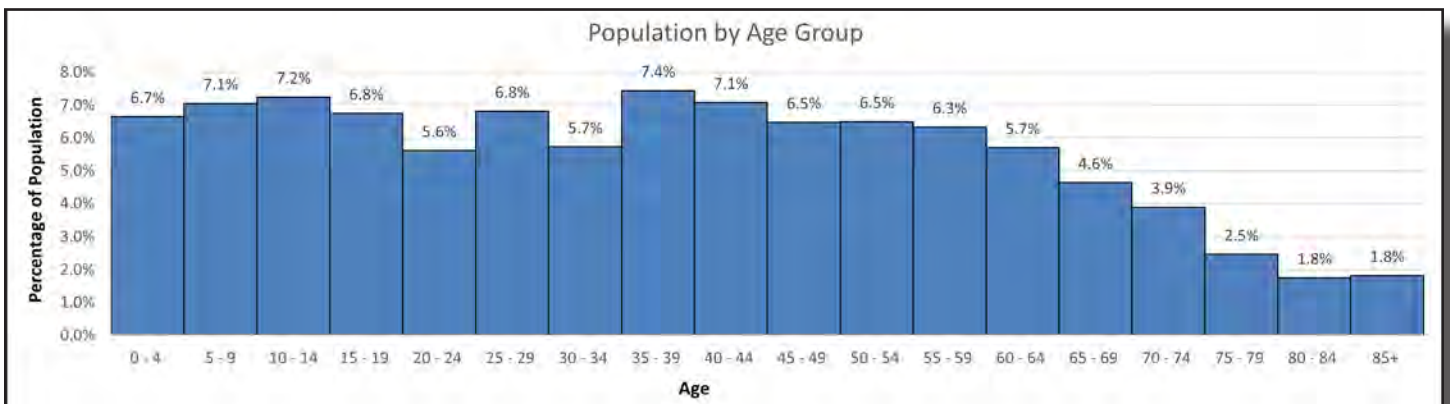


Image 2: CBGs included in the Linn-Mar District boundary. The Linn-Mar District has several CBGs that do not line up with the District's boundary, so some CBGs straddle between the Linn-Mar and surrounding districts.

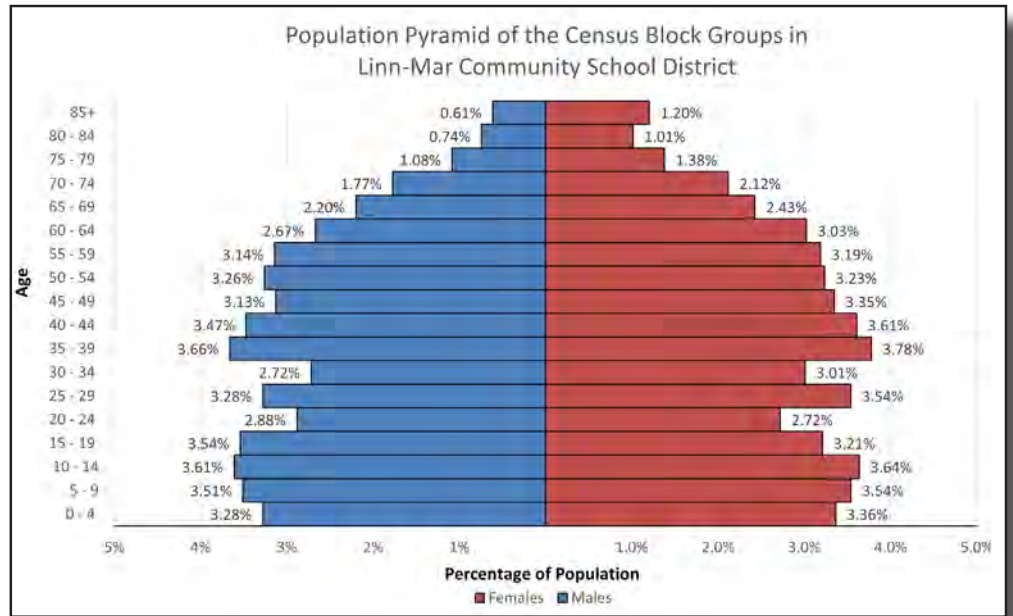
Source: CBG file downloaded from ArcGIS.com



Graph 1: Population by Age

Source: 2021 American Community Survey

(48.3%). The largest age group cohort is 35 to 39 years, which has 3,060 people, or about 7.4% of the total population. Generally, Marion's population is skewed younger than older. There tend to be higher percentages of people aged 59 or younger than in age group cohorts older than that. For instance, the largest cohort is 35 to 39 years, and they make up about 7.4% of the population whereas those 60 to 64 years are 5.7% of the population, and the percentage of residents in age group cohorts older than 65 continues to decrease. See Graph 2.



Graph 2: Population pyramid of the Census Block Groups within the Linn-Mar District. Source: 2021 American Community Survey

There is a total of 8,661 school aged children (those between the ages of 5 to 19) within the area, of which 50.59% are males and 49.34% are females. School aged children account for 21.06% of all people within the area. The percent of the population within each CBG that had school aged children ranged from 3.12 percent to 10.57 percent. The CBG with the highest percentage of school aged children was located between Alburnett Road at the east, Boyson Road to the south, Kent Drive to the west, and East Robins Road to the north at 24.99%. See Image 3.

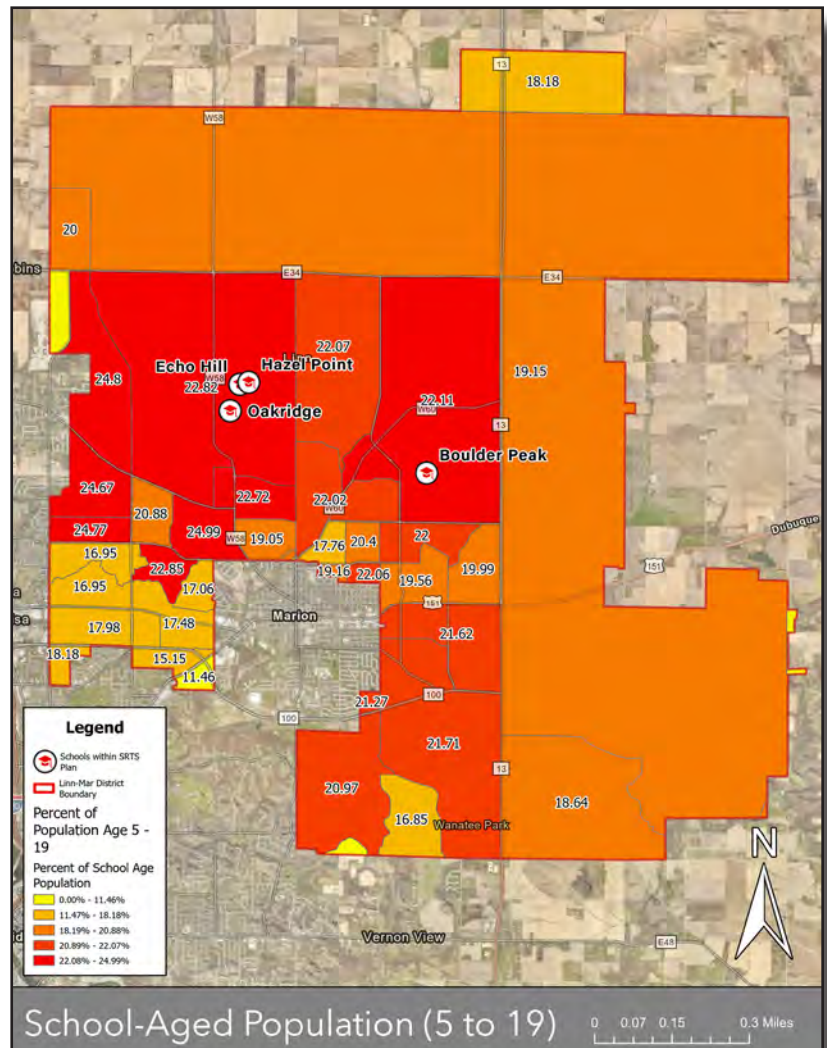


Image 3: School aged population within the CBGs that are a part of Linn-Mar's District Boundary. School aged students are those 5 to 19 years old.

Source: American Community Survey

School aged children between 5 to 9 years old and 10 to 14 years old cohorts, regardless of gender, make up the two of the four largest cohorts of any age group. There are a total of 2,903 children aged 5 to 9 and a total of 2,981 children aged 10 to 14. Only two other age group cohorts are larger: 35 to 39 years (3,060) and 40 to 44 years (2,912).

Median Household Income

Within the Linn-Mar district boundary, generally the further southwest you go the lower the median income is for those CBGs (see Image 4). The two CBGs with the lowest median incomes in the district boundary are bounded by Highway 13 to the east, 31st Street to the west, between 10th Avenue/Business 151 and Lakeside Drive. The median income for these two CBGs was about \$30,000. The third lowest median income, about \$36,000, was in the CBG located between Council Street at the west, Collins Road/Highway 100 at the south, Blairs Ferry to the north, and Northland Avenue to the east.

Median household income was the highest in the Linn-Mar district in the northwestern part of the district boundary, including the area where the three schools are located. The CBG with the highest income, at \$142,205, is located between Alburnett Road at the east, Boyson Road to the south, Kent Drive to the west, and East Robins Road to the north. The second most highest median household income in the Linn-Mar district boundary had an income of \$124,876 and is located between C Avenue to the west, Kent Drive to the east, Boyson Road at the south, and East Robins Road at the north. The CBG with Boulder Peak had a median household income of \$102,101. A larger map displaying household income is located in Appendix 3.

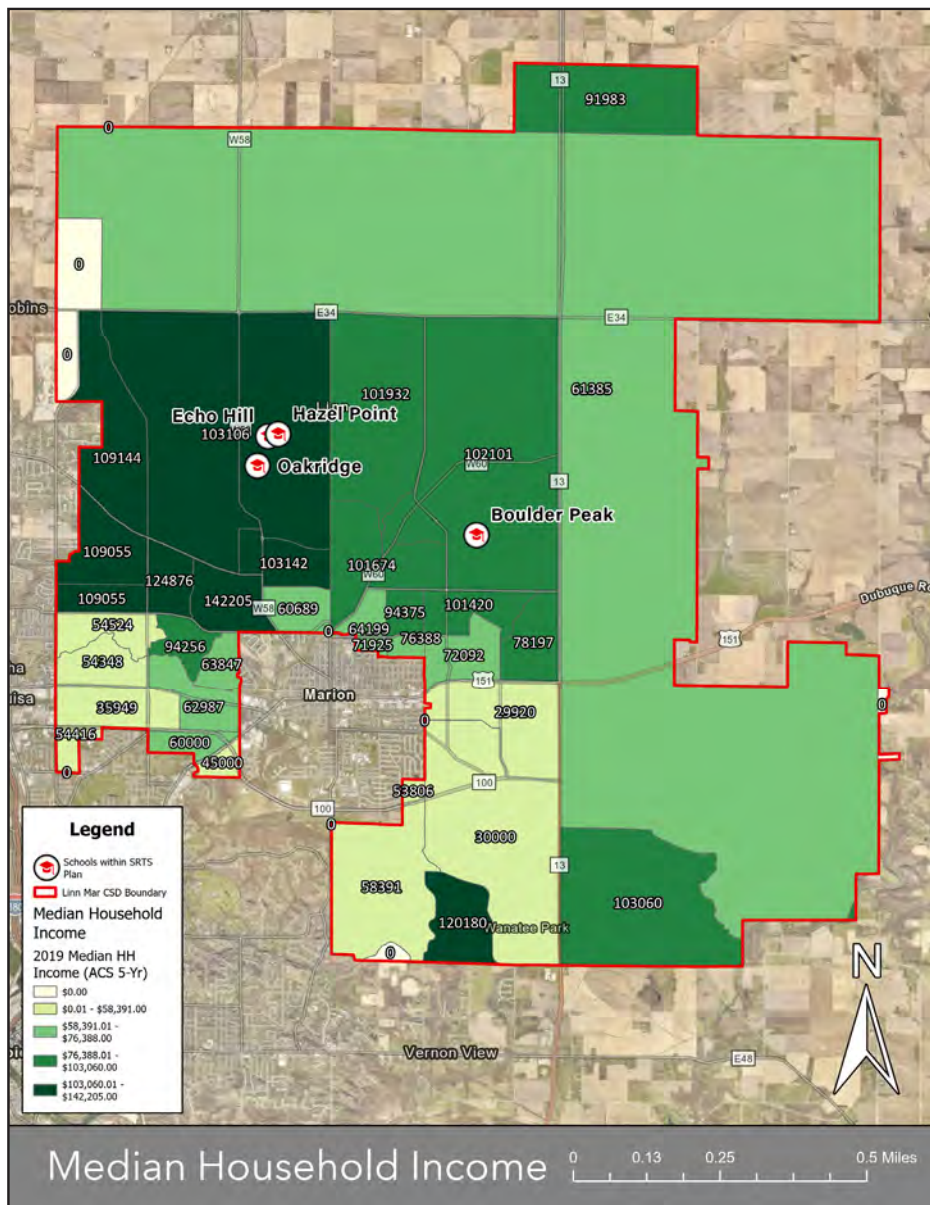


Image 4: Median Household Income (shown in dollars)
 Source: American Community Survey

Diversity Index

To look at racial and ethnic diversity within the Linn-Mar District Boundary, ESRI's Diversity Index was used. This index represents the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The diversity index includes seven race groups that can either be of Hispanic or non-Hispanic origin for a total of 14 separate race/ethnic groupings. The seven race groups included six single-race groups (White, Black, American Indian, Asian, Pacific Islander, and Some Other Race) and one multiple-race group (two or more races). The higher the diversity index the more likely two random people will be of different racial or ethnic groups. If an area has a diversity index of zero, then the area's population is made up of one race group and one ethnic group. The United States had a 2021 diversity index of 60.6.

The CBGs within the Linn-Mar district boundary had Diversity Index Scores (DIS) between 0 and 74.2 (see Image 5). The CBG containing the three schools had a DIS of 26.3 and the CBG with Boulder Peak had a DIS of 18.5. Within the Linn-Mar district boundary, the DIS will generally increase the further south and west you go. The CBG with the highest DIS was located in an area with Council Street NE to the west, Collins Road NE/ Highway 100 at the south, Blairs Ferry Road NE to the north, and Northland Avenue NE to the east. A larger map displaying DIS is located in Appendix 3 and information about methodology can be found in Appendix 4.

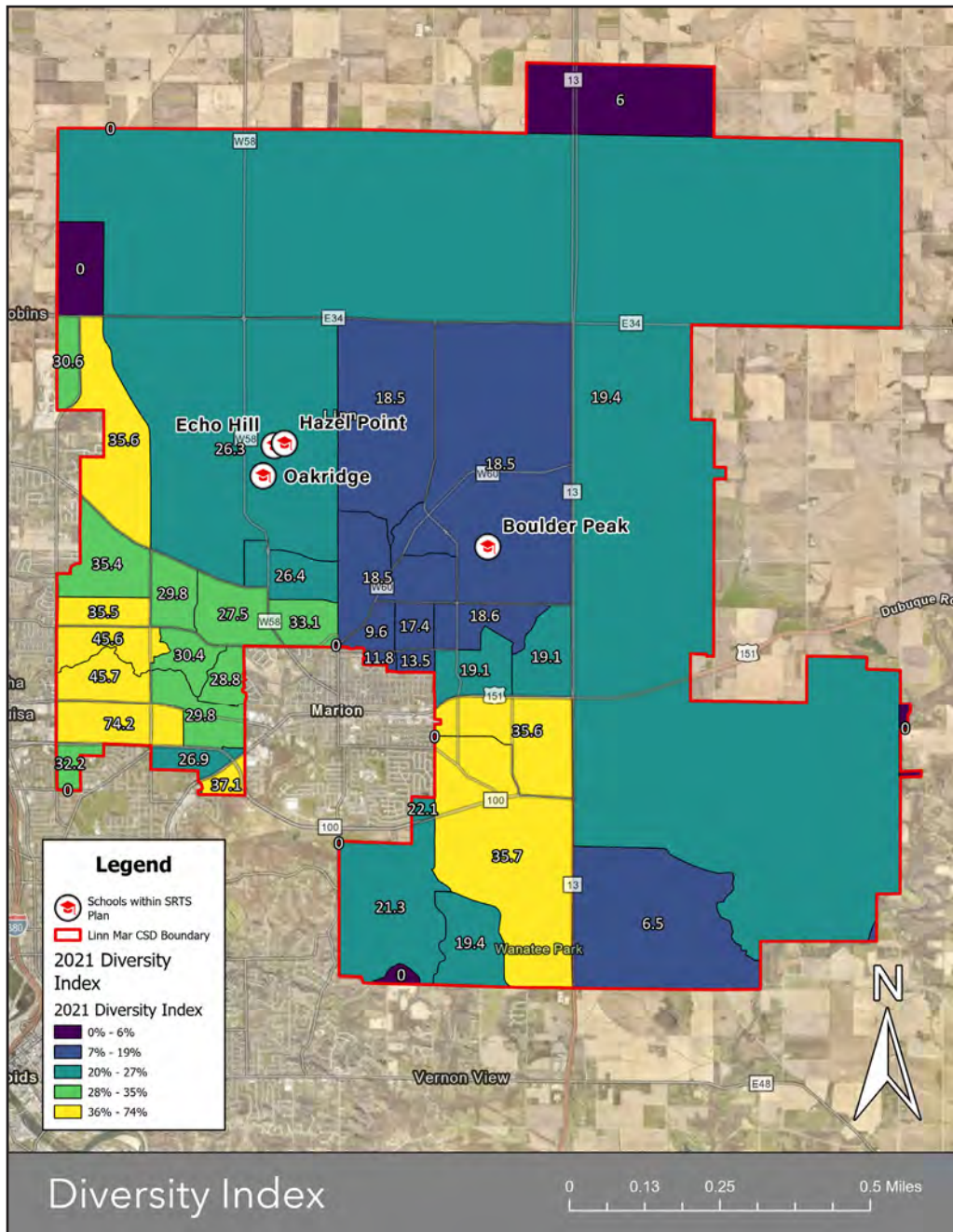


Image 5: Diversity Index Scores.
 Source: 2021/2026 ESRI Diversity Index

Household Vehicles

All households (including those who own and rent their homes) with zero vehicles tended to be in the southern and central CBGs in the Linn-Mar District Boundary (see Image 6). The range of the percent of households within each CBG that have zero vehicles was from 0% to about 37%. The CBG with 37.35% of households reporting they owned zero vehicles in the household was located in the CBG in Marion that contains a mobile home park and is in an industrial/commercial area. This CBG is specifically located in Marion south of 10th Avenue, 31st and 44th Streets at the west, 3rd Avenue and Highway 100 at the south, and Highway 13/Highway 151 at the east. The CBG with the next highest total of households without a vehicle is located in Cedar Rapids south of Dry Creek, Council Street NE at the west, C Avenue at the east, and Blairs Ferry Road NE at the south. About 29 percent of households in that CBG reported owning zero vehicles. The CBG with the third highest rate of zero vehicle households was located just south of the previous CBG described. It is located in Cedar Rapids south of Blairs Ferry Road, Council Street NE at the west, C Avenue NE at the east, and Collins Road NE at the south. This CBG had 27.37% of households without a vehicle.

The highest percentage of households with zero vehicles tended to be in areas where the DIS was higher and median household income was lower. These CBGs were

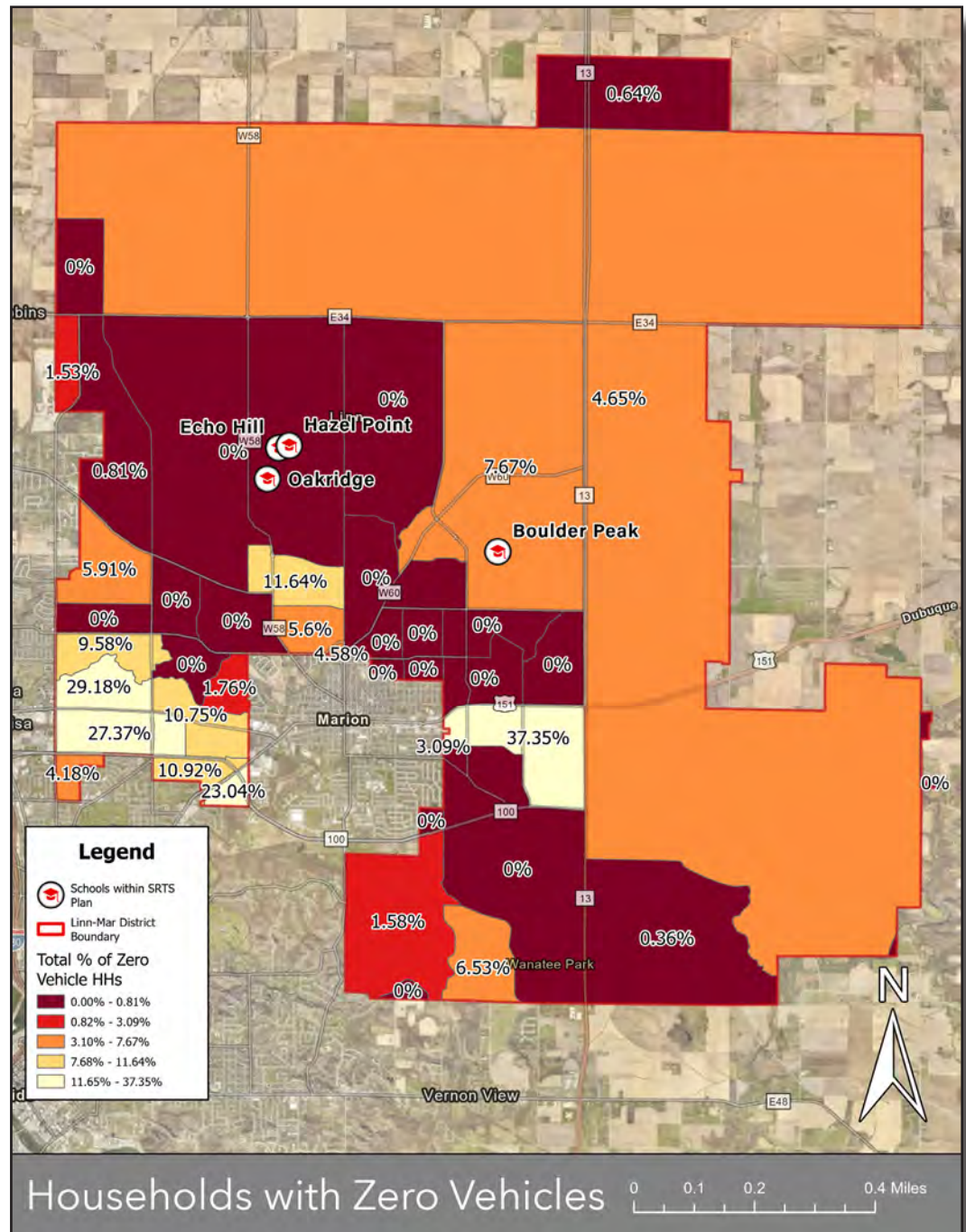


Image 6: Zero Vehicle Households
Source: American Community Survey

generally located within the southwestern most part of the district boundary. Households that owned or leased three or more vehicles were located in both CBGs in residential areas and in rural areas that lack a specific or traditional street grid. The CBG with the highest DIS also had the lowest percentage of respondents who owned three or more vehicles. A larger map, displaying the percentage of zero vehicle households, is available in Appendix 3.

The range of households in the CBGs that make up the Linn-Mar District Boundary that own one vehicle ranged from zero percent to about 46 percent. Most of the households with one vehicle were located in the far northern and eastern sections of the boundary, north of County Home Road and east of Highway 151/Highway 13. Other CBGs with high rates of households with one vehicle were also located in the southern part of the district, approximately from Highway 100 at the north, Highway 151 at the east, Cottage Grove Parkway at the south, and Wanatee Ridge Road at the west. Another location where a large percentage of households have one vehicle is located in the CBGs that are located in the general area of Boyson Road NE at the north, C Avenue NE/Northland Avenue NE to the east, Collins Road/42nd Street NE/Golf Street NE to the south and Council Street NE to the west. The CBG north of Dry Creek, with Boyson Road as the northern boundary, had about 34 percent of households with one vehicle. The CBG south of Dry Creek with the southern boundary at Blairs Ferry Road NE had about 44 percent of households with one vehicle. The CBGs closest to the three schools in the northwestern section of the District Boundary had between 0 and 21 percent of households with only one vehicle. A map displaying households with one vehicle is located in Appendix 3.

Households with two vehicles tended to be located in the northwestern area of the district, in the CBGs at the western edge of the District Boundary. The second highest rate of households with two vehicles were located south of County Home Road, west of Highway 13, north of 29th Avenue and East Robins Road, and east of C Avenue Extension. All four of the schools in the plan are located within CBGs where most households have two vehicles instead of zero, one, or three or more. The CBGs that had one vehicle households tended to have fewer households with two vehicles. In many cases, the areas with most households owing two vehicles are the exact opposite of the areas with mostly single vehicle households. A map displaying households with two vehicles is located in Appendix 3.

Households with three or more vehicles were largely in the same areas as households with two vehicles. The number of single vehicle households tended to be in areas where incomes are lower and for those with three or more vehicles the areas often overlapped with areas in the district with the highest incomes. Households living closer to the urban area tended to have fewer households with three vehicles or more whereas households living on or close to the edge of the boundary tended to have the most households with three or more vehicles. All four schools are located within a CBG that has 33 percent of households with three or more vehicles.

Transportation

The foundation of the Safe Routes to School Program’s mission is to provide safe transportation infrastructure for students to walk, bike, and roll to school safely. To properly understand what the current and future transportation system looks like, data was gathered from a variety of sources. These resources include the Iowa Department of Transportation’s Pedestrian and Bicyclist Analysis, Census data of how people travel to work, the City of Marion and Cedar Rapids’ future land use maps, and transportation data from the Linn-Mar School District. By compiling these resources, the plan can identify areas of improvement which are further described in the Areas of Improvement section of this plan.

Transportation to Work

It is important to understand how those within the Linn-Mar District commute to work, as this can provide an understanding of how most people in the region already travel, and provide some insight as to how integrated active transportation is with the population that lives in the Linn-Mar District. In 2019, in the Census Block Groups (CBGs) closest to the four schools in the plan had few people who walked to work. This makes sense, however, because there are few employers as the area in the district is largely residential. The CBG that contained the three schools had only 1.7% of people living there reporting walking to work.

Generally, within the Linn-Mar district, people who lived in denser areas tended to report walking to work more than those in areas with less density. However, the highest percentage of people within the CBG in the Linn-Mar district was only 6.56% and several CBGs reported zero people walking to work.

See Image 7 for a map showing the percentage of people who commuted to work by walking. Maps displaying commute to work by walking, bicycling, public transit,

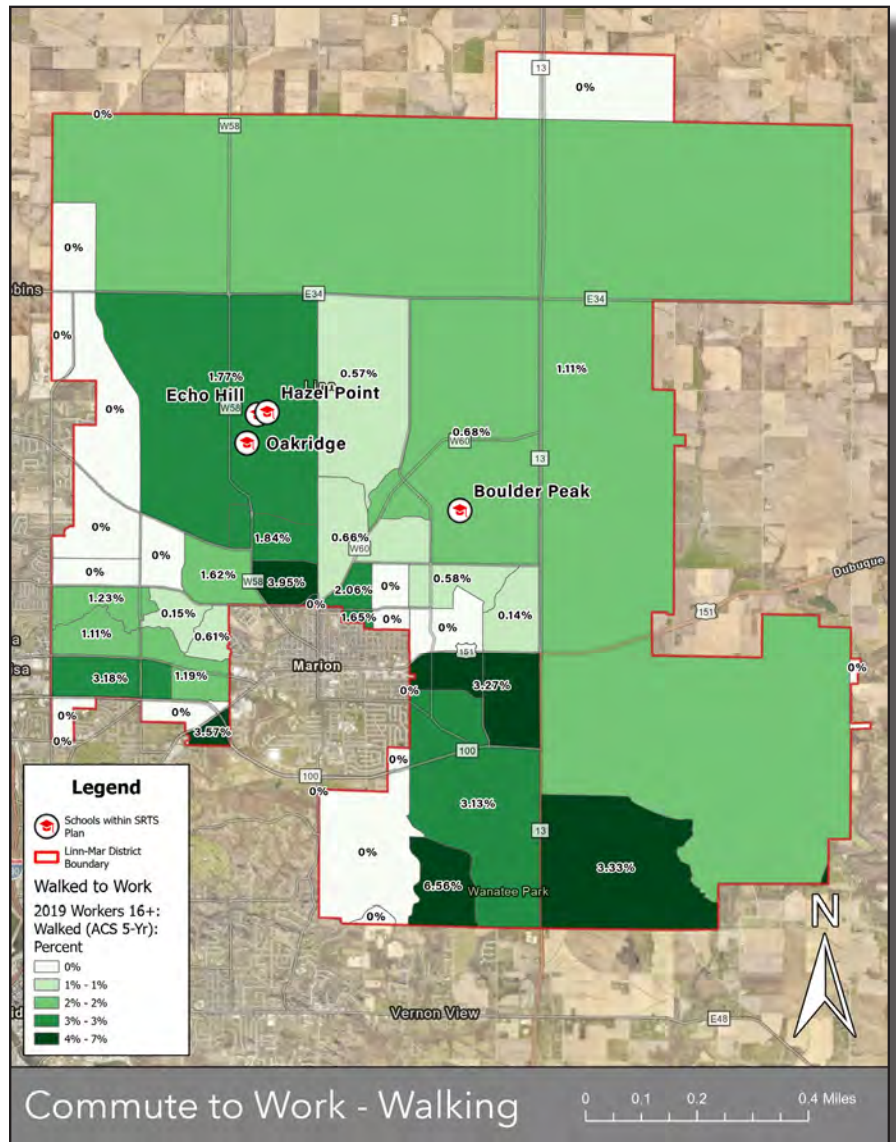


Image 7: Percentage of people who walk to work by CBG.

Source: American Community Survey

carpool, and driving alone is available in Appendix 3.

Few people reported riding their bicycle to work in 2019 (the most recent data available at the time of writing). Only four of the CBGs in the Linn-Mar district boundary reported having anyone ride their bike to work. The CBG located within the Bowman Woods neighborhood, south of Boyson Road and with Dry Creek as the southern and eastern boundaries, had 1.94% of respondents report riding their bicycle to work. See Image 8 for a map showing the percentage of people who bicycle to work by CBG.

Only 7 of the CBGs in the Linn-Mar boundary reported anyone utilizing public transit to get to work. The highest reported percentage of people in any CBG who used public transit to get work was 1.29%. This CBG located in the area with Alburnett Road as the western boundary, Boyson Road at the south, 10th Street at the east and 29th Avenue at the northern boundary. This was also the only CBG that had more than 1 percent of respondents report taking public transit to work.

The range of people within each CBG in the Linn-Mar district boundary who carpooled to work ranged from zero percent to 14 percent, with only 8 CBGs reporting zero percent of respondents carpooling. Quite a few CBGs had more than 10 percent of respondents carpooling to work. The CBGs in the Linn-Mar district range from traditional street grids with higher density to more suburban, ex-urban areas with curvilinear streets. The CBG that contained the three schools had 4.13% of respondents carpooling to work and the CBG that contains Boulder Peak had 5.16% of respondents carpooling to work. The CBGs surrounding the CBG containing the three schools reported between 0% to 9.7%, with most of those CBGs reporting 4 percent or more carpooling to work.

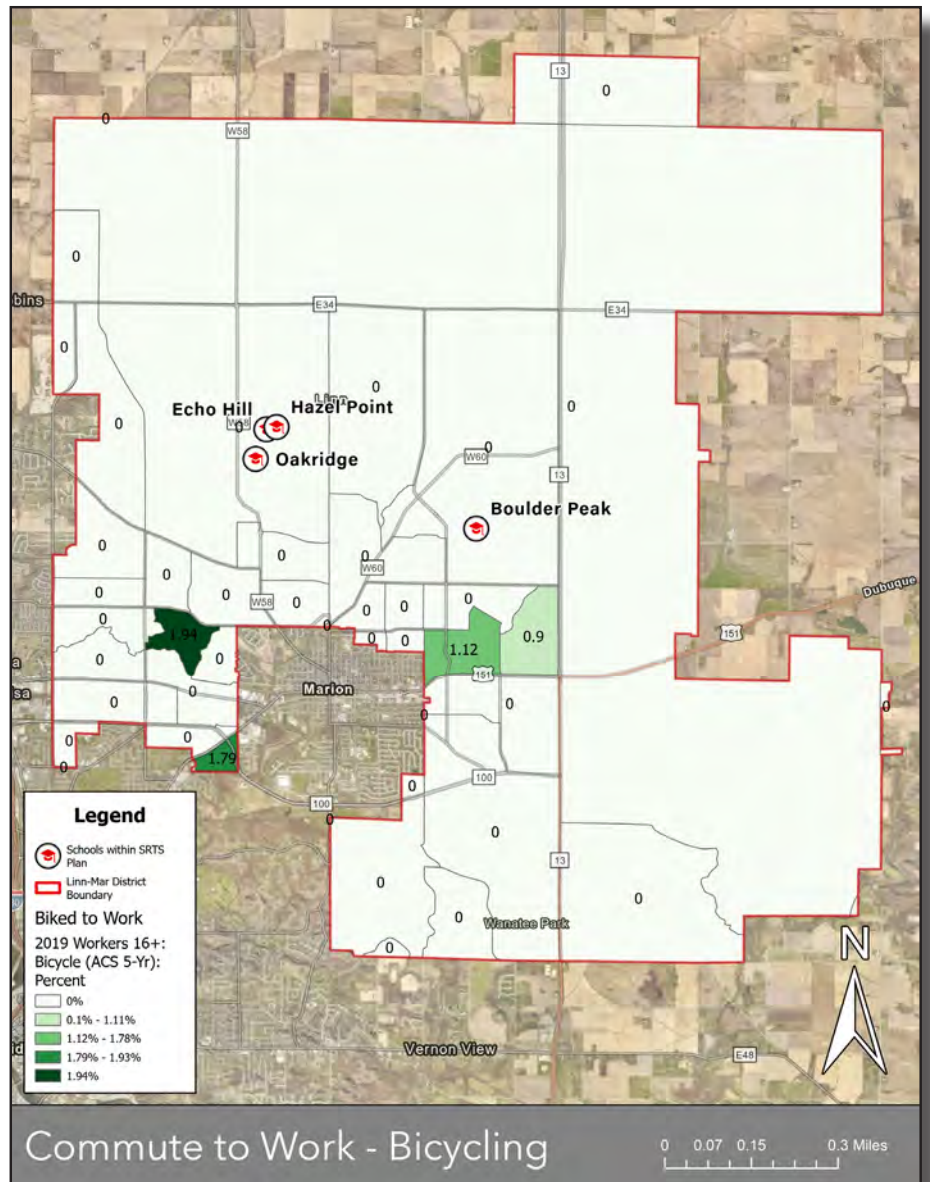


Image 8: Percentage of people who bicycle to work by CBG.
Source: American Community Survey

By far the most popular mode that people took to work was driving alone. A few CBGs reported zero people driving to work alone, however some of these CBGs are specific to employers. The CBG containing the three schools reported about 90 percent of respondents driving alone to work. The CBGs surrounding the CBGs with the three schools varied from about 80 percent to 90 percent of respondents reporting driving alone to work. The CBG with Boulder Peak had about 87.5 percent of respondents report driving alone to work.

Traffic Volumes Near Linn-Mar Schools

The traffic volumes on Echo Hill Road, east of Alburnett Road, were 530 when the daily count was conducted in 2013. At that time, Echo Hill school was the only school located on Echo Hill Road, with Hazel Point being constructed between 2019 and 2020 with the school opening in September to students for the 2020-2021 school year (the school year was delayed three weeks due to the August 2020 Derecho). Alburnett Road in 2017, to the west of Echo Hill and Hazel Point schools, had an average annual daily traffic (AADT) of 2,120 and 2,500 north and south of Echo Hill Road, respectively. Echo Hill Road on the west side of Alburnett Road had average annual daily traffic of 1,810 in 2017 (see Image 9).

Oak Ridge Middle School is located on Alburnett Road, south of Echo Hill and Hazel Point Schools. The 2017 traffic volumes on Alburnett Road by the school's entrance from the roadway was 3,010.

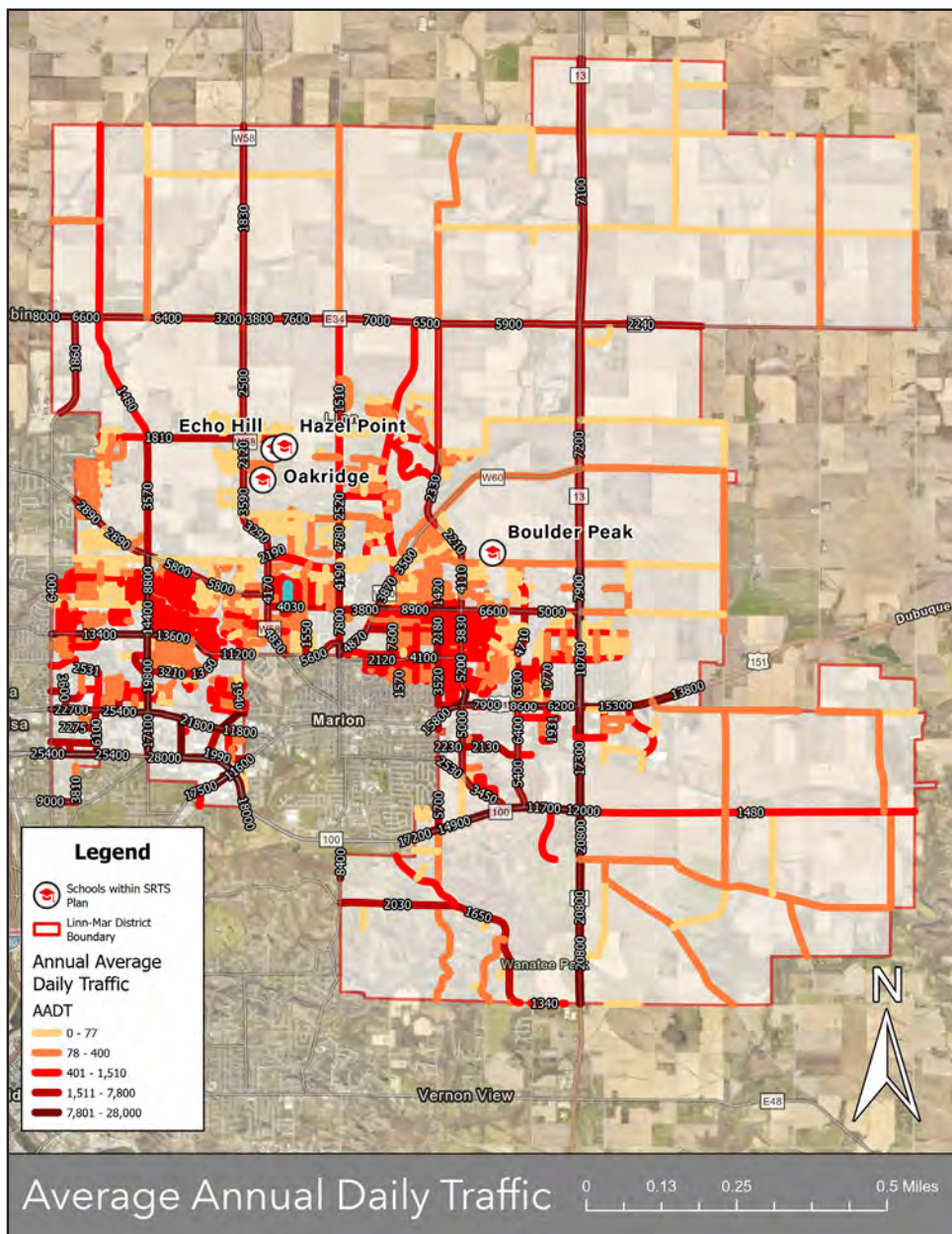


Image 9: 2021 Average annual daily traffic (AADT) for roads in the Linn-Mar District. The roads are only labeled if they have more than 1,400 vehicles per day.
 Source: American Community Survey

Boulder Peak Intermediate School is located on the north side of 35th Avenue between Hemingway Street and 44th Street. The 2017 traffic count on 35th Avenue near Boulder Peak was about 120 vehicles per day. However, that was before the school was constructed and before 35th Avenue was paved to 44th Street. Traffic counts on 35th Street, about 0.43 miles from Boulder Peak School, between Granger Avenue and 35th Avenue was 2,210 in 2017 and 3,430 in 2021. Further south on 35th Street, between Quail Trail and English Glen Avenue, the traffic count was 4,110 in 2017. At that same location in 2021, the traffic count was 4,780. These daily traffic counts were done by the Iowa DOT last in 2021, however not all previous locations were counted again. The area near the three schools was not counted again in 2021.

Non-Motorist Crashes (2019 to 2021)

Between June 2019 and November 2021, a total of 16 collisions between a motorist and a non-motorist (pedestrian or cyclist) were reported within the Linn-Mar District Boundary. Of the 16 crashes, one was fatal. Three crashes had a severity of "Suspected Serious Injury Crash", 3 crashes had "Suspected Minor Injury Crash", and nine crashes had the severity listed as "Possible/Unknown Injury Crash". The dataset used to review crashes did not provide information on the person hit other than being a cyclist or pedestrian.

Five of the 16 collisions were between a motorist and a cyclist and the remaining 9 collisions were between a motorist and a pedestrian. The data received from the Marion Police Department did not report whether the motorists were over or under the speed limit for any of the crashes reviewed.

A fatal pedestrian crash occurred on September 23, 2020. The crash occurred on a Wednesday at about 4:19 pm. There are no details given about the person who died, whether they were a student or another community member. The crash occurred while the pedestrian was crossing 31st Street in Marion between 23rd Avenue and 24th Avenue, close to Taube Park and Wilkins Elementary School.

Another alarming incident, a hit and run, occurred between a pedestrian and motorist on July 26, 2021. The crash occurred on a Monday at about 7:06 pm and happened on 27th Street near Wilkins Elementary School, about two houses north on the roadway. The pedestrian was located within a parking lane or zone and was struck. The severity of the crash is listed as "Suspected Minor Injury Crash". Another crash occurred between a pedestrian and motorist nearby where the fatal crash and hit and run were located. This crash occurred at the intersection of McGowan Boulevard and 31st Street. This crash resulted in "Suspected Minor Injury Crash" severity and occurred at 7:25 am on Thursday, July 23, 2020. 31st Street which is about 1,300 feet (or about 4 blocks) from the fatal crash and 1,800 feet (roughly 6 blocks) from the site of the fatal hit and run. The pedestrian was entering or crossing the roadway when they were struck within the marked crosswalk of the intersection. The major cause listed for the crash was "Failure to Yield to Right of Way to Pedestrian".

See Image 10 for all of the motorist and non-motorist crashes that occurred from June 2019 to November 2021. The map of all of the crashes is available in Appendix 3.

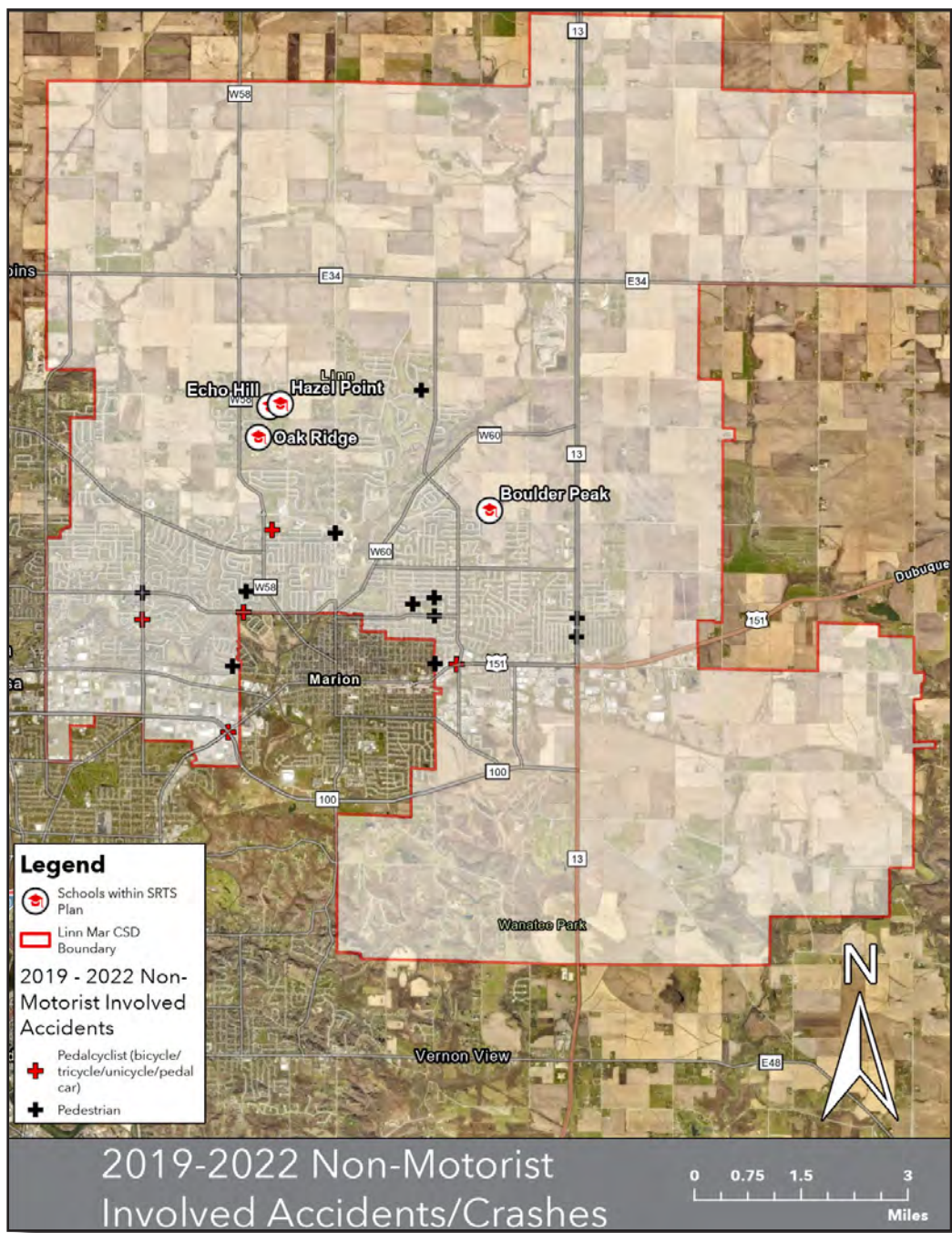


Image 10: Non-Motorist Involved Crashes between 2019 and 2022 that were located within the Linn-Mar District boundary.
Source: Iowa Crash Analysis Tool (ICAT)

Housing and Transportation Vulnerability Index

The Centers for Disease Control and Prevention, in partnership with the Agency for Toxic Substances and Disease Registry, created the Social Vulnerability Index. Social vulnerability refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks. This index utilizes 16 social factors to determine the overall Social Vulnerability of each Census Tract. The Index's 16 social factors and methodology is located in Appendix 4. To better understand the specific issues a census tract faces, the Social Vulnerability Index has been split into different categories; Socioeconomic Status, Household Characteristics, Racial and Ethnic Minority Status, and Housing Type/ Transportation.

For the Linn-Mar Safe Routes to School Plan, the Housing Type/ Transportation Social Vulnerability map has been utilized. By utilizing this resource, the Linn-Mar Safe Routes to School Committee has been able to gain a deeper understanding of which neighborhoods will face barriers to transportation in an emergency, but also understand that these neighborhoods may already be facing these barriers in their everyday lives. A larger map displaying housing and transportation vulnerability is located in Appendix 3.

As seen in Image 11, Census Tracts throughout the Linn-Mar School District have wide-ranging vulnerability regarding housing type/ transportation. The Echo Hill, Hazel Point, and Oak Ridge schools all fall within

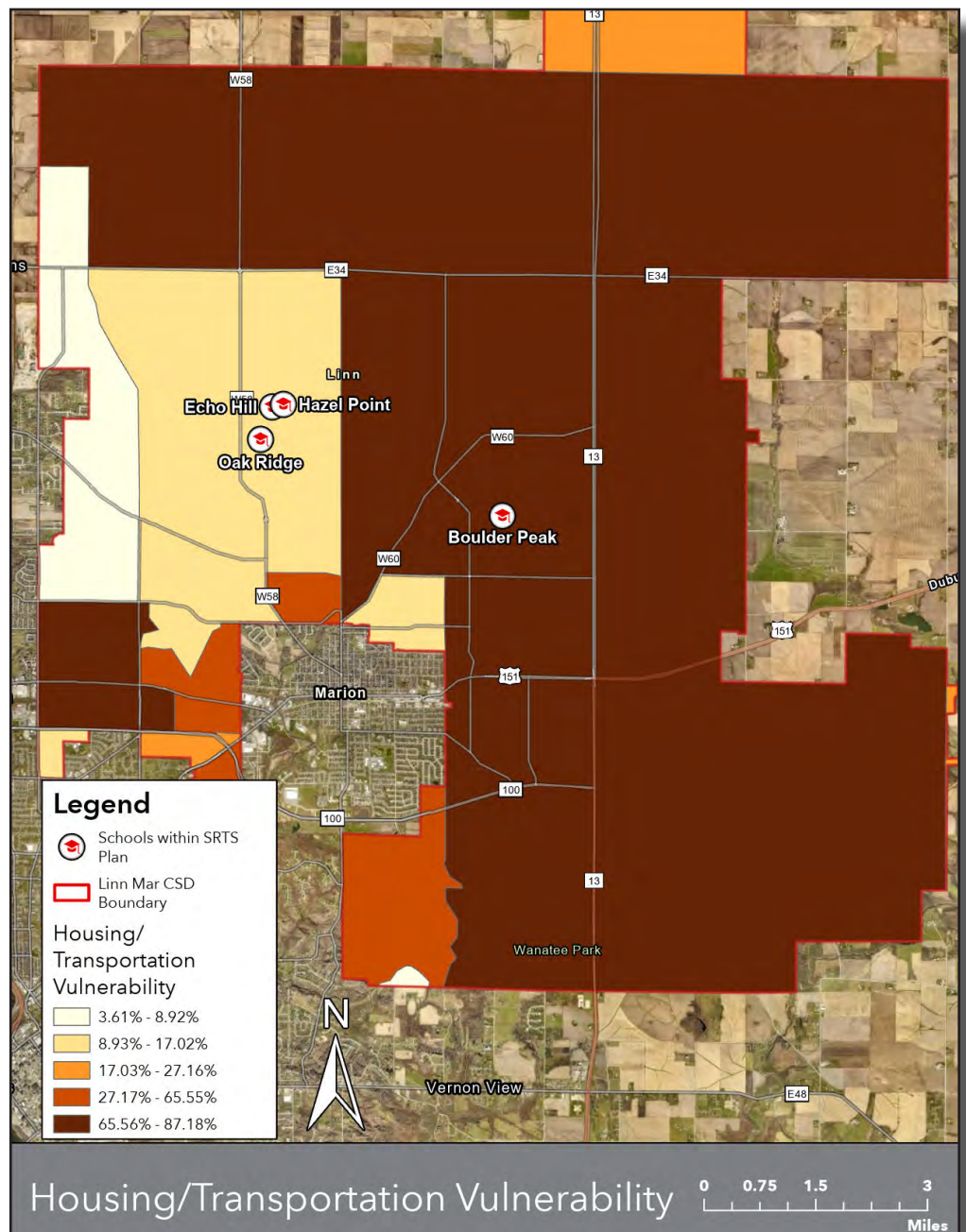


Image 11: Housing/ Transportation Vulnerability Map for the Linn Mar Community School District.

Source: Centers for Disease Control and Prevention

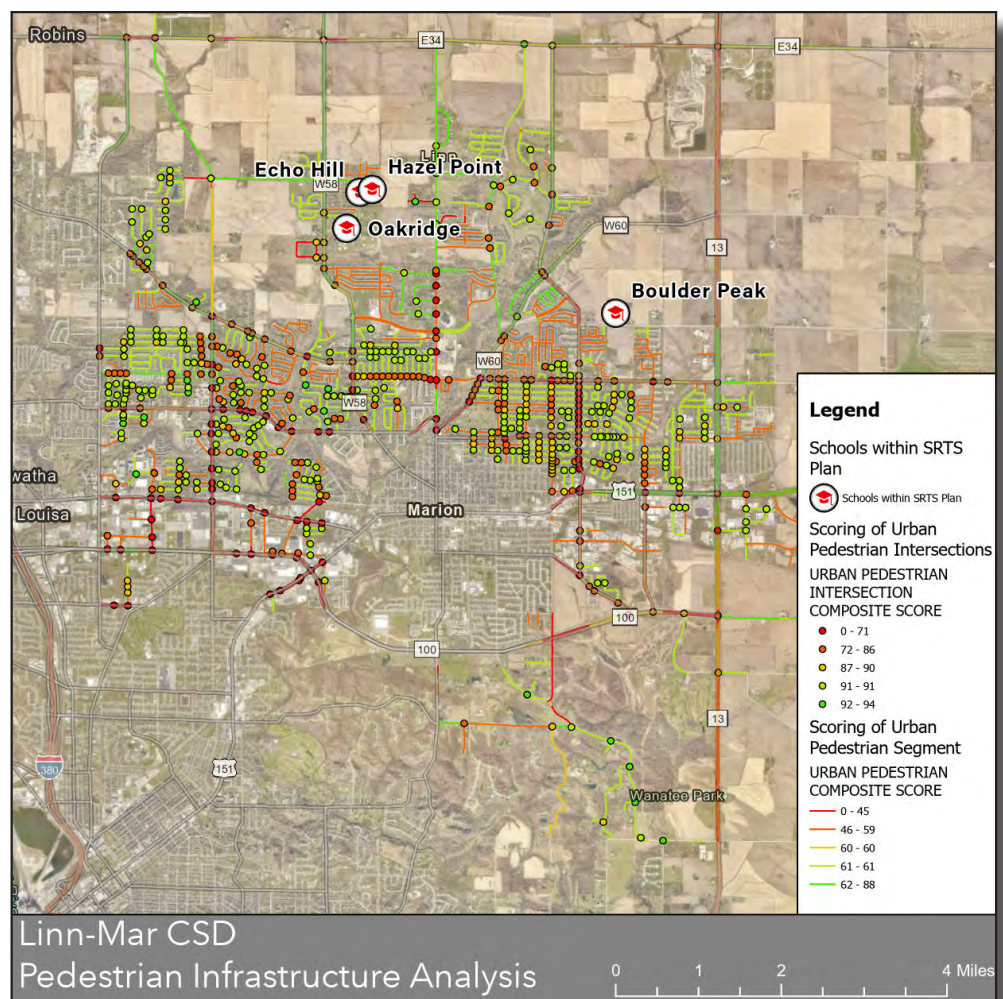
Census Tracts with low vulnerability to transportation barriers. On the other hand, Boulder Peak school has a 20 – 40% increase in a population that faces transportation barriers. Several reasons behind this would include households with not as many personal vehicles (if any), lower median income, and rural disconnected households. Rural households lie farther away from essential services, which adds to the barriers other types of households might face.

Iowa Department of Transportation Pedestrian and Bicyclist Analysis

In 2020, the Iowa Department of Transportation (DOT) analyzed Iowa's roadways and intersections for the safety of bicyclists and pedestrians. This analysis took into consideration the annual average daily traffic, crashes involving pedestrians and pedal cyclists, roadway speed, number of lanes on the roadway, and other criteria found in Appendix 5. With the creation of this analysis, local officials can begin to look at which areas are safe for pedestrians and pedal cyclists to utilize, or where improvements should occur.

When looking at Images 12 and 13, it can be seen that the roadways around the Echo Hill, Hazel Point, and Oak Ridge schools show that they are suitable for pedestrians and bicyclists. While this is true for the neighborhood streets in the housing developments surrounding the schools, some discretion should be considered for Alburnett Road. A shortcoming with the Iowa DOT Pedestrian and Bicyclist Analysis

is that it utilizes data from previous crashes. What then happens is that there are some segments of the roadway that bicyclists and pedestrians do not utilize, so the map shows that the roadway is safe when it may not be. It does also not take into consideration of near-misses. A few reasons why these areas may not be used is that there are a lack of network connections, lack of safe feeling due to vehicle speeds, there are few intersections and crossings on the rural cross-section of Alburnett Road. There is limited conflict between persons crossing the road and drivers because there is limited desire of



folks to cross the roadway. A benefit for these three schools is that trails through Lowe Park provide safe connections from the schools to the surrounding neighborhoods to the south. The Boulder Peak School is unique due to the recent construction of the building and housing developments surrounding the school. Due to the newness of this area, data for certain road segments are unavailable at this time.

The Pedestrian and Bicycle Infrastructure Analyses are largely very similar. Generally, where it is safe to walk also is likely to be a location where it is also safe to bicycle, and vice versa. There are some exceptions, however. Along C Avenue from the intersection Echo Hill Road to the north shows a Bicycle Composite Score between 49 to 63 whereas it has a Pedestrian Composite Score between 62 to 88.

The Iowa DOT’s Pedestrian and Bicyclist Analysis tool is crucial for local decision-makers to utilize, as it gathers data to develop a deeper understanding of the built infrastructure around each of these schools. This will also allow the local decision-makers to gather community feedback about these areas to help improve the safety of bicyclists and pedestrians in these areas.

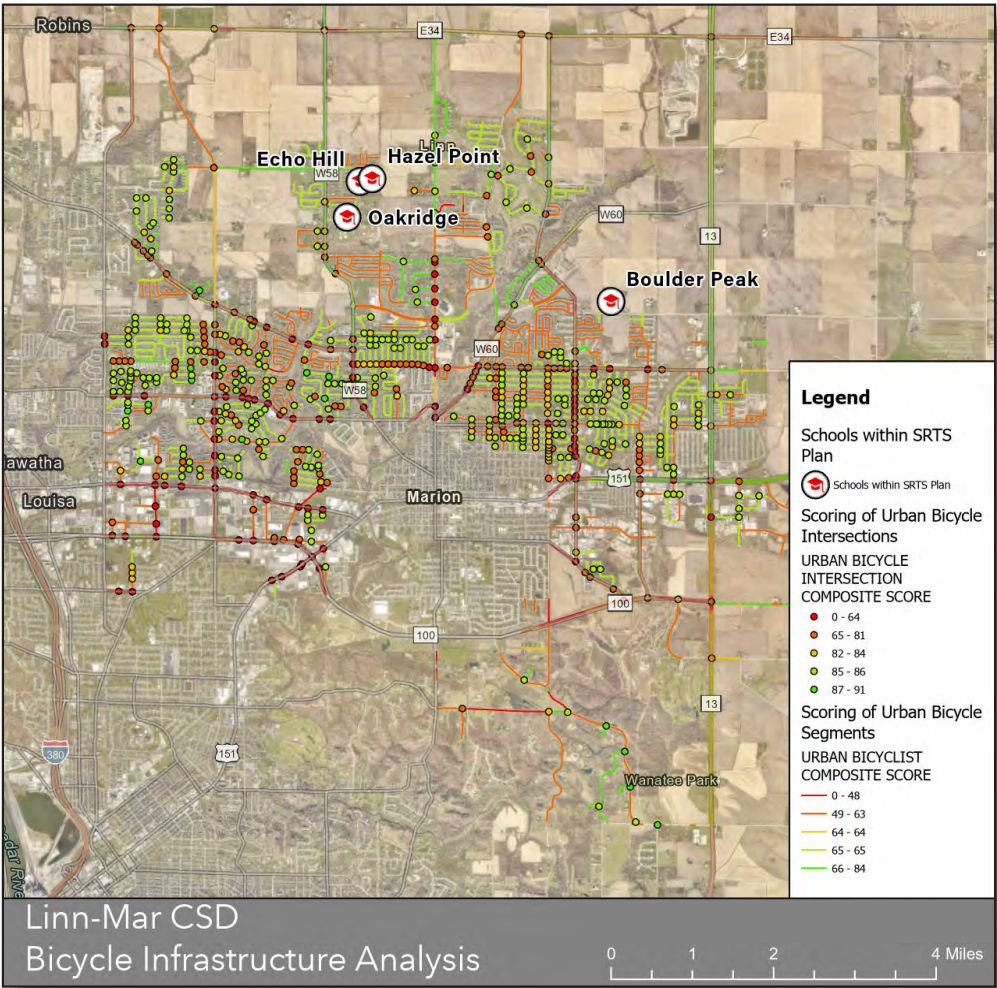


Image 13: Bicycle Infrastructure Analysis for the Linn Mar Community School District. Source: Iowa DOT

Future Roads, Arterials, and Streets

Due to much of the Linn-Mar School District falling within areas with high levels of new development, careful consideration about future roads must be given. To add complexity to this planning, the future roadways must align with future land uses in the cities of Robins, Cedar Rapids, and Marion. Due to this SRTS plan's scope focusing on only four of the schools in the district, the City of Robins will not be included as the four schools' catchment areas are not within the City of Robins.

Within the City of Cedar Rapids and the City of Marion's future land use maps, future roadways have been identified. In 2023, both cities initiated a joint planning study to ensure the development of this area is cohesive between the two cities. One outcome of this study was the coordination of the roadway network, seen in image 14. It can be seen how almost all of the roadways align well. Coordination needs to be maintained in the future to ensure proper connectivity. This can be done through active communication between these two cities and working with the Corridor MPO to note these future roadways within their next Long-Range Transportation Plan (LRTP).

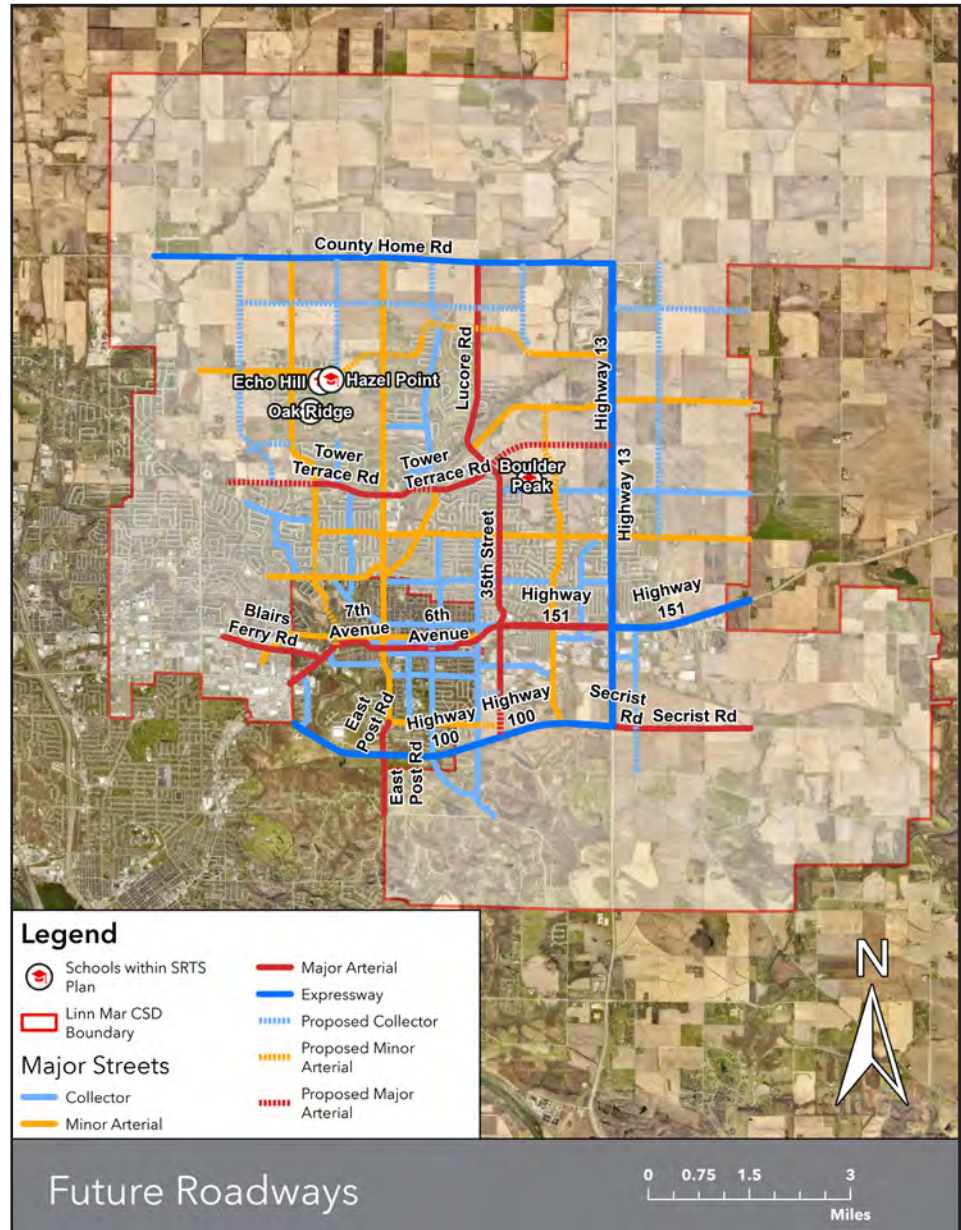
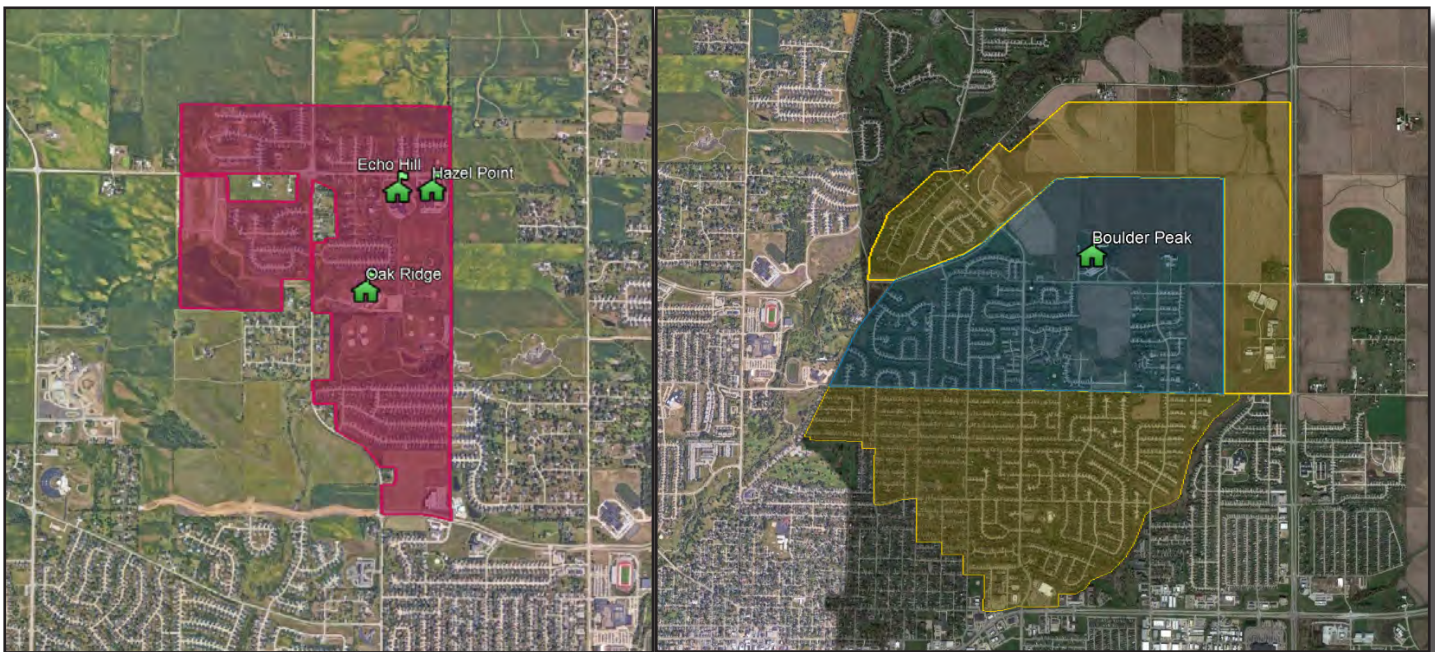


Image 14: Future Roadways in the Linn Mar Community School District.
 Source: City of Cedar Rapids and City of Marion

Linn-Mar Community School District's Available Transportation

The Linn-Mar School District currently has non-bused and bused areas within its school district. The non-bused areas are locations less than two miles from the elementary, intermediate, and middle schools where a student would be expected to utilize active transportation or personal vehicles. The area outside of the non-bused area is still within the individual schools' catchment areas. Students that reside within this area are able to utilize the buses provided by the school district. If a student is open enrolled, the student would need to request transportation, and the school district would assign them to an applicable bus stop.

The Echo Hill, Hazel Point, and Oak Ridge Schools' have their own non-bused areas. This non-bused area can be seen in Images 15 and 17. This walking boundary extends east from Silver Rock Drive to 10th Street and south from Marion's city limits to Tower Terrace Road. There are some residences that are not included within this non-bused area but lie close to the schools. This is due to the lack of sidewalks to provide safe access from a student's home to their school. The lack of pedestrian accommodations has reduced the walking shed for these schools to under one and a half miles from the schools. All students within this walking shed are encouraged to walk, bike, or roll less than a mile to school, although a majority of students ineligible for busing are dropped off in a personal vehicle. Larger maps of non-bused areas are located in Appendix 3.



Images 15 and 16: The map on the left, in pink, shows the non-bused areas for Hazel Point Intermediate, Oak Ridge Middle, and Echo Hill Elementary Schools. The image on the right is the non-bused area for Boulder Peak Intermediate School. The yellow area represents new non-bused areas for the 2023-2024 school year. The blue is the original non-bused areas for the school.

Source: Linn-Mar Community School District

The Boulder Peak Intermediate School’s non-based area can be seen in Images 16 and 17. This area extends north from 29th Avenue to Indian Creek Road, Tower Terrace Road, and just north of 35th Avenue. The walking shed boundaries are within two miles of the school. Some students within this walking shed will walk, bike, or roll closer to three miles to school because the walking routes are less direct.

Image 17 shows the schools’ bused areas over the percentage of zero vehicle households. The less dark and red the color is, the fewer percentage of households in that CBG have no vehicles. Households with zero vehicles were all located within the district’s bused area.

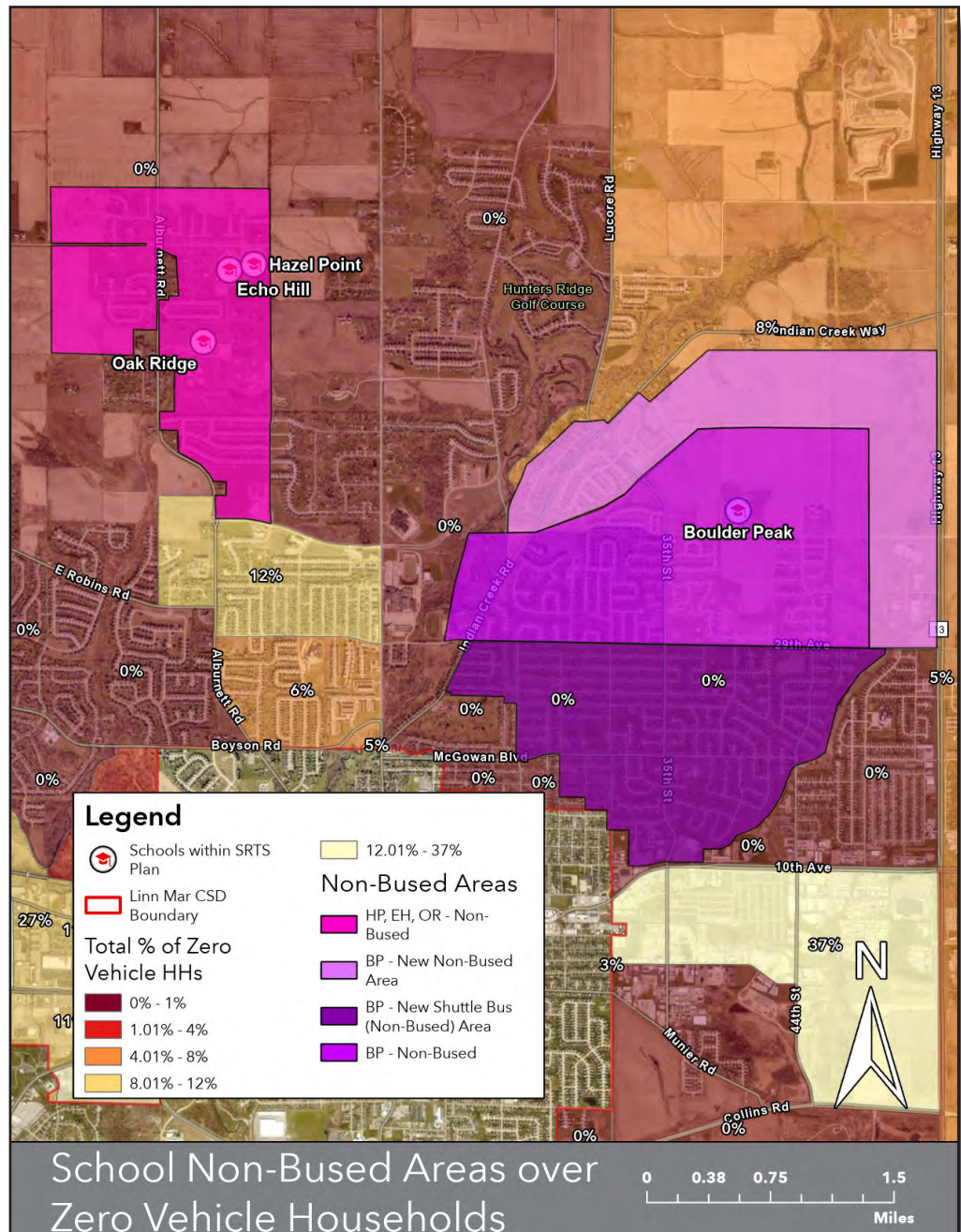


Image 17: The non-based areas for Hazel Point, Echo Hill, and Oak Ridge (in pink) and the non-based areas for Boulder Peak (purple) over top zero the percentage of households with zero vehicles. Dark purple shows where there will be a new shuttle service and light purple shows the new non-based area for the 2023-2024 school year.

Source: Linn-Mar Community School District

Land Use

Cities throughout the United States utilize a tool called land use planning. Land Use Plans guide cities by identifying appropriate land use classifications for future development based on compatibility. Classifications tend to be broadly named and center around civic, commercial, industrial, and residential. Land use shapes the built environment in cities across the U.S. and the world. It influences traffic on roadways, density of residential neighborhoods, and much more. Due to the strong influence land use has on the built, social, and economic structures of a city, the following section will analyze the current, and future land uses within the Linn-Mar School District, as well as land uses that enhance Safe Routes to School.

Zoning

The current Linn-Mar School District Boundaries contain land uses between four governmental entities. These entities include the cities of Cedar Rapids, Marion, Robins, and Linn County. With multiple, local governmental agencies within the school district boundaries, it will be important to examine the difference between zoning ordinances and development processes in each government entity. In doing so, transportation connections for both motorized vehicles and pedestrians will be made. This will allow students the opportunity to get to school safely.

As seen in the Marion Zoning map in Image 18 (larger image available in Appendix 3) the land surrounding Echo Hill, Hazel Point, and Oak Ridge schools has been zoned for low and medium-density single-family housing, public institutional, and park uses. The different types of land uses play well off of each other for a SRTS program. An example of this would be having parks near residential areas. This close proximity of residences to parks promotes active transportation and healthy living. Having residents live near parks will assist in promoting SRTS at Linn-Mar because the SRTS plan can leverage behaviors the community is currently making.

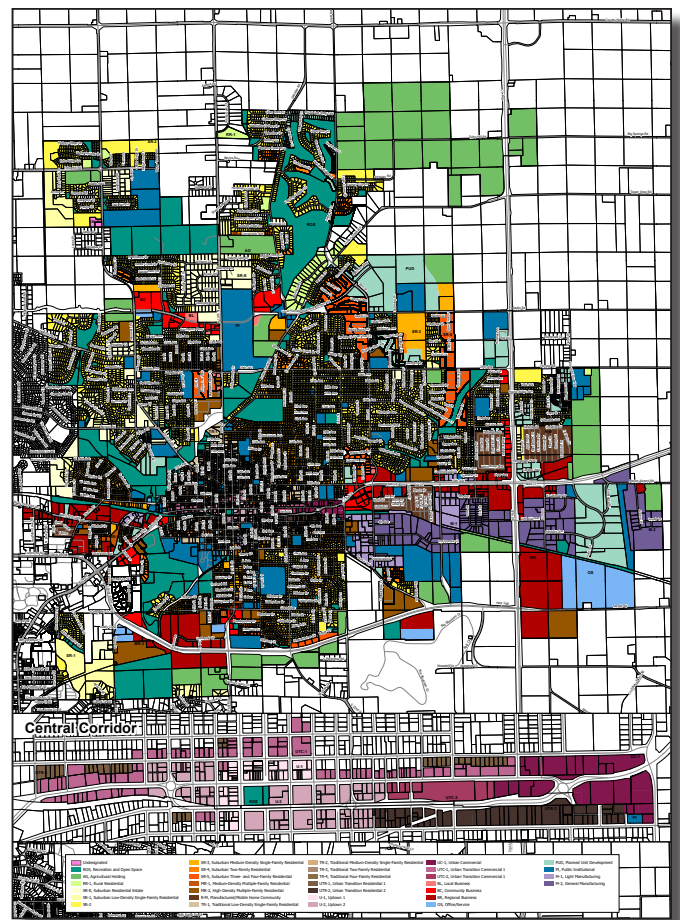


Image 18: Current zoning in the City of Marion..
Source: City of Marion

Currently, the medium-density single-family housing immediately to the south of Boulder Peak School is being developed. Being in close proximity to the school means that the families that move into this neighborhood will be sending their children to school via walking, biking, or personally driving their child to school.

Future Land Use

Linn-Mar is in a unique area because of the large potential for developable land that other school districts typically do not have. Because of this potential growth, this plan will incorporate current conditions and future land uses for the surrounding areas around each of the four schools. Image 19 shows the Echo Hill, Hazel Point, Boulder Peak, and Oak Ridge schools and their surrounding future land use.

As seen in Image 19, Echo Hill, Hazel Point, and Oak Ridge schools are designated for low to medium-density single-family housing, public institutional, and parks. As this land continues to be developed with park space and residential neighborhoods, the culture of active transportation and healthy living will be supported.

The land surrounding Boulder Peak School is zoned as medium-density single-family housing. Image 22 is from the plan that depicts where the residential and mixed-use areas, streets, and parks will be located in relation to the Boulder Peak School. Before and after school traffic should not congest traffic as much as it currently does at Boulder Peak School due to the Indian Creek plan's design. The Neighborhood at Indian Creek design allows more room for vehicle movement than what is currently available to parents dropping off students at the school. The land around Boulder Peak School is primarily farmland, and when that is eventually developed into a neighborhood, there will be more room for vehicle movements. The Neighborhood at Indian Creek will also provide sidewalk connections between the school property and future developments, increasing how accessible the school is to those using active transportation.

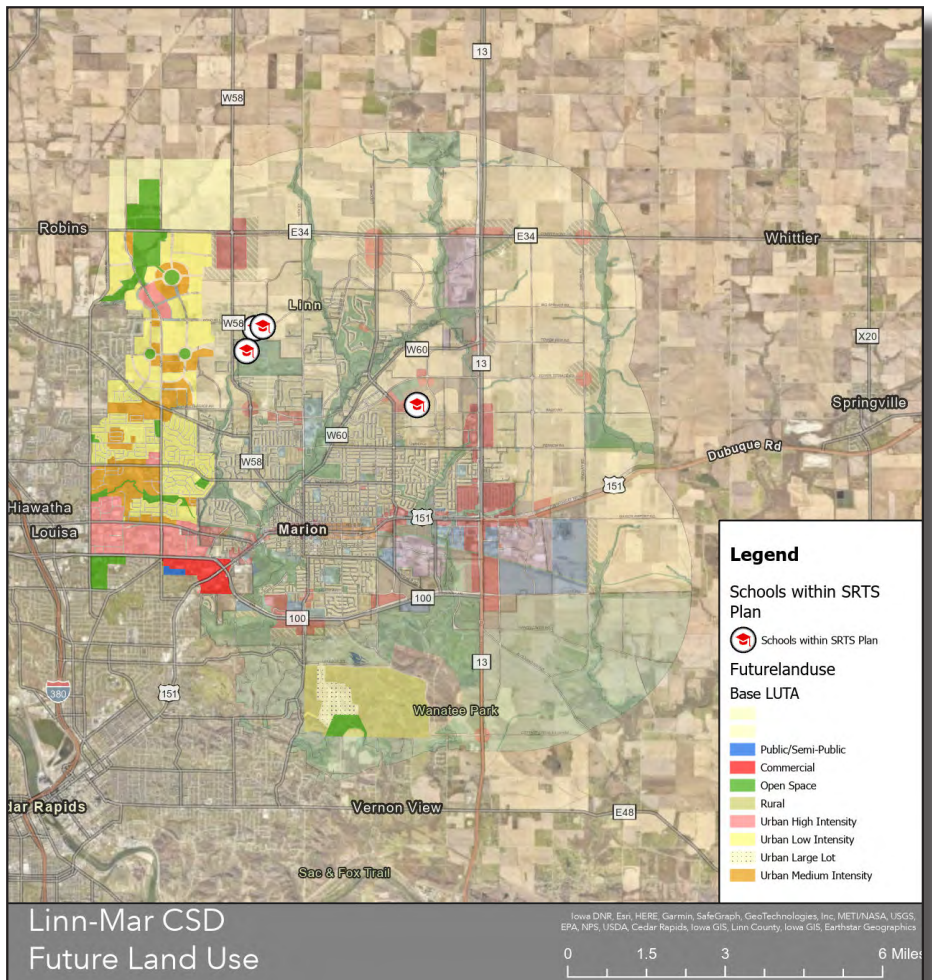


Image 19: Future land use for the Cities of Cedar Rapids and Marion within the Linn-Mar Community School District.

Source: City of Cedar Rapids and City of Marion

The school district has purchased and owns the land east of Boulder Peak School. The district intends to build a second school on 35th Avenue, directly east of Boulder Peak. The new school would be an elementary school. This school is not included in the district's five-year facilities plan, adopted by the

school board in April 2022. It is anticipated that there will be a need for a new elementary school within the decade, as shown in the district’s ten-year facilities plan. At the earliest, a new elementary school on 35th Avenue is estimated to be completed after the five-year facilities plan ends in 2027.

The Neighborhood at Indian Creek design shows that Boulder Peak, and the future elementary, are in an area primed for growth in Marion. That plan shows the area surrounding these schools is designated for residential use, including housing types that support density like multi-unit [apartments] and townhomes. The area currently surrounding Boulder Peak School is currently being used for farming, except for the housing on the south side of 35th Avenue. In the future, there will be an entire neighborhood to the north of Boulder Peak and the future elementary school.

Pedestrian Friendly Development

Due to much of the Linn-Mar School District falling within agricultural land that has the potential to be developed in the future, there should be careful consideration of development styles, and land uses nearby schools. If done correctly, the development styles and land uses surrounding the Echo Hill, Hazel Point, Oak Ridge, and Boulder Peak Schools would promote SRTS through connected pedestrian infrastructure. There are many different development styles that can support active transportation, and this plan will identify three that have historically been utilized.

Traditional Residential Development

The traditional residential development style was common prior to the 1950s. This style of development often focused on pedestrian usability because post-WW2 car-centric development had not yet been widely adopted across the country. Traditional residential development areas oftentimes follow a grid-like street network. Community members were better able to utilize active transportation and maneuver through neighborhoods relatively easily because the built environment supported and were conducive to walking. An example of this development style can be seen in Images 20 and 21.

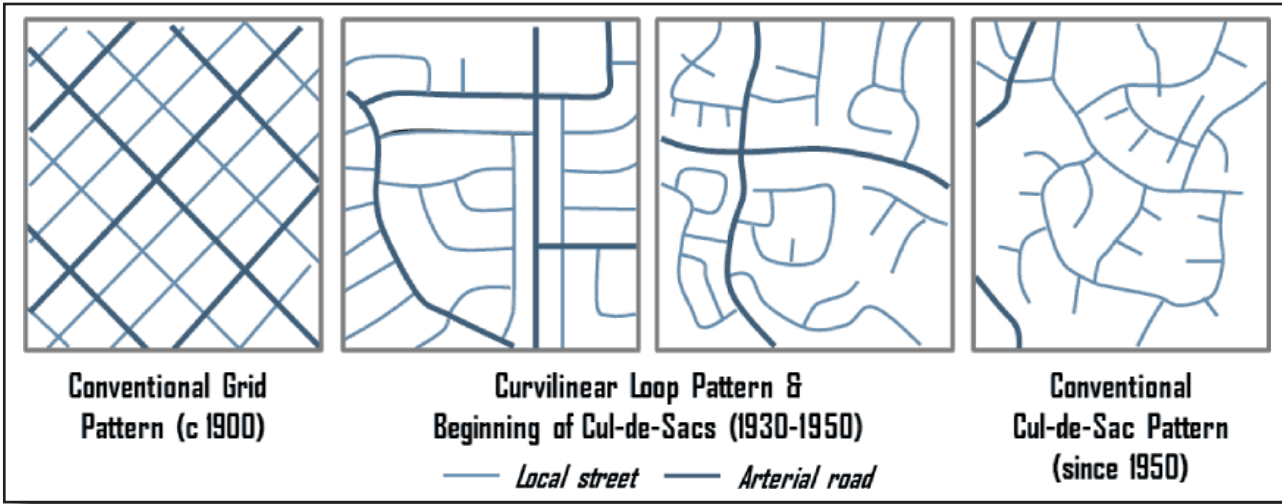


Image 20: Timeline showing the progression of the shift from most developments using a traditional grid street network to developments using suburban grids, with cul-de-sacs and loops.
Source: here.com

Suburban Developments

Suburban development has had evolving styles throughout the years. Suburbanization originated after World War 2 (WW2) with the adoption of the Servicemen’s Readjustment Act of 1944, often referred to as the G.I.. Bill. This federal legislation opened the doors to veterans seeking education, housing, and employment. The G.I. Bill provided low-interest loans to veterans for the purchase of single-family homes. With housing shortages in cities and the decreased need for rationing after the War, veterans and their families moved into areas just outside the city’s limits. Families still needed to connect to work and activities in the city, so vehicles became viewed as a necessity. Suburban developments are typically automobile-focused styles with no sidewalks, limited sidewalks, or areas with sidewalk gaps and the increase in cul-de-sacs limiting connectivity for pedestrians. More recently, suburban developments have started to right their wrongs and are being constructed in a way to balance both automobile usage and walkability. This style will include trails that go through the development, sidewalks along roadways, and meandering streets to reduce vehicle speeds. An example of this style of planning can be seen in Image 20.



Image 21: Uptown Marion is an example of a traditional street grid. Often, these street networks are uniform and located in the oldest parts of town, as is the case in Marion.
 Source: Google Maps



Image 22: Image from the “Neighborhood at Indian Creek Design Guidelines Manual” showing where residential, mixed-use, streets, and parks will be located surrounding Boulder Peak School.
 Source: City of Marion

Walkable Neighborhoods

There are many ways to make walkable neighborhoods. This is usually accomplished by having a higher density of people in residences and commercial areas. An example of this in practice would be the Neighborhood at Indian Creek Plan (see Image 22). This plan outlines how the Planned Unit Development will be developed surrounding the Boulder Peak Intermediate School and a future school that will be constructed. Within this plan, there are higher-density residence and commercial areas with pedestrian-oriented spaces dispersed throughout to make connections for pedestrians easier.

Each of these development styles has its individual pros and cons. When developing this area, each entity surrounding these schools should work with the developer to implement a development that fits the surrounding neighborhoods and encourages a walkable neighborhood. In doing so, future students will have safer access to their schools.

Linn-Mar

Student Observations

As part of the Linn-Mar Safe Routes to School Plan, members of the overseeing committee conducted observations of the pick-up and drop-off procedures at each of the schools identified within this plan. These observations were to gather an understanding of the current levels of students arriving and leaving school by walking or cycling. Those that utilized active transportation were tallied in the springs of 2022 and 2023 at Echo Hill Elementary School, Hazel Point Intermediate School, Boulder Peak Intermediate School, and Oak Ridge Middle School. Counts were taken at each of the four schools, with 30 minutes allotted for each observation period in both the morning and afternoon.

The locations for the counts at Echo Hill Elementary School were taken in the “Little Lions” parking lot, the bus drop-off, and on the corner of Echo Hill Road and the School’s driveway. Students at Echo Hill can access the school by the trail to the south of the school or the crosswalk to the north of the school. Eight students were observed to the school by bike in the morning, and 26 by walking. In the afternoon, around four students left the school by bike and 18 by walking.

At the Hazel Point Intermediate School observations were taken in the main parking lot, the bus drop-off parking lot, and the school’s front entrance. Students at Hazel Point can access the school by the trail to the west of the school or the crosswalk to the north of the school. Around 16 students arrived to the school by bike in the morning, and 12 by walking. In the afternoon, around 16 students left the school by bike and two by walking.

The locations for the counts at Boulder Peak Intermediate School were taken on the East and West sides of the main parking lot, as well as the front entrance. Students at Boulder Peak can only access the school by the sidewalk to the south of the school. Around 11 students arrived to the school by bike in the morning, and five by walking. In the afternoon, 13 students were observed leaving school by bike and 36 by walking.

The Oak Ridge Middle School observations were taken in the main parking lot, the parking lot behind the school, and the front entrance. Students at Oak Ridge can access the school by trails to north, east, and south of the school. Around eight students arrived to the school by bike in the morning, and six by walking. In the afternoon, around four students left the school by bike and five by walking.

Student Enrollment

To better understand the demographics of the four schools within this plan Data from the Department of Education was utilized. Recognizing student demographics of the four schools provides a better understanding of any possible barriers can be addressed. The following sections provides an overview of the demographics of these four schools combined and broken down separately.

In 2022, the four schools identified in this plan had 2,200 students enrolled to attend that school. Of these 2,200 students 76.4% were white, 8.9% were Asian, 6.6% were Hispanic, 5.3% were black/ African American, 0.2% were Native American, and 4.8% were multi-racial. Of the 2,200 students at these four schools, 1.5% are part of the English Learners' program, 10.4% have a disability, and 16.5% are within a low socio-economic status.

Echo Hill Elementary School

In 2022, the Echo Hill Elementary School had 488 students enrolled to attend that school. Of these 488 students 79.3% were white, 10% were Asian, 4.7% were multi-racial, 3.5% were Hispanic, 2.3% were black/ African American, 0.2% were Native American, and 4.8% were multi-racial. Of the 488 students at Echo Hill Elementary School, 9.1% have a disability, 1.8% are part of the English Learners' program, and 5.9% are within a low socio-economic status.

Hazel Point Intermediate School

The Hazel Point Intermediate School had 556 students enrolled to attend that school in 2022. Of these 556 students 71.8% were white, 12.9% were Asian, 4.9% were Hispanic, 5.9% were black/ African American, 0.2% were Native American, and 4% were multi-racial. Of the 556 students at Hazel Point Intermediate School, 2% are part of the English learners' program, 10.8% have a disability, and 15.6% are within a low socio-economic status.

Boulder Peak Intermediate School

In 2022, the Boulder Peak Intermediate School had 616 students enrolled to attend that school. Of these 616 students 82.8% were white, 2.4% were Asian, 4.2% were Hispanic, 4.7% were black/ African American, 0.2% were Native American, and 5.7% were multi-racial. Of the 616 students at Boulder Peak Intermediate School, 1% are part of the English Learners' program, 12.2% have a disability, and 25.5% are within a low socio-economic status.

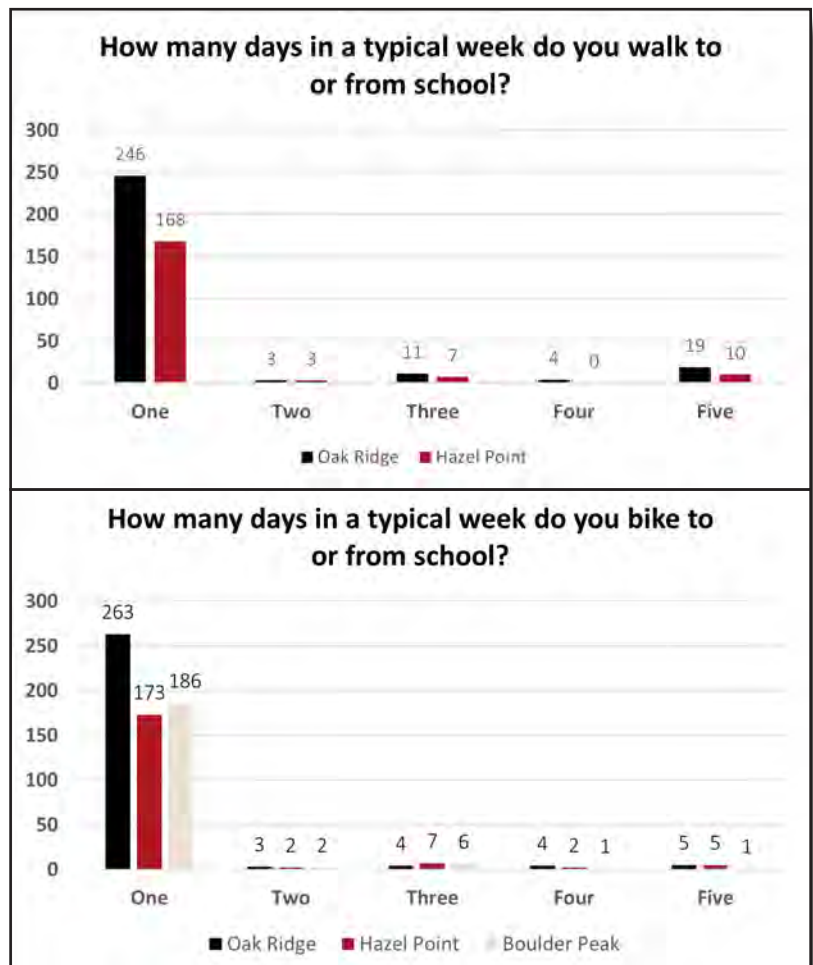
Oak Ridge Middle School

In 2022, the Oak Ridge Middle School had 540 students enrolled to attend that school. Of these 540 students 71.5% were white, 10.6% were Asian, 5% were Hispanic, 8.1% were black/ African American, 0.2% were Native American, and 4.6% were multi-racial. Of the 540 students at Oak Ridge Middle School, 1.3% are part of the English Learners' program, 9.3% have a disability, and 19.1% are within a low socio-economic status.

Surveys

5th Grade to 8th Grade Student Surveys Themes

- Most students arrive by car or bus
- There did appear to be a mode shift between drop-off and pick-up: students that arrived via personal vehicle or bus would take another mode home
- Boulder Peak, Hazel Point, and Oak Ridge each have about or more than 20% of students reporting walking and biking to school per week
- A vast majority of students at Boulder Peak, Hazel Point, and Oak Ridge own a bicycle and bicycle helmet
- 27 students at Boulder Peak, 26 students at Hazel Point, and 51 students at Oak Ridge did not own a bicycle
- Most students also reported owning a pair of walking shoes in good condition
- 43 students total at Boulder Peak, Hazel Point, and Oak Ridge did not have a pair of walking shoes in good condition
- Hazel Point and Boulder Peak had zero students report living more than one mile from school
- Oak Ridge had most respondents state they lived more than a mile from school
- Most students stated they were "Neutral", "Comfortable", or "Very Comfortable" when it came to how comfortable they are walking or cycling through a roundabout
- Very few students reported viewing walking or cycling to school as "Unhealthy" or "Very Unhealthy"
- Students' favorite way to get to school was either bus or car at all three schools



Graph 5 and 6: How many days in a typical week students walked and biked to or from school.

Write Up and Charts

A total of 1,169 students in 5th through 8th grade filled out surveys at three of the schools: Oak Ridge, Hazel Point, and Boulder Peak. The Kindergarten through 4th graders had a survey done by classroom, with the teacher tallying students on how they arrived at school and plan to leave school. The classroom tallies were not done individually, so those results are not included in the 1,169 responses. Oak Ridge had the most survey participants at 481. Hazel Point had 402 and Boulder Peak had 286 survey participants.

Students were asked 13 questions in the survey; the student questions and data tables are available in Appendix 2

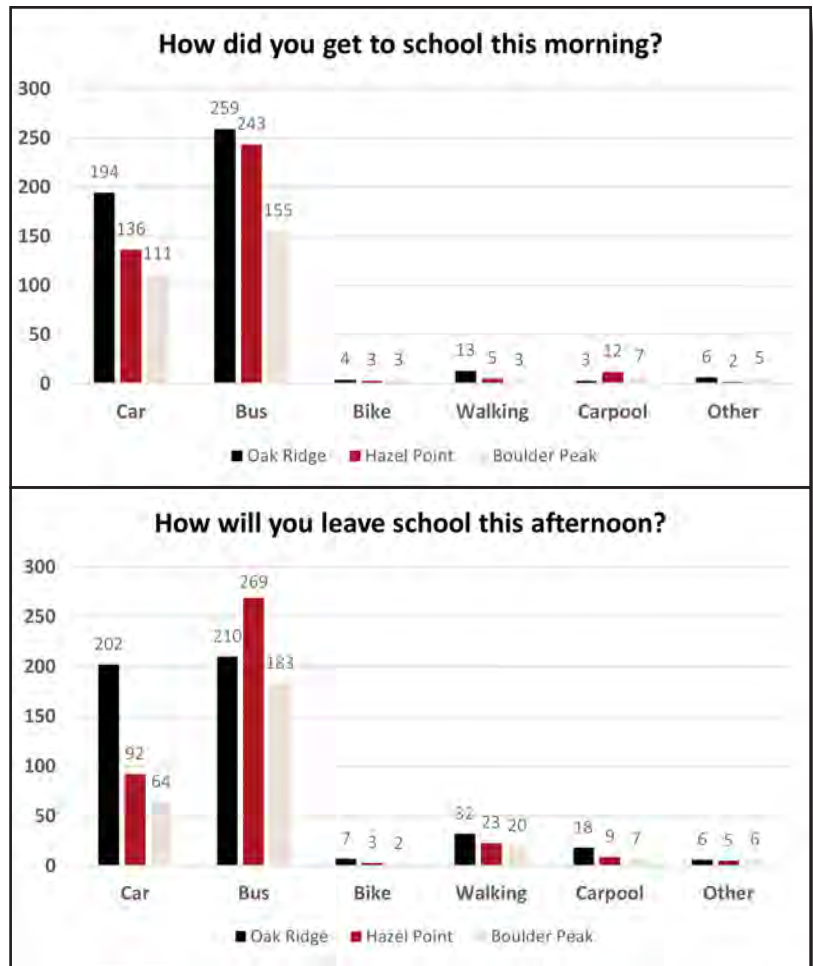
Most students got to school or left school on the day they took the survey in a motor vehicle, either by personal automobile or the school bus (see Graph 3). There was an increase in the number of students at Oak Ridge who choose or are able to walk home in the afternoon. 456 students arrived at Oak Ridge by a car or bus whereas only 430 students left by the same way, representing a mode shift of 26 students who chose a different way to make the trip after school.

At Oak Ridge, 246 of the 481 students walk at least one day per week on their trip to or from school along with 263 students reporting they bike to school at least once per week. While 263 students reported biking to school once per week, only a combined 16 students biked twice or more per week.

Boulder Peak students had a smaller proportion of students arrive to school in a vehicle than compared to nearby Hazel Point and Oak Ridge. At Boulder Peak 273 students arrived in a car or bus whereas in the afternoon 254 left in the same way: 118 students arrived in a car that day and 71 went home in a car and 155 students arrived at school by bus and 183 students left by bus. 47 students who arrived to school in a car that day went home by bus, bike, walking, or other. Boulder Peak did not report on the number and frequency of students walking or biking to or from school.

Due to an error with the survey, several questions did not have "Zero" as an option in the student or parent surveys. As further described in the Area of Improvement section of this plan, there are plans to continue annually surveying parents and students to understand attitudes and behaviors regarding active transportation. Those future surveys will include that option to ensure all possibilities are available.

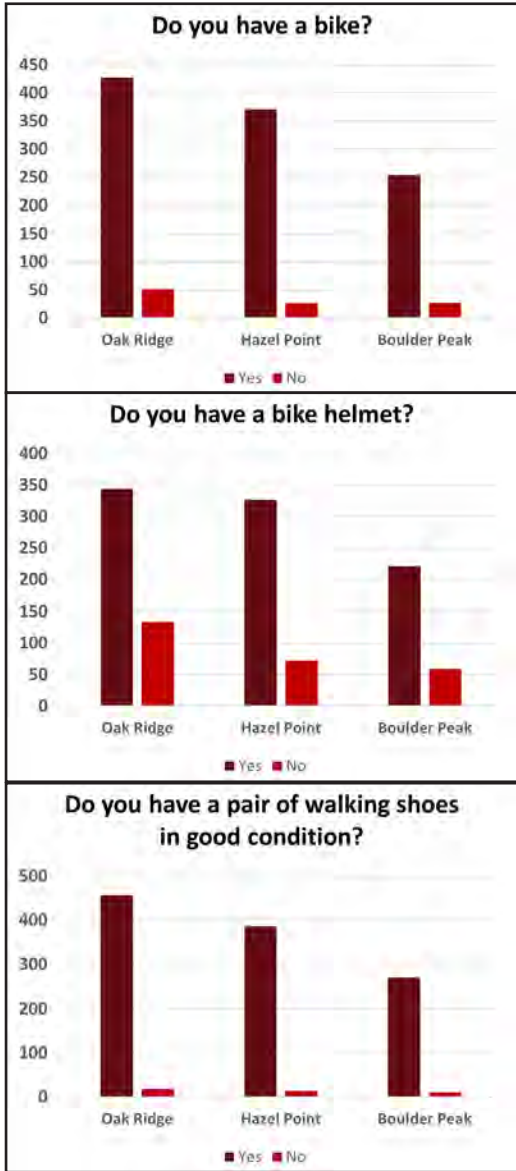
Hazel Point had 370 students arrive to school via car, bus, or carpool and 21 fewer students left via those same transportation modes (see Graph 4). Like Boulder Peak, there were fewer students leaving school than arriving to school via personal car. 135 students arrived to school by car whereas 92 left school the same way, meaning 44 students who arrived by car left school by bus, bike, walking, carpool, or other.



Graphs 3 and 4: How students arrived and left school the day of the survey.

168 students (35%) at Hazel Point Intermediate reported walking to or from school once a week (see Graph 5). 20 students reported walking two or more days per week, with 10 of those students walking five days per week, 5.6% of total respondents at Hazel Point. 173 students rode their bike to or from school once per week, 43% of student respondents at Hazel Point. There were 341 responses where students stated they either rode their bike or walked to or from school at least once per week, meaning there is some overlap where students both walked and biked at least once per week.

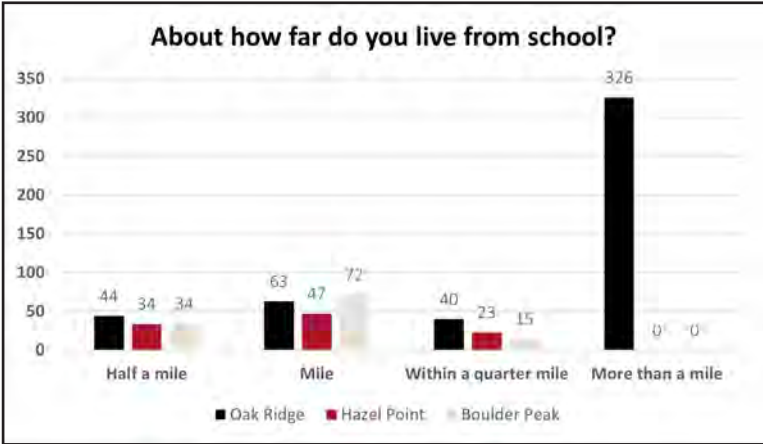
Most students who responded to the survey at their three schools reported owning a bicycle (see Graph 7). 51 students at Oak Ridge (10.7%), 26 students at Hazel Point (6.5%) and 27 students at Boulder Peak (9.6%) reported not owning a bicycle. While 427 Oak Ridge students reported having a bicycle, only 344 reported also owning a bicycle helmet. 371 and 253 students reported owning a bicycle helmet at Hazel Point and Boulder Peak, respectively. Graph 8 shows how many students have bicycle helmets. A total of 264 students at all three schools reporting not owning a bicycle helmet. Most students at all four schools were likely to own a pair of walking shoes in good condition: 456 at Oak Ridge (96%), 386 at Hazel Point (96.5%), and 270 at Boulder Peak (96.4%). A total of 43 students at the three schools reported not owning a pair of walking shoes in good condition (see Graph 9).



Graphs 7, 8, and 9: Asking students whether they have a bicycle, a bicycle helmet, and a pair of walking shoes in good condition.

Students were asked how far they lived from school, to gain an understanding of how far students must travel to get to school, using time as a helpful tool to allow students to think about how far they live in time and not necessarily distance, as that is still developing. The survey noted that half a mile was about a 7 minute walk.

Hazel Point and Boulder Peak both had zero students report that they lived more than a mile from school, whereas most respondents from Oak Ridge lived more than a mile from school (see Graph 10).

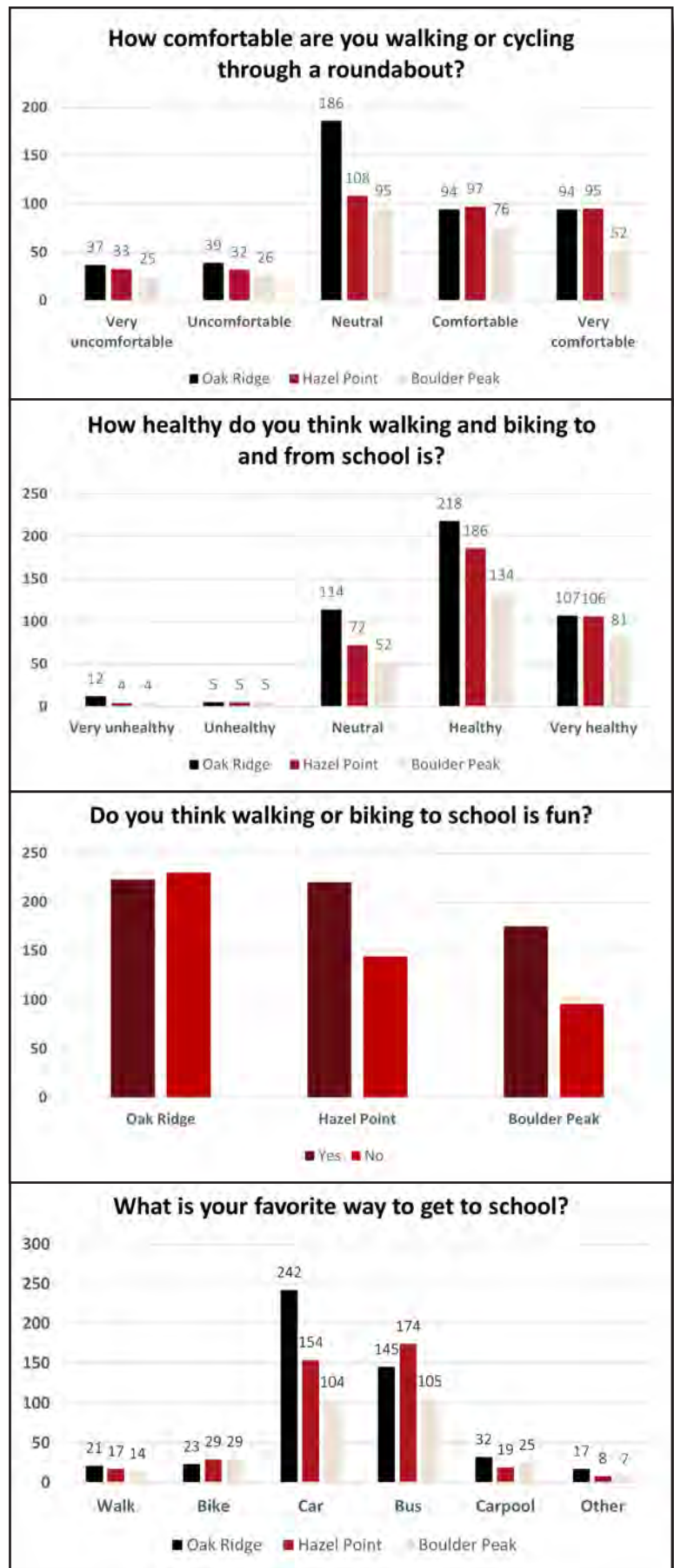


Graph 10: Asking students about how far they live from school.

A total of 372 students reported living less than a mile from school at all three of the schools: 147 at Oak Ridge, 104 at Hazel Point, and 121 at Boulder Peak.

Students were asked about their comfort level either walking or cycling through a roundabout (see Graph 11) with "Neutral" being the most common answer at all three of the schools. Additionally, more students at each school reported being either "Comfortable" or "Very Comfortable" than those who reported being "Uncomfortable" or "Very Uncomfortable". 188 Oak Ridge students reported being "Comfortable" or "Very Comfortable", 186 students reporting being "Neutral", and 76 students reported being "Uncomfortable" or "Very Uncomfortable". 192 Hazel Point students reported being "Comfortable" or "Very Comfortable", 108 reported being "Neutral", and 65 reported being "Uncomfortable" or "Very Uncomfortable". 128 Boulder Peak students reported being "Comfortable" or "Very Comfortable", 95 reported being "Neutral", and 51 reported being "Uncomfortable" or "Very Uncomfortable".

Students were asked their opinions on active transportation regarding health and fun. Very few students at each of the three schools felt walking or cycling was "Unhealthy" or "Very Unhealthy": 17 at Oak Ridge, and 9 at both Hazel Point and Boulder Peak. The most common response at each school was "Healthy": 325 Oak Ridge students felt walking or cycling to or from school was "Healthy" or "Very Healthy" and 114 reported feeling "Neutral", which was the second most



Graphs 11, 12, 13, and 14: Asking students how they are comfortable with roundabouts, and how healthy and fun walking or cycling to school is, and their favorite way to get to school.

common answer at all three of the schools. 292 students at Hazel Point and 215 at Boulder Peak felt walking or cycling to or from school was “Healthy” or “Very Healthy”. It was close to 50/50 at each of the three schools as to whether student respondents felt walking or cycling to school was fun. Oak Ridge was the only school where more students reported using active transportation to or from school was not fun, however it was only 7 more students than those who felt it was fun (230 to 223, respectively). More students at Hazel Point felt that walking or cycling to school was fun, with 220 saying it is fun and 144 saying it is not fun. Boulder Peak had 175 students who felt walking or cycling to school was fun whereas 96 felt it was not fun.

The last question asked of the intermediate and middle school students was what was their favorite way to get to school. While hundreds of students reported at each of the three schools that they walked or biked to school at least once per week, walking and bicycling were two of the least preferred ways to travel to school for students at all three schools. Most students at the three schools preferred to arrive via car or bus, not including carpool.

Kindergarten to 4th Grade Student Classroom Tallies

Themes

- Few students were missing the day classrooms were surveyed: only five of the nine classrooms surveyed had one to two students missing
- Most responses were taken on a Wednesday
- Every classroom reported cloudy, rainy, snowy, or windy weather
- Most students in each classroom reported arriving to school in their family or guardian’s vehicle or by school bus
- The three 4th Grade classrooms all reported students walking to school; no classroom in any other grade reported students walking
- No students reported riding their bicycle

Write Up

Nine classrooms reported classroom tallies for the SRTS plan. The results of these classroom tallies is in Appendix 2. Most tallies were taken on Wednesday, as it was requested that these classroom tally surveys be conducted during the middle of the week. The classroom tallies were taken mostly at the end of March, on the 30th or 31st. One classroom reported results on April 4. The average outside temperature for the classrooms was about 46.6 degrees, with the coolest temperature reported as 20 degrees on April 4, 2022, in the morning and the warmest temperature being 50 degrees in late morning on March 30, 2022. The average temperature was 41.4 degrees. Most of the days classroom tallies were conducted occurred when the weather was cloudy, rainy, with one classroom reporting snowy conditions when the survey was taken.

The enrollment size for each classroom was between 21 to 26 students, with each of the 9 classrooms more or less missing a student (an average of 0.77 students were absent from classrooms the day of the study). Kindergarten and fourth grade classrooms provided the most information about classroom tallies. Three Kindergarten and three fourth grade classrooms made up six of the nine classrooms that took the tallies.

None of the Kindergarten, first, or second grade classrooms reported students walking or cycling to school. The only classrooms that reported any students walking to school were fourth grade classrooms. None of the classrooms surveyed had students who rode their bikes to school that day. Students in most of the classrooms reported coming to school in a personal vehicle or bus. A fourth-grade classroom was the only classroom to have more students walk than ride the bus with 5 walking and 2 riding; the most common way students arrived to school in that classroom was personal vehicle, however. Only 5 students of the total 207 K-4 students at Echo Hill Elementary surveyed arrived to school in a carpool.

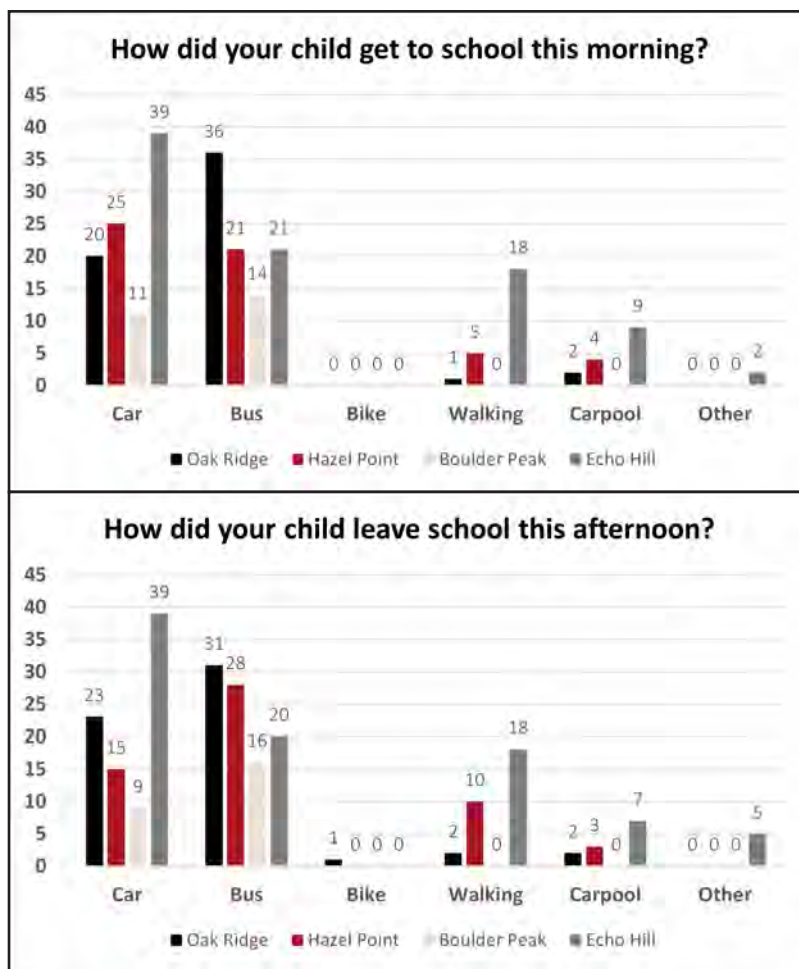
Kindergarten to 8th Grade Parent Surveys

Parents were surveyed at all four of the schools included in the Linn-Mar SRTS Plan, with 238 parents responding from all four schools: 59 from Oak Ridge, 56 from Hazel Point, 31 from Boulder Peak, and 90 from Echo Hill. While those are the totals for each school, not every parent answered all of the questions, so while 31 parents at Boulder Peak responded to at least one survey question, not every parent answered every question.

Parents were asked how their student arrived at school that day (Graph 15). At each of the four schools, most parents reported that their child got to school via car or bus. Oak Ridge had more parents report that their child arrived to school by car or bus than other modes. 14 parents reported their child as riding in a car to school and 42 riding the bus to school; only three Oak Ridge parents reported their child walking or cycling to school. No parents at Oak Ridge reported their student arriving to school via carpool or another transportation mode. Hazel Point parents reported that 14 students arrived to school via car, 27 via bus, 6 by cycling, and 9 by walking, with zero parents reporting their student carpooled or arrived to school via a different mode. Boulder Peak parents reported 9 students arriving to school via car and 15 arriving via bus, with one student carpooling and zero students walking or cycling. Echo Hill reported 48 parents whose child arrived to school via car or bus (21 and 27, respectively), with 37 parents reporting their student either walked or cycled to school (26 reported their student walked and 11 reported their child rode their bike). 3 students at Echo Hill arrived via carpool and one got to school via a different transportation mode.

Parents at all four schools were asked about how many days in a typical week does their child bike to school. As was the case for walking to school, most parents reported their students biked about once per week rather than two or more times per week. Oak Ridge parents reported 12 students who typically bicycle to school at least once per week, with three students biking twice per week, zero students biking three or four times per week, and 1 student riding their bicycle five times per week. Hazel Point parents reported that 15 students typically bicycle to school in a week, with 1 student biking twice and three times per week, zero students reported biking four days a week, and three students bicycling about five days per week to school. Boulder Peak had 9 parents respond to this question and all 9 reported their student biking at least once per week. Echo Hill had 32 parents who reported their student bicycling at least once per week, with 2 reporting their student bicycled twice per week, and one parent reporting their children bicycled five days a week.

Most parents at all four schools reported having students who arrived to school by car or bus (see Graph 15). At Oak Ridge, about 20 students rode in a car to school and about 31 rode the bus. Hazel Point had about 25 students ride in a car to school and about 21 students took the bus to school. Boulder Peak had about 12 parents/guardians report that their student rode in a car to school and 14 rode the bus to school. At Echo Hill, 39 parents reported their students arriving to school via car and 21 parents reported students arriving via bus. Boulder Peak was the only school where no parents reported their student getting to school a different way than by car or bus. Additionally, no parents that answered the survey from the four schools reported their students riding their bicycle to school. Parents of Echo Hill students reported the highest number of students walking to school than any other school: Echo Hill parents reported 18 students walked to school that day, whereas Hazel Point had 5 and Oak Ridge had 1.



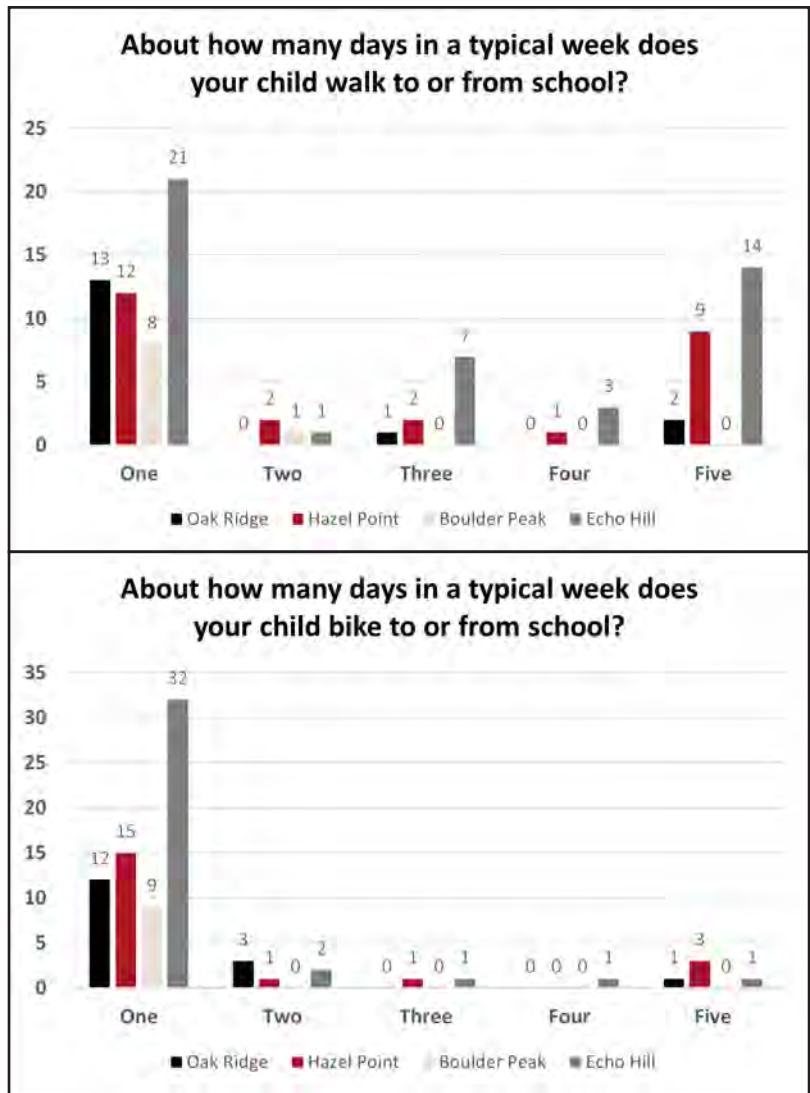
Graphs 15 and 16: Asking parents how their child got to school that morning and how their child left school that afternoon.

Parents reported similar numbers for how their students were leaving school that day (see Graph 16). Most parents at all four schools noted their students were going to leave school by car or bus. Oak Ridge parents reported 23 and 31 students would get home by car and bus, respectively. Hazel Point parents that took the survey reported 15 students left school by car and 28 left by bus. Hazel Point had 25 students arrive to school in a car that day but only 15 left in car, meaning there was a mode shift of 10 students arriving by car but leaving school via another transportation mode. Boulder Peak parents reported that 9 students left school by car and 16 left school by bus. Echo Hill parents reported that 39 students arrived by car and 20 by bus. Interestingly enough, Echo Hill had 39 students arrive to school by car and exactly 39 leave school by car. Only one student who arrived to Echo Hill by bus left school a different way (21 arrived to school by bus and only 20 left by bus). The same number of students walked from school that walked to school at Echo Hill (19 students).

When asked to generalize the way their child gets to school in an average week, most parents reported that their child walks or cycles to school one day a week (see Graphs 17 and 18). Echo Hill had the most parents reporting their students walked more than one day per week as compared to the other three

schools. Oak Ridge parents reported that 13 students walked to school one day, with no parents reporting students walking twice per week. 1 parent stated their student walks three times per week, no parent stated their student walks or rides their bicycle four days a week, but 2 parents reported their student walking 5 days per week.

Hazel Point parents reported that most of their students (12) arrived to school by walking once per week. Hazel Point did have parents who reported their students walking two days per week (2 students), three days per week (2 students), four days per week (1 student), and 5 days per week (9 students.) Boulder Peak parents that took the survey reported none of their students walked to school more than two days per week: 8 parents reported their student walks about once per week to school and one parent reported their student walks about twice a week to school. Echo Hill had the greatest number of students reporting they walked two or more days per week, however most responses from Echo Hill parents noted their student walks about once a week to school. 21 parents reported their students walk about once per week at Echo Hill. 25 Echo Hill parents reported their students walking twice or more a week: 1 reported twice per week, 7 reported three days per week, 3 reported four days per week, and 14 parents reported their student walked about 5 days per week to school.



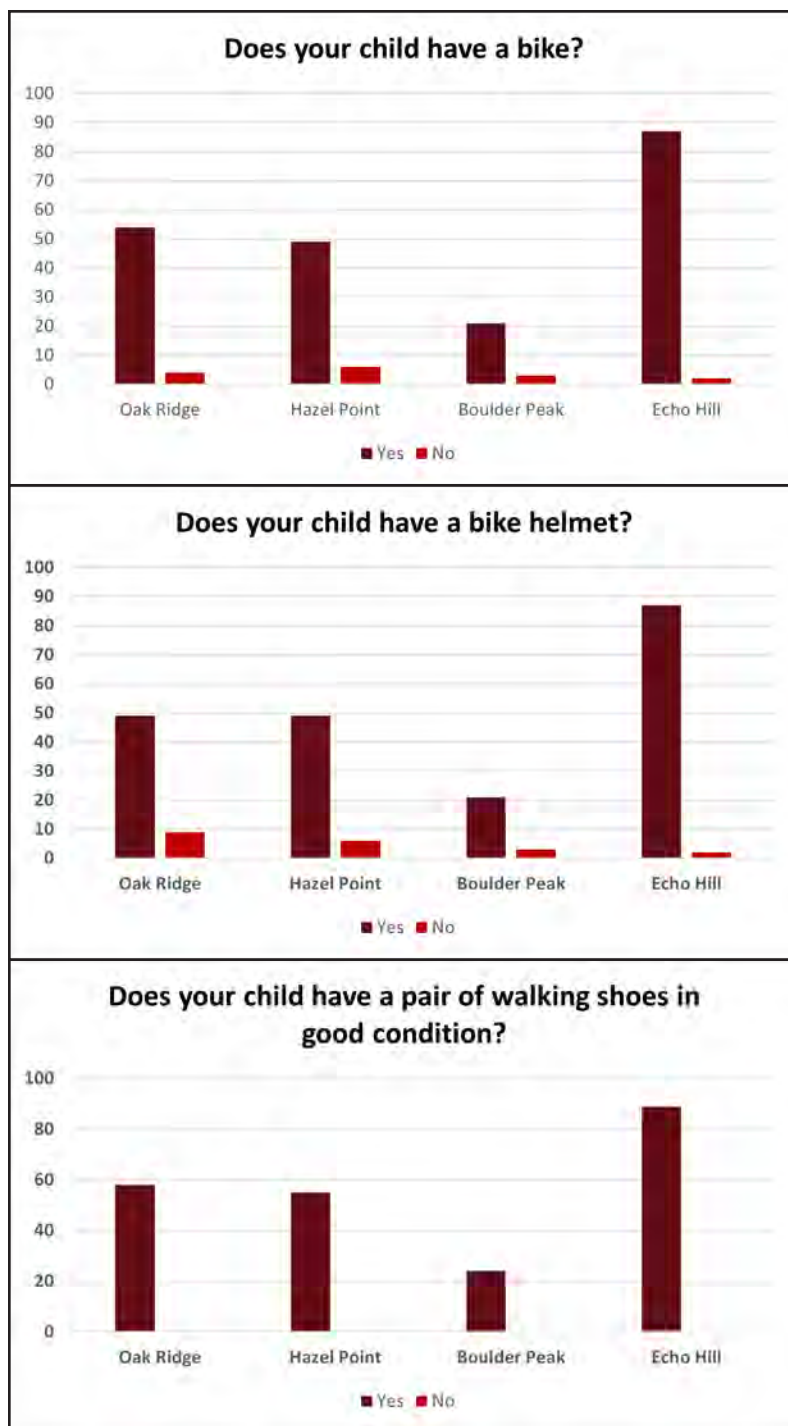
Graphs 17 and 18: Asking parents how many days in a typical week does their child walk or bike to or from school.

Parents at all four schools were asked questions about whether their child has access to a bicycle, bicycle helmet, and good walking schools, in order to gain an insight to how many students have access to these things already, required for active transportation, already. Parents at all four schools reported their child had a bicycle than not. 54 Oak Ridge parents reported their student had a bicycle, whereas 4 stated their student did not. At Hazel Point, 49 parents reported their child having a bicycle whereas 6 reported their childing not having one. Boulder Peak parents reported that 21 students have a bicycle and 3 do not. Echo Hill parents reported that 87 students had a bicycle whereas 2 did not.

Parents were also asked about whether their student had a bicycle helmet. 49 parents at Oak Ridge reported their student had a bicycle helmet whereas 9 stated their child did not. However, 54 parents at Oak Ridge reported their student having a bicycle, so that means 5 students who have bicycles do not then also have bike helmets. Hazel Point, Boulder Peak, and Echo Hill all reported the number of students who have a bicycle matched the number of students who have a bike helmet.

All parents who filled out the survey, regardless of school, noted their child had a pair of walking shoes in good condition. There were no reports from parents who took the survey that their child did not have walking shoes in good condition.

In order to gain an understanding as to how far students would have to walk or cycle, parents were asked about how far do they live from the school (Graph 22). Parents were asked whether their student lived a quarter mile, half mile, mile, or over a mile from school. Additionally, to provide context, parents were provided with walking times for those distances (quarter mile is about 5 minutes walking, half a mile about 10 minutes walking, 1 mile about 15 minutes walking). Oak Ridge parents reported that 44 students lived more than a mile from school, and three parents each reported three students living a quarter mile, half a mile, or about one mile from school. Hazel Point parents reported 6 students living about a mile away from school and 5 parents reported their child living about half a mile from school. Boulder Peak parents all noted that their children live about one mile from school. Echo Hill parents reported that 21 students lived about a half a mile from school and 10 lived within a mile. Based upon the responses from parents, 58 students at the four schools lived within a mile of school or



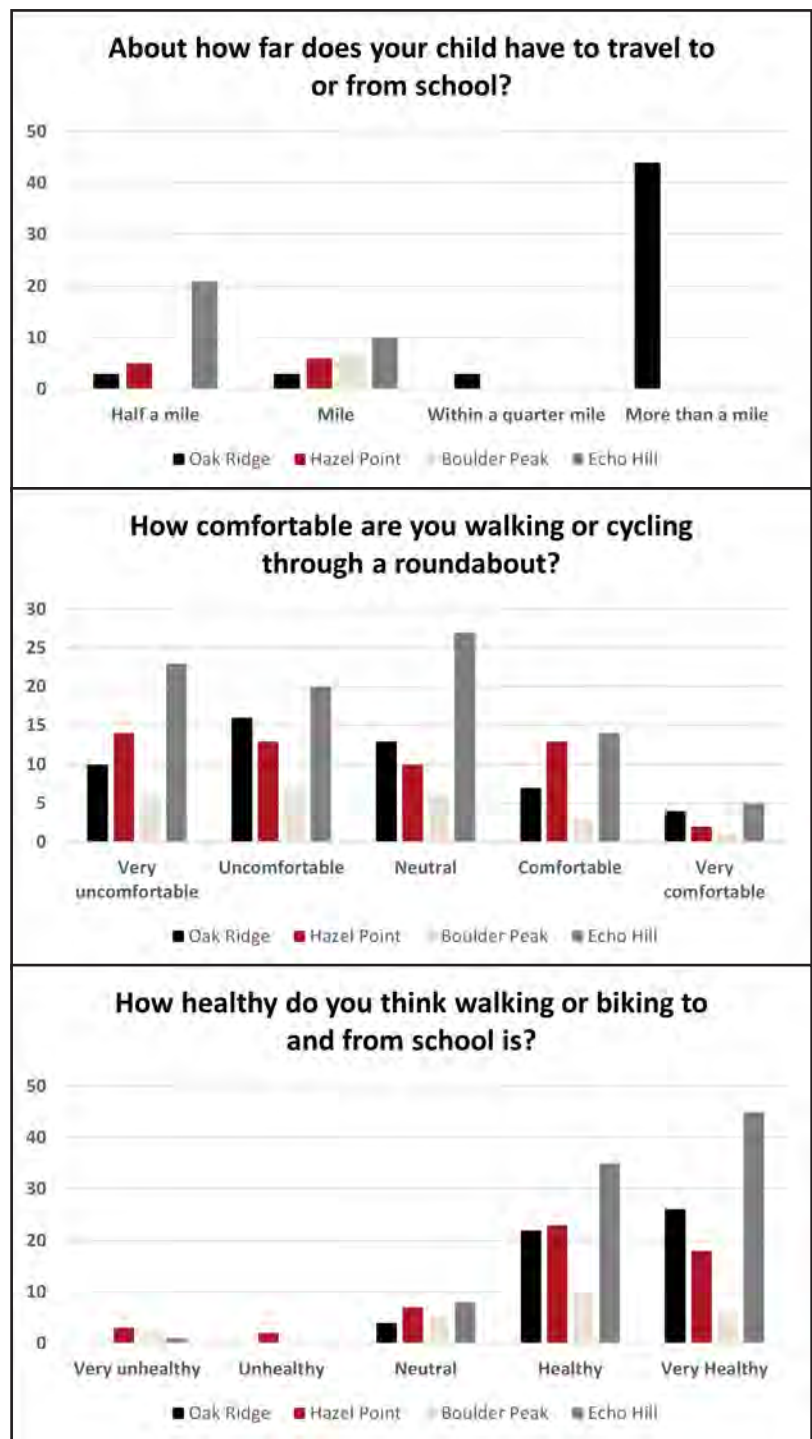
Graphs 19, 20, and 21: Asking parents whether their child had a bicycle, bike helmet, and a pair of walking shoes in good condition.

less, with no parent reporting a non-elementary student living more than a mile from school. 44 Echo Hill parents reported their student lived more than a mile from school, the only school in the parent survey which had this result.

In order to get a baseline of how people viewed active transportation and roundabouts, parents were asked whether they were comfortable walking or cycling through a roundabout. 109 of the 214 parents surveyed at the four schools answered with being “Very Uncomfortable” or “Uncomfortable”. 56 parents reported being “Neutral” walking or cycling through a roundabout.

The survey asked parents about their views on active transportation and whether it is healthy or fun. Most parents, 185, reported that walking and bicycling to and from school is “Very Healthy” or “Healthy” whereas only 8 reported it as “Very Unhealthy” or “Unhealthy” with “Neutral” receiving 24 responses.

At the four schools, parents were asked whether they believe walking or cycling to school is “fun” which was not defined and left up to their interpretation. All schools reported more parents thinking walking and cycling to school is fun than parents who felt it was not fun. 167 parents felt walking to school was fun (36 at Oak Ridge, 38 at Hazel Point, 13 at Boulder Peak, and 80 at Echo Hill) whereas 46 parents reported it as being no fun (14 at Oak Ridge, 15 at Hazel Point, 9 at Boulder Peak, and 8 at Echo Hill).



Graphs 22, 23, and 24: Asking parents how far their child travels to school, how comfortable they are as a cyclist or walker in a roundabout and how healthy they think walking or biking to and from school is.

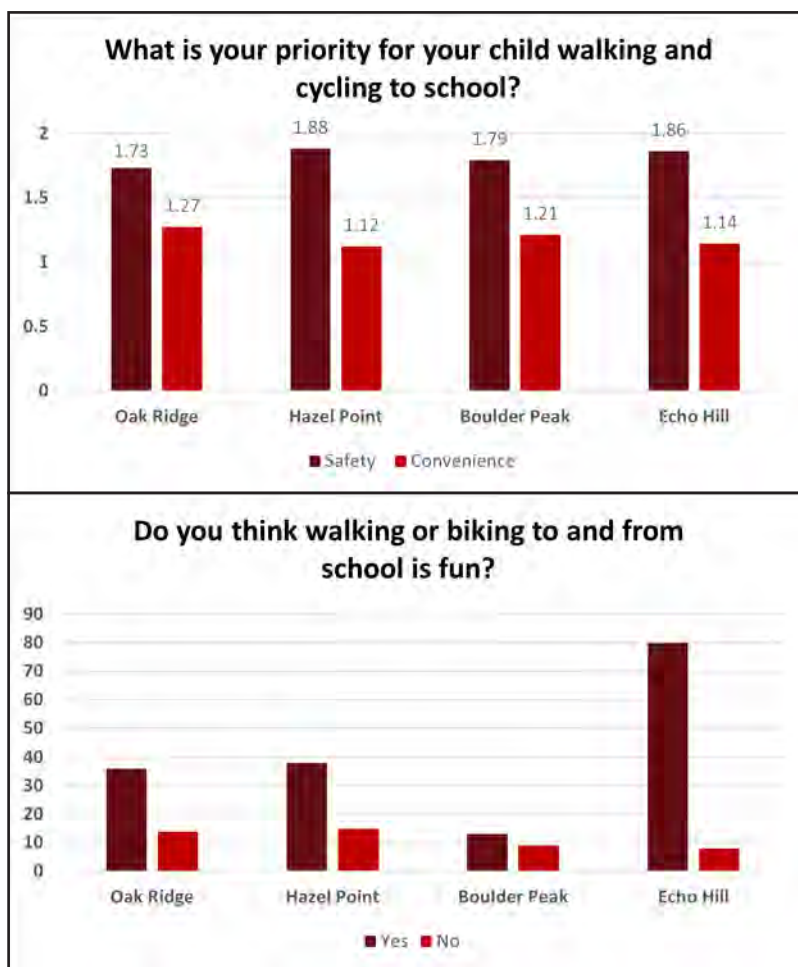
The Linn-Mar Safe Routes to School Committee wanted to gain an understanding of whether parents prioritize “safety” or “convenience” regarding their child using active transportation to get to school.

The survey asked parents to rank whether “safety” or “convenience” was more important to them. Parents at all four schools reported “safety” as a higher priority than “convenience”. Parents at Oak Ridge rated “safety” higher than “convenience” with “safety” being ranked first by 73% of respondents. 88% of parents at Hazel Point and 84% of parents at Boulder Peak ranked “safety” over “convenience”.

The final questions posed to parents asked what affects their decision to allow or not allow their child to walk to school (see Graph 27) Parents were prompted to select from responses about whether they allow their child to walk or bike to school: my child already regularly walks/cycles to school, distance, convenience of driving, speed of traffic along route, amount of traffic along route, adults to walk or bike with to school, lack of sidewalks and pathways, safety of intersections and crossings, lack of safety guards, fear of violence or crime, weather or climate, friends or siblings to walk/cycle with to school, or an open-ended “other”.

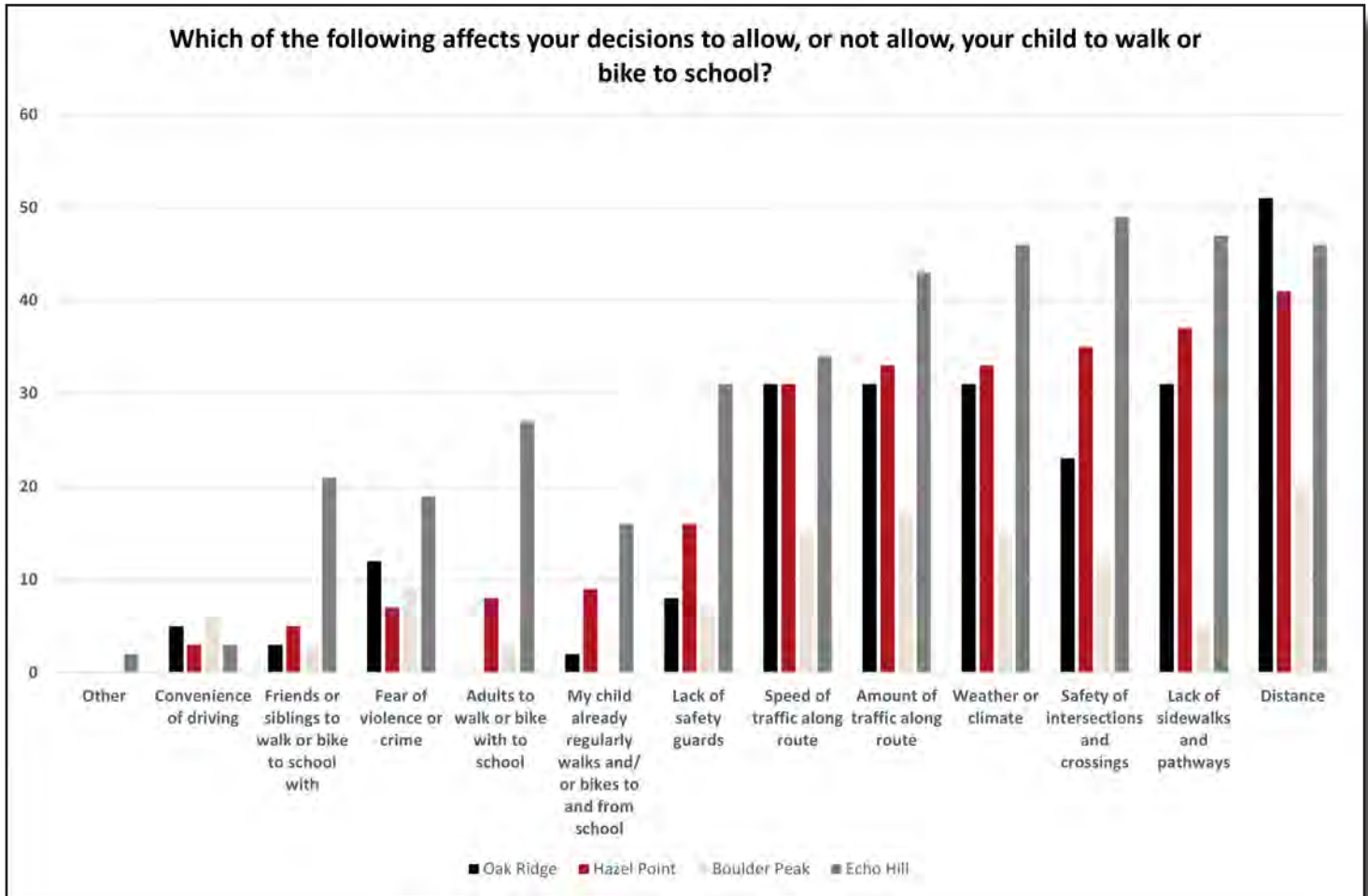
The most common answer from parents at Oak Ridge noted distance as the main thing affecting their decision to allow their child to walk or cycle to school. 51 cited distance affecting their decision, with 31 parents citing weather or climate, lack of sidewalks, amount of traffic along route, and speed of traffic along route on their decision to allow students to walk or cycle to school. 2 parents at Oak Ridge noted that their student already regularly walks/cycles to school. Based upon this survey question, parents at Oak Ridge had more concerns regarding the built environment than other factors.

Parents at Hazel Point also cited distance as the most frequent thing that affects their decision to allow their child to walk or cycle to school, with 41 submitting that response. Like Oak Ridge, parents had concerns regarding the lack of sidewalks (37), safety of intersections and crossings (35), weather/climate (33), amount of traffic along route (33), and the speed of traffic along route (31). 9 parents at Hazel Point reported their student already regularly walks or cycles to school.



Graphs 25 and 26: Asking parents whether safety or convenience is a higher priority for their child walking or cycling to school, and asking parents whether they think walking or cycling to school is fun.

Parents were also provided the opportunity to provide open-ended comments about their concerns with their child walking or cycling to school. The responses for the open-ended questions in the parent survey can be viewed Appendix 2.



Graph 27: Asking parents what affects their decision when allowing or not allowing their child to walk or bike to or from school.

Areas of Improvement



Areas of Improvement

This section of the plan is where each barrier to active transportation is identified, called Areas of Improvement (AOIs), and proposes a solution to overcome those identified challenges. The solution included with each AOI is this plan's way of attempting to overcome any barriers to active transportation through the 6'Es framework. The problem is identified and described, and a solution to the problem is presented. The solutions are the part of the plan that can be implemented. Each solution is assigned a responsible party, the person(s) identified to carry out that solution in the plan. The solutions in the plan are also given a timeline, which is an approximate estimate of how long it will take to complete each solution.

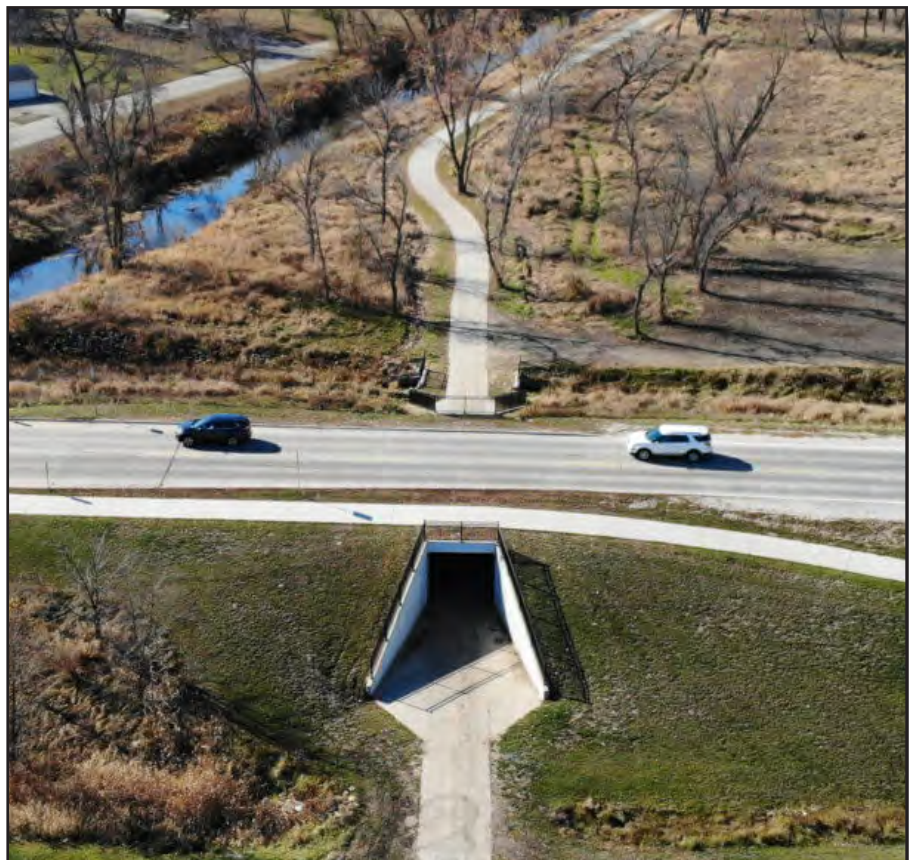
This section first provides a table with a summary of all of the AOIs, solutions, responsible party(ies), and timelines in the plan. The second part of this section elaborates on each AOI/solution, providing more information regarding the problem identified, solution proposed, responsible party assigned, and timeline provided.

It should be noted that some problems have more than one solution, but each solution tackles a different aspect of the identified barrier. As an example, speed identified a problem and is addressed in several solutions and in several different "E's". The Engineering AOI called Speed Reduction suggests planting trees along the roadway to increase side friction to decrease speeds as a solution, whereas an Education AOI called Crash Severity and Speed suggests providing the Linn-Mar community with information about why speeding is so dangerous to help reduce speeding in the area. Both of these solutions address speeding, but in different ways.

A 2.2 mile long section of the Indian Creek Trail was completed in 2022. The trail connects Boyson Trail in Donnelly Park to Tower Terrace, passes by Linn-Mar High School and Indian Creek Elementary.

Shown in the image is the box culvert used to create a safe, grade-separated passageway under 29th Avenue.

Source: Snyder & Associates



ENGINEERING			
Area of Improvement	Solution	Timeline	Responsible Party
Road connectivity: Echo Hill does not connect to 10th Street	Extend Echo Hill Road to 10th Street with multimodal accommodations	Dependent on LM District growth	Linn-Mar
Traffic Calming: Alburnett Road was designed and built for speeds higher than 35 mph	Implementation of traffic calming techniques in school zones with 25 mph speed limits	Over 10 years	City of Marion Linn County
Student Drop-off/Pick-up Congestion: Traffic from pick-up/drop-off at Boulder Peak backs up to 35th Avenue	Ensure future development provides proper vehicle dispersion and drop zones by looping traffic through parking lot	10 years	City of Marion Linn-Mar
Speed Reduction: Speeding along 35th Avenue	Plant trees within the Right-of-Way to reduce speeds on 35th Avenue	Five to 10 years	City of Marion Linn-Mar
Sidewalk connectivity: Sidewalk gaps are found in walking, biking, and rolling routes to school	Fill in sidewalk gaps	Over 10 years	City of Marion Linn County
Crossing 29th Avenue: More students will have to cross 29th Avenue with expanded non-bused areas	Implement a countermeasure to improve pedestrian safety at crossings using one of the seven FHWA’s “Spectacular Seven” countermeasures	One to five years	City of Marion Linn-Mar

Table 2: All AOIs and Solutions included in LM SRTS Plan.



A section of the 10 foot wide, concrete Indian Creek Trail passes by Linn-Mar High School. The high school is visible through the trees in the top right of the image. This image is looking south/southwest with the high school to the west and Indian Creek (not shown) is to the east.

Source: Linn-Mar Website

EVALUATION			
Area of Improvement	Solution	Timeline	Responsible Party
Speeding: Speeding along Alburnett Road	Collect speeding data to understand current and future trends on motorized vehicle speeding throughout this corridor	One year	City of Marion
Access to schools: New developments in the area provide better access to schools	Review and update the walking route annually	One year	City of Marion Corridor MPO
Siting schools: Current siting of Linn-Mar Schools can result in congestion and long distance from residences	Implement a siting procedure that promotes active transportation to the new school as well as reduce congestion	Dependent on LM District Growth	Linn-Mar City of Marion Corridor MPO
Incentivizing progress: Plan adoption needs incentives for all students to participate	Update and review incentives annually at the annual SRTS Committee meeting	Two years	Linn-Mar
Monitoring Progress: Ensuring the plan is meeting and working towards its goals	Hold an annual evaluation meeting with SRTS committee	One year, annually	Corridor MPO
Data collection to assist in decision making: Lack of data for SRTS programming at all four schools	Annually gather data to understand current and future trends concerning SRTS	One year, annually	Corridor MPO City of Marion
Impact of LM SRTS Plan and local policies on children's active travel to school: Unsure how to measure the impact the Linn-Mar SRTS Plan and local, City of Marion policies on children's active travel to school	Use an agent-based model to stimulate children's active transportation to school	One to two years	Corridor MPO
EDUCATION			
Area of Improvement	Solution	Timeline	Responsible Party
Comfortability with roundabouts: Adults and children unsure and unfamiliar with how to move through a roundabout	Provide educational materials on how to maneuver through a roundabout as a pedestrian, cyclist, and driver	One year	Linn-Mar
How to Use Active Transportation: Students are unsure of how to use active transportation effectively and safely for travel to and from school	Provide curriculum for Physical Education class that teaches students about how to use and the benefits of active transportation	Two years	Linn-Mar
Best Routes to Walk to School: Unsure of best route to take to get to school safely and quickly	Provide parents with maps and information on walking routes to and from school	One year	Linn-Mar

EDUCATION

Area of Improvement	Solution	Timeline	Responsible Party
Unhealthy Air: Parents idling their vehicles while waiting to pick up or drop off their student, emitting hazardous emissions from their vehicle, which affects susceptible children's health	Provide consistent messaging that idling vehicles leads to unhealthy, toxic air which affects developing and growing young people	One year	Linn-Mar
Promoting Bicycle Helmet Usage to Students: Students do not wear helmets to ride their bicycle	Educate students on why they need to wear a helmet when riding their bicycle	One year	Linn-Mar
Dealing with Unsafe People: Students utilizing active transportation may encounter tricky situations or unsafe persons	Provide education on how students can reasonably deal with "unsafe people"	Two years	Linn-Mar
Crash Severity and Speed: Transportation culture in the United States prioritizes vehicle movement so streets are designed in a way that intuitively makes drivers feel like they can speed	Educate the community on the dangers of speeding and its effect on crash severity	One year	Linn-Mar Corridor MPO

EQUITY

Area of Improvement	Solution	Timeline	Responsible Party
Lack of Shade for Active Transportation Users: Current walking routes have limited shade	Identify locations in the right-of-way where trees can be planted	Two years	City of Marion
Students Lacking Items Needed to Use Active Transportation: Students at the four schools may not have the equipment or items needed in order to utilize active transportation to and from school	Determine whether students have necessary items to utilize active transportation to and from school	One year	Linn-Mar
Active Transportation Infrastructure is a Barrier to Students of all Abilities: Areas around the schools do not have the necessary infrastructure to allow everyone to participate in active transportation	Set up a walk audit to determine whether equity-related infrastructure improvements are needed	One year	City of Marion

ENCOURAGEMENT			
Area of Improvement	Solution	Timeline	Responsible Party
Students Unsure How to Navigate Intersections: Students unsure of how to walk, roll, or ride through intersections, including roundabouts	Demonstrate how to walk, roll, and ride through intersections and roundabouts at the Healthy Kids Day/ City Showcase	One year	City of Marion
Students Not Utilizing Active Transportation: Students are not using active transportation because there are no incentives	Provide students with Positive Behavior tickets when they use active transportation for school travel	Two years	Linn-Mar
Long Pick-up and Drop-off Lines: School traffic leads to long, time-consuming lines	Create and determine drop zones for each school	One year	Linn-Mar Corridor MPO
Fewer Students Bused Leading to Increased Drop-Offs: Increased drop-offs due to decreased area of free busing	Encourage parents to drop students off at alternative drop-off zones	One year	Linn-Mar
Storing Active Transportation Items at School: Students do not have a place to safely store the things they need to walk, bike, or roll to school	Ensure suitable spaces are provided to store students' active transportation items	One year	Linn-Mar
Safe Routes to School Champion: There are few champions modeling active transportation for young, impressionable students	Find a SRTS Champion at each school	Two years	Linn-Mar
Idling Cars and Unhealthy Air: School traffic lines release invisible harmful gases that students pass to get into school	Provide reminders via signage that idling cars should be turned off to prevent unhealthy air	Three years	Linn-Mar
Unfamiliarity with Roundabouts and difficult intersections: Parents and students do not understand how roundabouts work so they avoid them	Station crossing guards at roundabouts and difficult intersections near Linn-Mar schools	Present, continued	Linn-Mar
Pace of Pick Up and Drop Off: Parents wait to drop off or pick up their student right in front of the door	Staff work school traffic lines, encouraging parents to drop or pick up their student close but not directly in front of the entrance	One year	Linn-Mar
Adults Uncomfortable with Students Using Active Transportation: Some students may want to use active transportation but do not because their parent is uncomfortable	Have walking and/or biking school buses for each of the schools	One to two years	Linn-Mar

ENGAGEMENT

Area of Improvement	Solution	Timeline	Responsible Party
Unaware of Active Transportation and its Benefits: Lack of understanding about active transportation and its many benefits	Promote active transportation to parents and guardians by tabling at community events	One year	Linn-Mar
Parent Safe Routes to School Champion: Parents do not have a stake in SRTS at Linn-Mar	Have SRTS Parent Champion at each school	One year	Linn-Mar parents and guardians
Vehicle idling and Dropping Off at Front Door: With so many vehicles idling at one time, it creates a situation where children must walk through unhealthy air	Have an alternative drop-off location close to the school	One year	Linn-Mar
Volunteers to Lead Walking School Buses: Parents apprehensive about allowing their student to walk or bike for school transportation	Trusted adult leading a walking school bus	One year	Linn-Mar
Getting Students to School Safely with Active Transportation: Parents unsure about the safety of using active transportation for travel	Inform parents how students can safely utilize active transportation	One year	Linn-Mar
Best Route to Walk/Roll/Bike to and from School: Students and parents are unsure of the best, most direct, and safest route to walk or cycle to school	Provide an opportunity for parents and guardians to comment on the proposed walking routes	One year	Linn-Mar
Community Awareness of Construction in Area: Residents get information about their community in several ways and may be unaware of certain projects happening near or within the school boundary	Provide information to the Linn-Mar community about construction projects	Two years	City of Marion Linn-Mar

Engineering

Road Connectivity

Area of Improvement: Echo Hill Road does not connect to 10th Street

The map in Image 23 shows Echo Hill Road currently runs from North Mentzer Road to Hazel Point School. Due to the road ending at Hazel Point and not 10th Street, traffic can only enter and exit the Echo Hill and Hazel Point schools on one roadway. Limited access to the schools creates several vehicular and pedestrian traffic issues. During pick-up and drop-off times, it has been observed that the vehicular traffic almost backs up to the Alburnett Road and Echo Hill Road roundabout. Not only would this prevent the intersection from working properly, but it would also block the pedestrian crosswalk at the Alburnett Road roundabout.

Solution: Extend Echo Hill Road to 10th Street with multimodal accommodations

By extending Echo Hill Road to 10th Street, vehicular traffic can approach Echo Hill and Hazel Point schools from the east and west (see Image 23). In doing so, traffic volumes will be dispersed because vehicles can access the schools in multiple ways. Multiple access points to the schools will prevent traffic from backing up into the Echo Hill Road roundabout. Another benefit of allowing



Image 23: The alignment of Echo Hill Road once it is constructed to 10th Street.

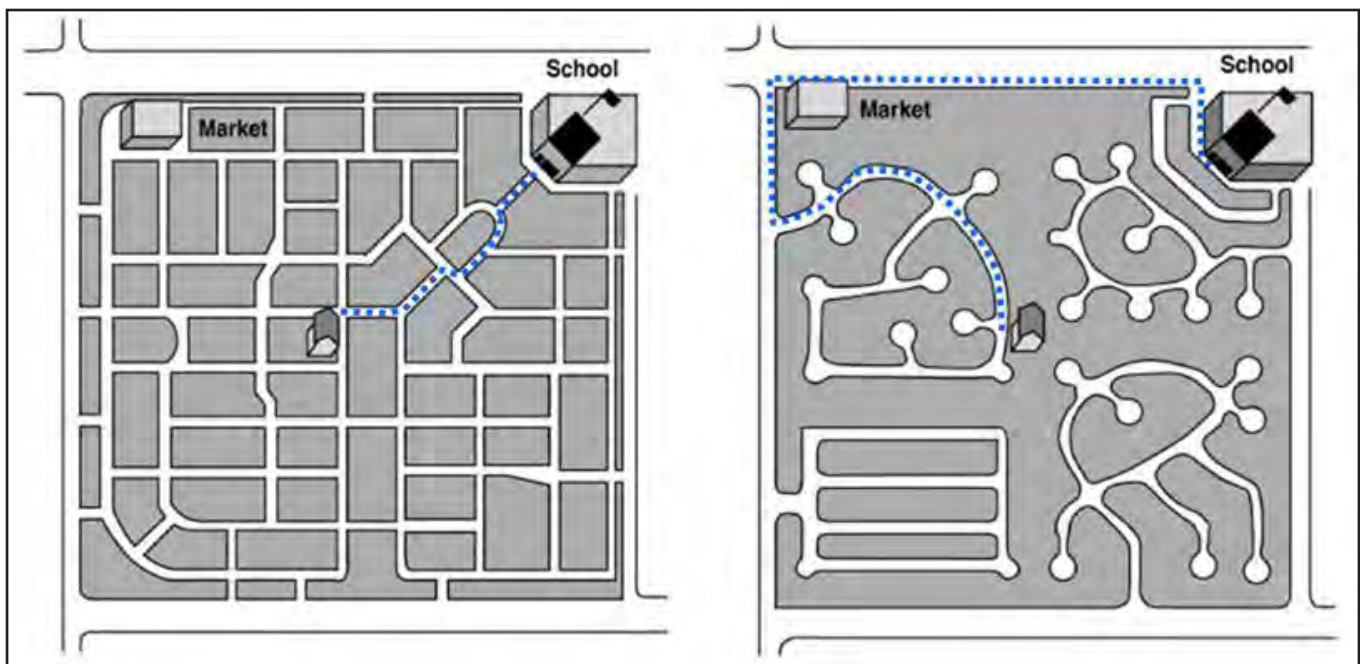
traffic to flow in multiple directions to Echo Hill and Hazel Point will be increased pedestrian safety due to lower vehicular crossings at crosswalks. Future extensions of Echo Hill Road may cause increased traffic. These roadway extensions should include traffic calming techniques to ensure traffic speeds do not increase. Another aspect that needs to be taken into consideration is the increased motorized traffic. To address this increase in traffic, bicycle and pedestrian infrastructure should be improved to increase student safety.

Objective Timeline: Dependent on Linn-Mar School District growth

Currently, the Linn-Mar Community School District owns the land where Echo Hill Road will be extended to 10th Street. This roadway segment will not be constructed until the school district develops this land. Because this will not be done for several years, future collaboration between the Linn-Mar Community School District and the City of Marion is needed to develop and construct Echo Hill Road with a Complete Street design in mind. The USDOT describes complete streets as being “designed and operated to enable safe use and support mobility for all users. Those include people of all ages and abilities, regardless of whether they are traveling as drivers, pedestrians, bicyclists, or public transportation riders.”

Responsible Party: Linn-Mar

Linn-Mar is currently responsible for constructing Echo Hill Road when development occurs on the land between Hazel Point and 10th Street. The City of Marion will work with Linn-Mar in designing the road for all modes and abilities.



Students would travel a shorter distance with a connected roadway network. The blue, dashed line represents the travel path a vehicle or pedestrian would have to take from home to school under the two different configurations. The path shown on the right is two and a half times the length of the path on the left, and requires travel on the major streets.

Source: Kentucky Transportation Cabinet

Traffic Calming

Area of Improvement: Alburnett Road was designed and built for speeds higher than 35 mph

As Marion has continued to grow over the past few decades, roadways originally built for traffic at higher speeds were in areas with little development. Now, these areas have more homes, and the roads are still built to accommodate higher speeds. These roadways are in an environment where drivers unknowingly speed at the speed initially designed for the roadway, not the currently posted speed limits. Alburnett Road was initially built for a 55 mph speed limit, and the current speed limit is 35 mph and 25 mph when children are present. Parents and community members have observed frequent speeding along this corridor, creating a barrier to parents feeling comfortable letting their children walk to school. Alburnett Road has not been upgraded to an urban cross section for more pedestrian accommodations.

Solution: Implementation of traffic calming techniques in school zones with 25 mph speed limits

To address speeding within this area of Alburnett Road, the FHWA's STEP program should be utilized to determine what infrastructure should be implemented to improve pedestrian safety at the Alburnett Road and Oak Park Circle crosswalk. Table 3 illustrates (in red) what countermeasures should be considered at this location based on Alburnett Road's configuration, speed, and average annual daily traffic. The countermeasures identified through the FHWA's STEP program includes high-visibility crosswalk markings, curb extensions, pedestrian island, and a Rectangular Rapid Flashing Beacon (RRFB) or Pedestrian Hybrid Beacon. Examples of these countermeasures are available in Appendix 1.

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000-15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	① 2 4 5 6	① 5 6 7 9	① 5 6 ②	① 4 5 6	① 5 6 7 9	① 5 6 ②	① 4 5 6 7 9	① 5 6 7 9	① 5 6 ②
3 lanes with raised median (1 lane in each direction)	① 2 3 4 5	① 5 7 9	① 5 ②	① 4 5 7 9	① 5 ②	① 5 ②	① 4 5 7 9	① 5 ②	① 5 ②
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	① 2 3 4 5 6 7 9	① 5 6	① 5 ②	① 4 5 6 7 9	① 5 ②	① 5 ②	① 4 5 6 7 9	① 5 ②	① 5 6 ②
4+ lanes with raised median (2 or more lanes in each direction)	① 5 7 8 9	① 5 7 8 9	① 5 ②	① 5 7 8 9	① 5 7 8 9	① 5 ②	① 5 7 8 9	① 5 7 8 9	① 5 ②
4+ lanes w/o raised median (2 or more lanes in each direction)	① 5 7 8 9	① 5 6 7 8 9	① 5 6 ②	① 5 6 7 8 9	① 5 6 7 8 9	① 5 6 ②	① 5 6 7 8 9	① 5 6 7 8 9	① 5 6 ②

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Rectangular Rapid-Flashing Beacon (RRFB)**
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon (PHB)**

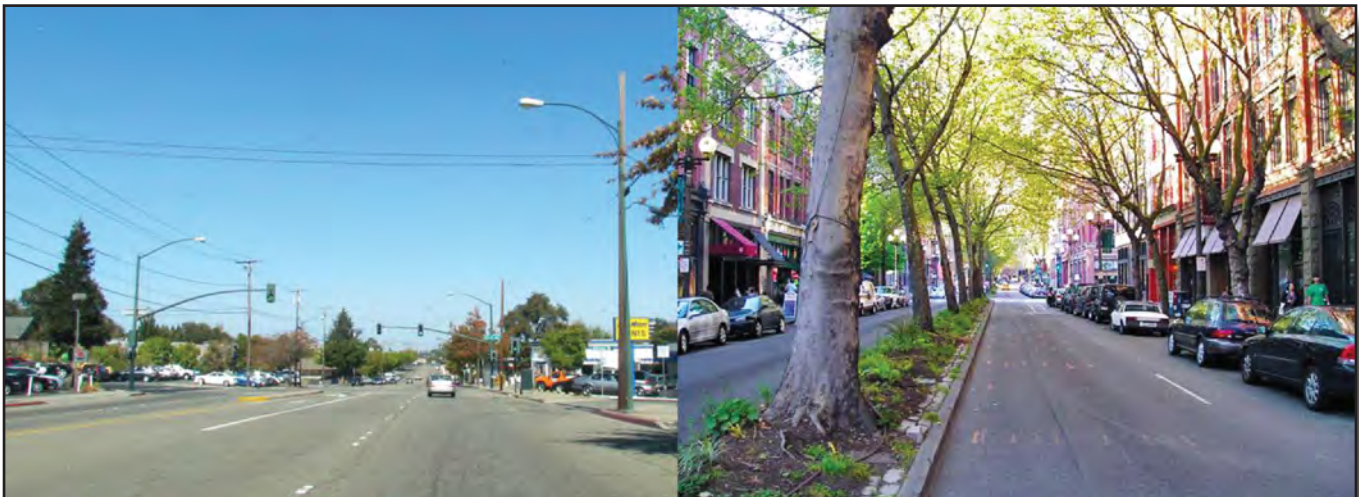
Table 3: Proposed traffic calming techniques within the Alburnett Road Corridor
Source: Federal Highway Administration

Objective Timeline: Over ten years

The STEP countermeasures outlined in the solutions section include construction and purchasing of signage. Due to the increased costs and planning required for these items, these techniques could be installed in 10+ years of the adoption of this plan. This timeline allows each jurisdiction to include these traffic calming techniques within their respective budgets and implement them with construction projects already occurring in this area. In the time between determining the appropriate traffic calming treatment and construction of it, the City of Marion could utilize their automatic traffic enforcement to deter speeding.

Responsible Party: City of Marion and Linn County

Due to Alburnett Road being within the jurisdictions of the City of Marion and Linn County, it will be crucial for collaboration to occur to ensure that the traffic calming techniques transition smoothly and are uniform. These two parties will be responsible for implementing the FHWA's STEP countermeasures within this corridor.



Passive versus proactive design approach. A passive design approach (left) assumes, and strives to account for, the worst case scenario, both in terms of user behavior and traffic congestion. This can lead to unintended consequences, like drivers speeding due to the road's design, leading to even more drivers speeding. Passive design approach is a powerful tool for addressing existing safety problems. A proactive approach (right) to road safety is associated with the prevention of safety problems before they show up. A proactive approach uses design to affect desired outcomes, guiding user behavior through physical and environmental cues.

Source: FHWA and NACTO

Student Drop-off/Pick-up Congestion

Area of Improvement: Traffic from pick-up/drop-off at Boulder Peak backs up to 35th Avenue

The Boulder Peak school is located within an area that has not been fully developed. Due to the lack of development surrounding the school, 35th Avenue is currently the only road providing access to the school grounds. Because there is only one road to access the school, traffic goes back onto 35th Avenue during student pick-up and drop-off times.

Solution: Ensure future development provides proper vehicle dispersion and drop zones by looping traffic through parking lot

The Boulder Peak School is located within an area identified as a planned unit development (PUD). This PUD has an accompanying plan titled "The Neighborhood at Indian Creek." This plan lays out the proposed future design of the streets and buildings within that PUD. This can be seen in Image 22. Ensuring the installation of neighborhood streets surrounding Boulder Peak will promote vehicle dispersion via informal drop off zones. It will also allow students to walk, bike, and roll to school on roadways with less vehicle traffic. One way that the Linn Mar School District is addressing cars backing up into the roadway is by having vehicles loop through the parking lot. This consolidates traffic onto the school districts property and does not impede neighborhood traffic.

Objective Timeline: 10 years

Due to the Neighborhood at Indian Creek PUD depending on private development and sanitary sewer capacity, this initiative has a 10-year horizon. This amount of time would be adequate to see if and when this development would begin around the Boulder Peak School.

Responsible Party: City of Marion and Linn-Mar

As the land around Boulder Peak School is developed, it will be more important than ever that the City of Marion, Linn-Mar Community School District, and the private developer work together. This relationship will allow the Linn-Mar Community School District to provide input about how the surrounding built environment is built to get their students to school safely. The City of Marion would receive this information and work with the developer to implement the school district's suggestions.

Pick-up and drop-off lines at schools can be a headache. Looping traffic through the parking lot would prevent vehicles from having to back up onto the street.

Source: YouTube



Speed Reduction

Area of Improvement: Speeding along 35th Avenue

35th Avenue is currently a roadway with buildings far away from the road and nothing along the road that makes a driver feel like there is no need to slow down. Due to this, drivers unknowingly speed due to not feeling like they are within a roadway that the speed limits are 35 to 25 MPH zones.

Solution: Plant trees within the Right-of-Way to reduce speeds on 35th Avenue

Planting trees along 35th Avenue will create side friction for motorists, even in advance of development. Side friction felt by the street trees will encourage drivers to slow down through this zone. With vehicles going slower, students crossing the street to get to Boulder Peak will be safer than before. Another benefit to implementing street trees along 35th Avenue is to shade students walking and rolling on the sidewalk. In doing so, students will be in a cooler area rather than exposed to the sun. The benefits of street trees for pedestrians have been mentioned in another area of improvement and underlines the importance of implementing street trees on 35th Avenue. See Image 24 to understand how trees help slow down traffic. Another option to see whether this is a real or perceived issue, speed data could be gathered to see when and if drivers are speeding on the roadway.

Objective Timeline: Five to ten years

A timeline of five to ten years should be enough time to get trees planted along 35th Avenue. Funding opportunities will need to be identified, and five to ten years should be enough time to plan for trees along 35th Avenue.

Responsible Party: City of Marion and Linn-Mar

The City of Marion is responsible for the right-of-way on their city streets, so installing and maintaining trees along 35th Avenue would be their responsibility. Over the past several years, the City of Marion has been working on implementing trees within rights-of-way throughout town. The Parks and Recreation Department has coordinated this task with the City Arborist as the lead. The City of Marion's Community Development and Engineering staff will

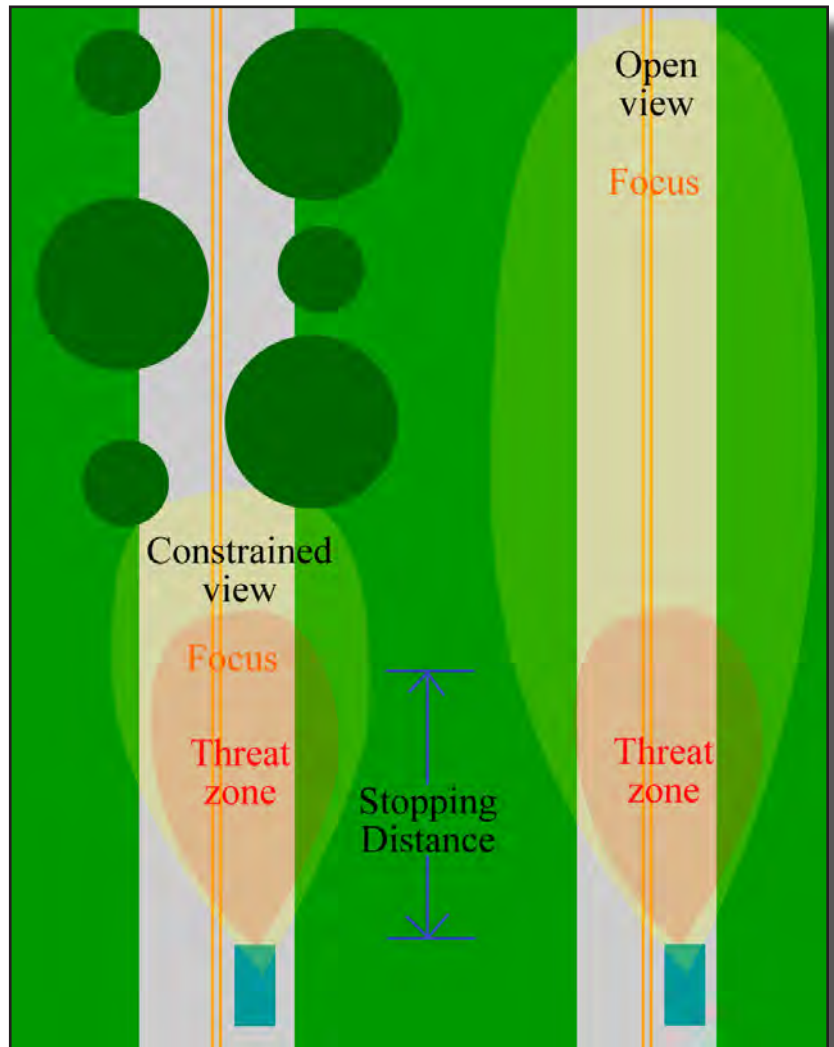


Image 24: Trees can help with speeding by constraining a driver's view, keeping their focus on the roadway in front of them.

Source: Penfield NY Calm Roads Blog

work with the City Arborist to ensure that 35th Avenue becomes a priority. Marion residents also have the ability to plan trees along the roadway. At their expense and after obtaining the proper permit, an owner can plant a tree along a roadway and then the city becomes responsible for maintenance. The city asks the resident who planted the trees to assist with watering the trees in the first couple years.

Sidewalk Connectivity

Area of Improvement: Sidewalk gaps are found in walking, biking, and rolling routes to school

Several sidewalk gaps within the Linn-Mar Community School District cause safety concerns for parents and students when using active transportation to get to school. Multiple sidewalk gaps within each school's walking shed significantly impact student safety. These gaps include a sidewalk along Alburnett Road from Echo Hill Road to West Williams Drive, Indian Creek Road from 29th Avenue to Tower Terrace Road, and the south side of Echo Hill Road from Alburnett Road to Hazel Point school.

Solution: Fill in sidewalk gaps

A complete sidewalk network should be constructed within each of the Linn-Mar Schools' walking shed. In doing so, Linn-Mar students will have safe access to their schools. There are currently alternative routes to access these schools, but may be less direct which would disincentivize a student to walk or bike. The three sidewalk gaps cannot likely be constructed simultaneously, so they must be prioritized to be implemented by the City of Marion and Linn County. Images 26 and 27 show the sidewalk gaps along Echo Hill Road, Alburnett Road, and Indian Creek Road.

There are currently ways for students to reach Echo Hill, Hazel Point, and Oak Ridge via the trails through Lowe Park. However, students on the west side of Alburnett Road do not have that connection. Students living east of Alburnett Road can safely utilize the off-street trails through the park, but sidewalks should eventually be installed, as walking on the sidewalks would likely be a more direct connection to the school sites.

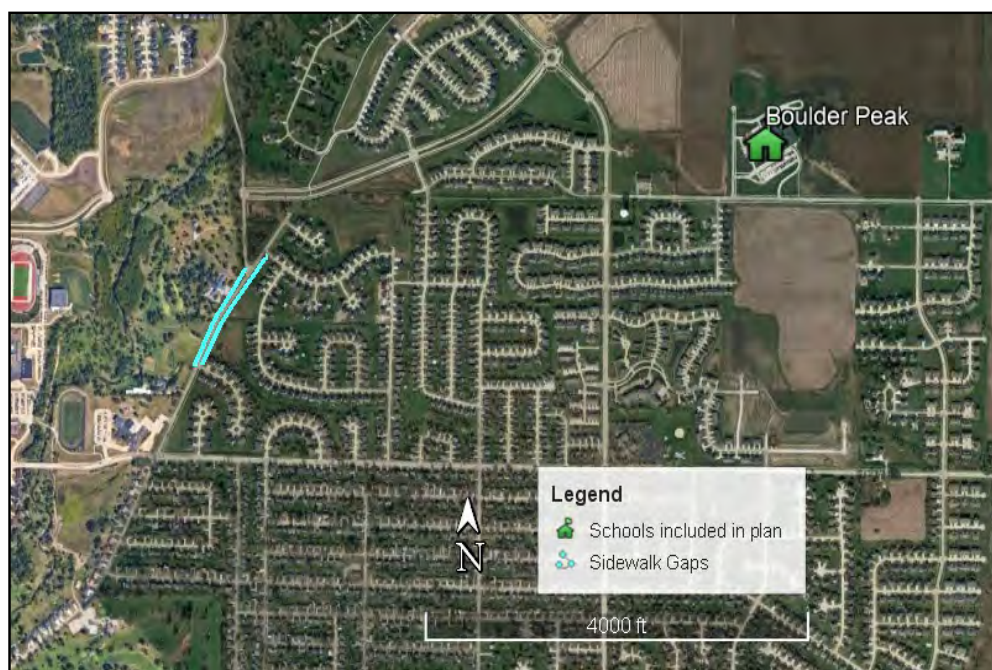


Image 25: Sidewalk gaps on the east and west sides of Indian Creek Road near Boulder Peak School.

Source: Google Earth

Objective Timeline: Over ten years

Community engagement, project development, and securing funds for construction are all required to fill the three sidewalk gaps. Each of these items could take several years, and the timeline to complete this solution was identified to be a long term project, and may take over 10 years.

Responsible Party: City of Marion and Linn County

The City of Marion and Linn County will work with the Linn-Mar Community School District to look at the sidewalk gaps within their walking shed boundaries for the schools within this plan. Through these discussions, the school district and the City will first prioritize which sidewalks to implement. The City of Marion will be responsible for ensuring the construction of these sidewalk segments.



Image 26: Sidewalk gaps along Alburnett Road and Echo Hill Road nearby the three schools on the district's west side.

Source: Google Earth

Crossing 29th Avenue

Area of Improvement: More students have to cross 29th Avenue with expanded non-bused areas

In 2023, the district had to enact budget cuts and reducing bus service to students was identified as a budget saving measures to reduce costs. This means students that live within two miles of an elementary, intermediate, or middle school are unable receive free busing to/from school. Reducing bus service could result in more parents and guardians driving their students to school, particularly since Boulder Peak students will have to cross 29th Avenue to get to school. 29th Avenue is a busy road and does not have frequent intersections with adequate crossings.

Solution: Implement a countermeasure to improve pedestrian safety at crossings using one of the seven FHWA's "Spectacular Seven" countermeasures

Introduced in 2017 by the FHWA, the Safe Transportation for Every Pedestrian (STEP) program has a goal of reducing pedestrian fatalities at roadway crossings. The STEP program promotes seven "spectacular" countermeasures to improve safety: crosswalk visibility enhancements; raised crosswalks; pedestrian refuge islands; rectangular rapid flashing beacons; pedestrian hybrid beacons; road diets; and leading pedestrian intervals. STEP has documented more than 30 case studies that highlight the safety benefits of each of the countermeasures. These seven countermeasures, and tables outlining their safety improvements, is available in Appendix 1.

Objective Timeline: Over 10 years

The timeline for this solution depends on which of the seven pedestrian safety countermeasures will be used to get students crossing 29th Avenue safely. The timeline is set as a long-term project with it taking over 10 years to be implemented. This timeline reflects differences in cost and scope to construct the 7 different countermeasures. A funding source that could expedite the implementation of this infrastructure is the Iowa Department of Transportation's Transportation Alternatives Set-Aside (TASA) funding. This annual funding source allocates \$1 million to safe routes to school projects throughout the state.

Responsible Party: City of Marion and Linn-Mar

The City of Marion will ultimately be the responsible party, as they own and maintain the right-of-way along 29th Avenue. They will ultimately have to approve the type of crossing installed on the roadway. The Corridor MPO is available to assist Marion City staff with determining the best pedestrian safety countermeasure for students crossing along the 29th Avenue corridor. The City can also work with the District to install crossing guards to assist students crossing the roadway.

Evaluation

Speeding

Area of Improvement: Speeding along Alburnett Road

Many survey results from parents and students discuss speeding or fast-moving vehicles along Alburnett Road. There being no speed cameras and no speed studies having been done in this area, these survey comments cannot be addressed appropriately. Data should be gathered to see whether this is a continuous issue. Reviewing the data can help figure out a possible reason why people are speeding, and ultimately assist in decisions related to this roadway.

Solution: Collect speed data to understand current and future trends on motorized vehicle speeding throughout this corridor

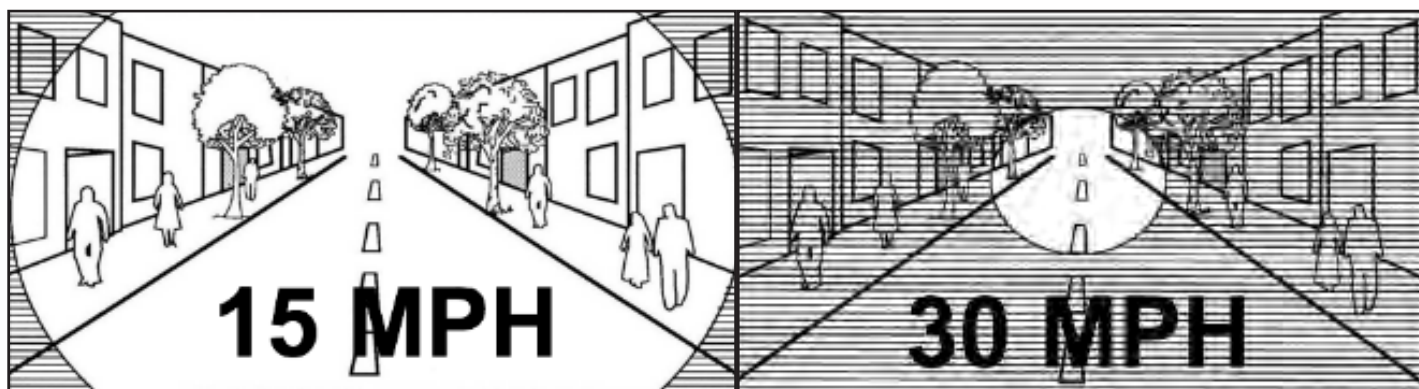
Collecting speed data will need to be conducted to understand the current speeding occurring on Alburnett Road. This speed data will not be used for a speed study. The speed data collected will be utilized to understand current speeding amounts and frequency. The regular collection of speed data will also be able to show how different traffic calming techniques impact speeding along this roadway.

Objective Timeline: One year

The initial speed assessment of this roadway will need to occur within a year to obtain a clear baseline for speeding data that will be utilized to understand future speeding trends. Upon collecting this data, the speed assessment will be conducted bi-annually or as seen fit by the Linn-Mar Safe Routes to School Committee. By obtaining the baseline and bi-annual speeding data, the Linn-Mar SRTS plan will be able to evaluate how the plan and its objectives impact speeding.

Responsible Party: City of Marion

The City of Marion has the equipment to collect roadway speeds. The City will be the lead on this action item due to their equipment being utilized, and the roadway being studied is maintained by the City of Marion. The Corridor MPO staff will assist the City of Marion as needed. After collecting the data, both the Corridor MPO and City of Marion will store the data.



A driver's field of vision is much wider at 15 mph than at 30 mph.

Source: CivicWell

Access to Schools

Area of Improvement: New developments in the area provide better access to schools

Pedestrian infrastructure continues to expand as residential developments are constructed around each of the schools. With new infrastructure, there may be a quicker and/or safer way to get to school. However, for various reasons, people may not be aware of these new connections and are unaware there is a new, quicker, or safer way to get to and from school.

Solution: Review and update the walking routes annually

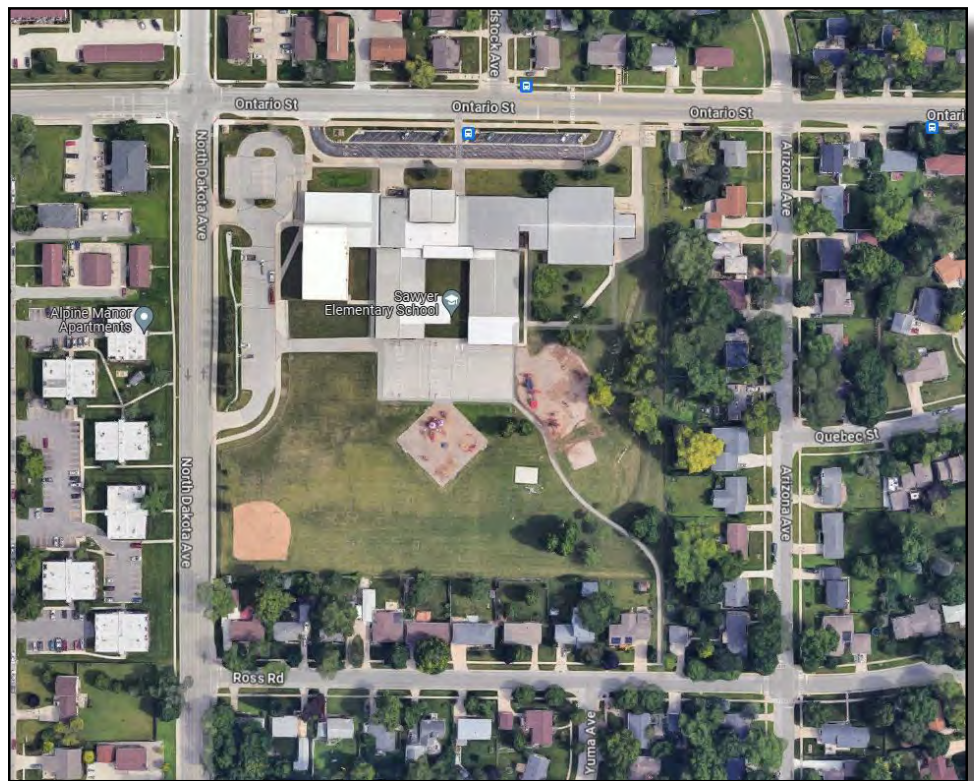
Before the start of the school year, parents and students will be provided with maps showing the recommended route students could use to walk or cycle to school. These walking routes need to be reviewed and potentially updated annually based on the increased development occurring around the four schools.

Objective Timeline: One year

At the first evaluation meeting in the summer of 2024, the Linn-Mar Safe Routes to School Committee will review the existing walking routes to see whether the routes should be updated. This review and update to walking routes will be included as a standing agenda item for the plan's annual evaluation meetings.

Responsible Party: City of Marion and Corridor MPO

The City of Marion will be the lead for this item as they know which developments have seen recent construction. The Corridor MPO will assist in updating the walking routes with the data provided by Marion.



Sawyer Elementary School in Ames, Iowa is a good example of how school sites can better connect to surrounding residential neighborhoods.

Source: Google Maps

Siting Schools

Area of Improvement: Current siting of schools can result in congestion and long distances from residences

The Environmental Protection Agency (EPA) notes that a school's location affects student safety, community health, and the environment. Schools that are easier to reach by walking, rolling, or bicycling help reduce air pollution that would otherwise come from vehicle fumes. Constructing schools on non-local roads on the edge of town increases the distance that students have to travel to reach school. Schools built on large sites, far away from the neighborhood served by that school, result in more students being driven to school. Additionally, the cost of transportation for the district may increase as more families live outside of the two mile radius of free busing for schools. Lastly, it is more challenging for families to be involved with the school community when it is not within their neighborhood. Families are more likely to participate and be involved when the school is in a more convenient location.

Solution: Implement a siting procedure that promotes active transportation to the new school as well as reduce congestion.

While the district may have already purchased land for future schools and growth, a consideration should be made to place schools on empty, non-productive infill sites not located on the edge of town. If the district proceeds with constructing new schools on large sites located on the periphery, then there needs to be accommodations for active transportation to and from the school is included in the site's design. A process to develop school sites, including urban planners, should be utilized when the district determines and finalizes a school site for a new building.

Objective Timeline: Dependent on LM District Growth

Linn-Mar is a district that is planning for growth given previous years' enrollment patterns.

Responsible Party: City of Marion, Linn Mar, and Corridor MPO

Linn-Mar will ultimately be the ones to finance new school building construction, but the City of Marion and Corridor MPO can assist the school in planning for active transportation connections to the school site.



The Environmental Protection Agency, and many other organizations, have guides to assist school districts with the location and site layout of a new school. Linn-Mar will be constructing new schools in the future.

Source: Environmental Protection Agency

Incentivizing Progress

Area of Improvement: Plan adoption needs incentives for all students to participate

When reviewing the student surveys for this plan, many identified that they would be interested in walking or biking to school if there was some incentive provided. There are currently no incentives for students to use active transportation. Because of this, students have stated that they would rather ride with their parents or on the bus to school.

Solution: Update and review incentives annually at the annual Safe Routes to School Committee Meeting

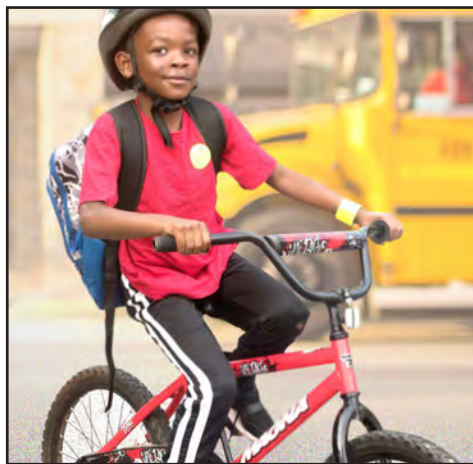
The Linn-Mar SRTS Plan will include an annual evaluation meeting where the Committee reviews the plan's progress. At these evaluation meetings, the Linn-Mar Safe Routes to School Committee could identify what incentives should be provided for students the following year. Updating and reviewing these incentives annually will ensure that the incentive fits within the Linn-Mar School District's current missions, goals, and priorities.

Objective Timeline: Two years

This process will begin with the first annual Linn-Mar Safe Routes to School Committee evaluation meeting in the summer of 2024 and will be updated annually.

Responsible Party: Linn-Mar

The Linn-Mar district will determine what incentive they provide to students that participate in active transportation to school. Linn County Public Health should be included in this determination due to its expertise in distributing healthy incentives and how to do so equitably. This discussion will occur at the annual Safe Routes to School Committee meeting, so other community partners can assist in identifying potential incentives.



Incentives for students could help more transition to active transportation.

Source: KAALTV.com

Monitoring Progress

Area of Improvement: Ensuring the plan is meeting and working towards its goals

Evaluation is a part of every planning process. A plan is more likely to meet its goals if the goals are continually reviewed and assessed.

Solution: Hold an annual Safe Routes to School Committee evaluation meeting

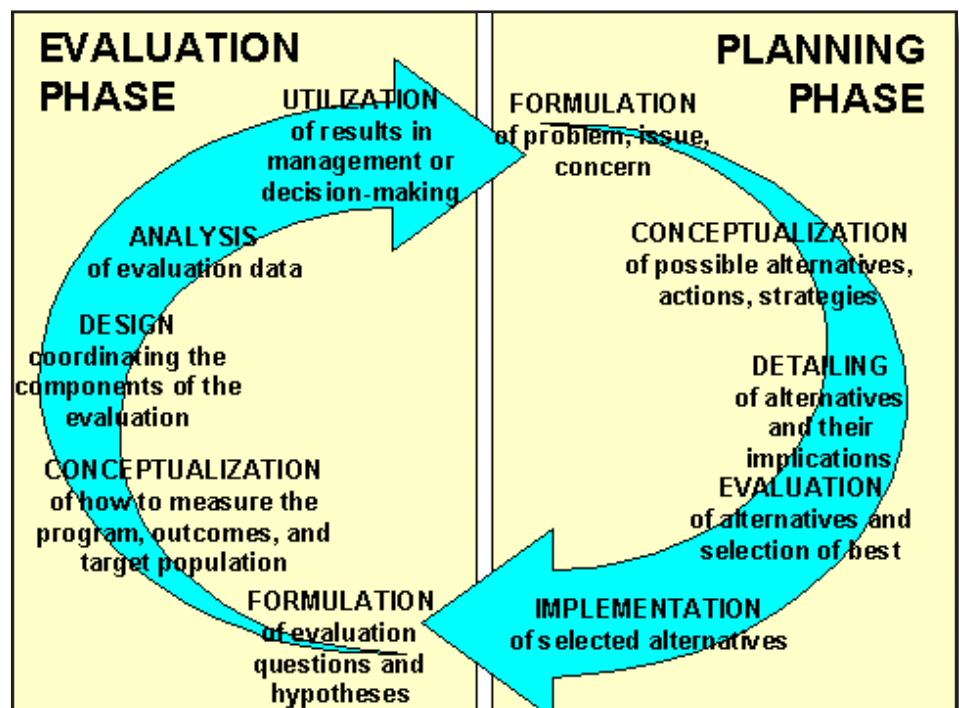
The Safe Routes to School Committee evaluation meeting will be held annually to ensure the plan ultimately meets all of its goals and implementation. During these meetings, committee members will provide updates on each of their tasks for the previous year and decide on what will be accomplished in the next year. The meeting will go off the evaluation matrix, and the committee will also discuss standing items to be addressed (update walking routes, review incentives, etc.)

Objective Timeline: One year, annually

This process will be started in late 2023 for the 2023-2024 school year. At this first LM SRTS Committee meeting, members will decide which tasks they will accomplish in the next year and reflect upon progress made in the last year. After this first year of the plan, the LM SRTS Committee will meet for evaluation twice during the year: once in June and then in January or February. The June 2024 LM SRTS committee meeting will meet in June to determine the tasks for the next year. The meeting in January or February will occur halfway through the school year and is meant to be held before nice weather arrives in spring. The first June meeting for the LM SRTS Plan will occur in 2024, as only the first evaluation meeting will take place in September.

Responsible Party: Corridor MPO

The Corridor MPO will be responsible for setting up and leading the annual Evaluation meeting. This meeting will include all the current Linn-Mar Safe Routes to School Committee members. Other people are welcome to attend the evaluation meeting if some feel that is needed, and committee members may be added or removed at any time as staffing changes occur.



The planning and evaluation cycle.

Source: conjointly.com

Data Collection to Assist in Decision Making

Area of Improvement: Lack of data for Safe Routes to School programming at the four schools

Historically, data that would benefit a Safe Routes to School program has not been collected or done so consistently. The lack of historical data, plus the COVID-19 pandemic, made it very difficult to collect data to create an accurate baseline of data for this plan.

Solution: Annually gather data to understand current and future trends concerning SRTS

Data will need to be collected annually to understand the outcome of the Safe Routes to School plan's implementation. The Linn-Mar Safe Routes will decide on the data collection methodology to School Committee.

Objective Timeline: One year, annually

This process began with the student surveys sent out during the 2021 – 2022 school year and will be reviewed at the annual evaluation meeting for the Linn-Mar SRTS Plan. From this review, the committee will decide if they are satisfied with the current data collection methods or if they would like to pursue alternative data collection methods.

Responsible Party: Corridor MPO and Linn-Mar

The Corridor MPO and Linn-Mar Community School District will be the co-leads for this action item.

The Corridor MPO will collect data at the four Linn-Mar Schools for the Safe Routes to School Plan with prior approval by the Linn-Mar District. The Linn-Mar School collection method (surveying, collected appropriately and data will be collected.

SRTS Committee and School District will ensure that the data student observations, etc.) is disseminate when and how the



Data must be collected as part of this planning effort to ensure we are making progress.

Source: bbc.co.uk

Impact of LM SRTS Plan and local policies on children's active travel to school

Area of Improvement: Unsure how to measure the impact the Linn-Mar SRTS Plan and local, City of Marion policies on children's active travel to school

There is no possible way that anyone can absolutely determine how many students are walking and biking to school. Surveys help, but some students may be missing the day surveys are taken. There are tools out there, like Census data, that shows how many school-aged children live in an area. But that does not take into account home schooled children that live in the district but do not attend school at Linn-Mar.

Solution: Use an agent-based model to stimulate children's active transportation to school

An agent-based model is a tool utilized by transportation planners to understand individual travelers behaviors based on different factors. These factors could include associated cost with travel, distance, and time. With these factors,

transportation planners are able to better understand how many individuals will utilize the transportation system in different ways. These ways are usually in relation to the mode of transportation they will use. In this case, an agent based model will help determine a baseline, or a potential number of students, who could use active transportation to get to and from school.



Using an agent-based model will assist with determining the number of potential students could be walking/biking to school

Source: freepik.com

Objective Timeline: One to two years

This process can begin within a year, but two is being provided as there are still some lingering effects from COVID.

Responsible Party: Corridor MPO

Corridor MPO will be the lead for this item. MPO staff will work to obtain or utilize an existing agent-based model to determine a baseline of students. The City of Marion can assist, as needed. Corridor MPO staff will share the results of the comparison of the agent-based model and survey/observation results with the Linn-Mar SRTS Committee.

Education

Comfortability with Roundabouts

Area of Improvement: Adults and children unsure and unfamiliar with how to move through a roundabout

Roundabouts have not been very common in the greater Cedar Rapids metropolitan area, let alone in North America. But their numbers are increasing. Engineers and planners have seen the benefits of roundabouts, particularly about safety. The general public remains skeptical about the positive benefits of roundabouts because they are unfamiliar with them. The City of Marion installed their first roundabout in 2011 and now have nine roundabouts in the city.

Solution: Provide educational materials on how to maneuver through a roundabout as a pedestrian, cyclist, and driver

A lack of information and familiarity can deter people from choosing active transportation, let alone trying to walk or bicycle through a roundabout. More roundabouts are planned and will be constructed in the coming years. Residents need educational information and encouragement to overcome the barrier of roundabouts being unfamiliar. This solution aims to present and educate parents about how roundabouts are legitimate, safe intersections.

Objective Timeline: One year

The Linn-Mar Safe Routes to School Committee initiated this solution before the 2022-2023 school year, and education about roundabouts' benefits and usage will continue. If we want people to use active transportation to travel, let alone children, they will need to be confident encountering a roundabout intersection. This solution aims to show the community what to expect and how roundabouts work.



Construction of the roundabout at Echo Hill Road and Alburnett Road. It opened in the fall of 2022.

Source: Google Maps

Responsible Party: Linn-Mar

Linn-Mar Communications and administrative building staff will be the lead, as they are the ones who send out information to parents, guardians, and the greater Linn-Mar community. Corridor MPO, City of Marion staff, and Marion Police Department will assist Linn-Mar in providing text, visual aids, and information about roundabouts and how they operate.

How to Use Active Transportation

Area of Improvement: Students are unsure of how to use active transportation effectively and safely for travel to and from school

Students in Kindergarten to 8th grade range in age from 5 years old to about 14 years old. Students within this age range generally do not have a lot of life experience. Additionally, peoples' brains are still developing during their school years, impacting reasoning, reaction times, and judgment. Their young age can prevent them from understanding how to use active transportation for traveling to and from school. Those students have had significantly less exposure to roadways and intersections than an average adult, so they have yet to learn some things that will come with age. Adults generally understand traffic patterns and safety better and have encountered these types of environments more than a child. Adults can better determine things like whether they can cross a road before a car reaches them than a child would. There may be some students who have had exposure to being a non-motorist, but may be apprehensive about how to do it safely or for school trips.

Solution: Provide curriculum for Physical Education class that teaches students about how to use and the benefits of active transportation

Having a set curriculum or special PE day dedicated to active transportation would educate students on how to use it and do so safely. Students would understand the benefits of active transportation and could further educate their peers on how to safely walk, roll, or cycle. The specific things taught to elementary, intermediate, and middle schoolers will help be identified by Linn-Mar staff.

Objective Timeline: Two years

Teachers are continually receiving additional tasks on top of their already busy schedules and requirements, and it is unfair to place another expectation on them. But students also deserve the freedom to use the transportation mode they want to get to where they are going. Ensuring that students receive education on active transportation from the most relevant teachers, instead of every single teacher, prevents another task from being added to all teachers' workload. However, teachers that do not teach physical education could also be encouraged to weave active transportation into other lessons, like in a problem for math or in an article for reading. However, this solution is specifically addressing the need for active transportation units in physical education class.



Bike rodeos are a good way to help students understand how they can safely ride their bike to school.

Source: signalsaz.com

Responsible Party: Linn-Mar

Gym and health teachers at the Linn-Mar schools are the lead for this item, as they are the ones who provide the PE and health education to students. School administrators are also included as a part of the lead as they are the ones who determine and approve the curriculum. Corridor MPO staff is always available and willing to provide information, text, and visual aids to assist in the active transportation curriculum.

Best Routes to Walk to School

Area of Improvement: Unsure of the best route to take to get to school safely and quickly

Parents want their child to get to school as safely and as quickly as possible, but may be unsure of the best route their student should take. Even for those parents who are open to active transportation, there may be some apprehension to provide their child with the opportunity to walk, roll, or bike to school because they are unsure about the best route to get there.

Solution: Provide parents with maps and information on walking routes to and from school

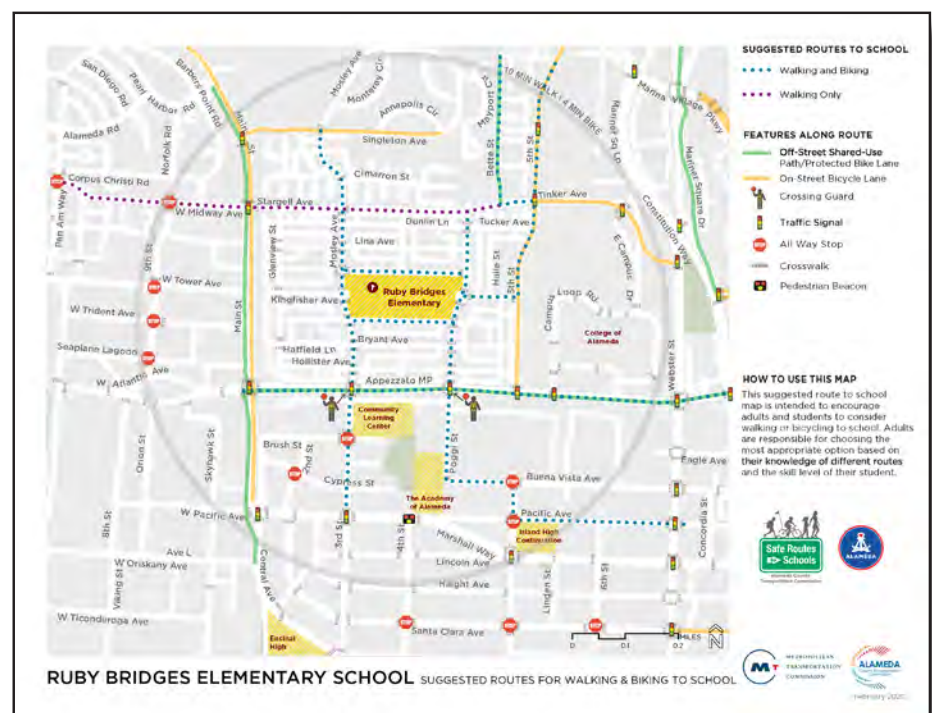
Before each school year, parents and students will be provided maps showing the walking routes for students engaging in active transportation for travel. This solution will remove a potential barrier for people uneducated or inexperienced with the city setting and for those new to the area. Parents will be able to provide feedback on the routes before they become finalized and distributed to the community.

Objective Timeline: One year

The creation and distribution of walking route maps must be implemented within the first year to lessen the barrier about not knowing the best routes to take to and from school. The first year is important as the messaging of Safe Routes to School need to be consistent ensuring the solutions in this plan continue.

Responsible Party: Linn-Mar

Linn-Mar will ultimately lead this item, as they are tasked with sending this information to the Linn-Mar community via email, social media, and newsletters. Using their understanding of the built environment, Corridor MPO and



A map, similar to the one provided by Alameda County Transportation Commission, could be provided to students and parents before the school year.

Source: alamedacountysr2s.org

City of Marion staff will assist and guide Linn-Mar on the best walking routes utilized to get to and from school. Once walking routes have been established, parents and the community will be provided an opportunity to give feedback on the routes. After incorporating that information, the routes will adjust as necessary and then be sent out.

Unhealthy Air

Area of Improvement: Parents idling their vehicles while waiting to pick up or drop off their student, emitting hazardous emissions from their vehicle, which affects susceptible children's health

Parents or guardians that pick up and drop off their students are not necessarily inclined to turn off their vehicles. In Iowa, there can be numerous days below zero, and few people want to wait in the cold. Iowa can also be extremely hot, humid, and unpleasant. Turning off your car often makes sense when you are waiting for a very short amount of time in ideal weather conditions, but often school traffic lines can be long and time-consuming. Vehicles will sit and idle for several minutes, often 15 minutes or more. That is enough time to emit a lot of invisible hazardous fumes and gases. When inhaled by students with young, developing bodies it can lead to asthma and other air-pollution related problems, particularly for students with weakened immune systems.

Solution: Provide consistent messaging that idling vehicles leads to unhealthy, toxic air which affects developing and growing young people

Although common understanding to most, some adults may be unaware that their sitting, but running, vehicle is emitting invisible toxic fumes that are harmful. Consistently providing information on the hazards of idling vehicle emissions, particularly their effects on children, adults may learn and change their behavior in the pick up/ drop off line. This messaging may also help influence some parents in the pickup line to instead let their child try active transportation.

Objective Timeline: One year

In order to help healthy students stay that way, parents must be educated as soon as possible about the hazards of idling their vehicle. Most students surveyed arrived to school by car, so that means many students encounter unhealthy air almost daily. Parents will continue to drop off and pick up their students by vehicle until active transportation is a part of the culture at Linn-Mar. It is important to start this as soon as possible.



Idling more than 10 seconds uses more fuel than restarting the engine.

Source: bikeportland.org and supari.in

Responsible Party: Linn-Mar

Linn-Mar will be the lead on this item by providing messaging to parents and the community. Corridor MPO, City of Marion, and Linn County Public Health staff are available to assist in providing the text,

Promoting Bicycle Helmet Usage to Students

Area of Improvement: Students do not wear helmets to ride their bicycle

Most other countries have a larger part of their population traveling to work some other way than by personal vehicle than the United States in general. Other cultures accept and include other transport modes besides the car, leading to cycling and walking being more ingrained in the culture. Because cycling is an everyday thing and common way for people to get around, many if not most of the people cycling in these countries are not wearing a bicycle helmet. This is not the case in the United States. Roadway design that includes space for modes other than the car were not prioritized for decades and were more of an afterthought, if even considered. Cycling can seem unreasonable because of the conditions in which we put cyclists on our roads. Roadway planning has been trending towards designing streets for all transportation modes and abilities, but a large portion of urban areas in the U.S. still have little to no infrastructure to support walking, cycling, or rolling for transport and understand how traffic works, it is the most reasonable expectation that students should wear helmets to protect their heads in the event of a crash or collision. Until cycling infrastructure starts to become “normal” in American society, and American drivers can expect to encounter cyclists on every trip, the safe thing to do as a cyclist is to wear a helmet.

Solution: Educate students on why they need to wear a helmet while riding their bicycle

Students may be unaware of why they need to wear a helmet. They may worry it does not look “cool,” but a helmet is lifesaving and will help prevent severe injury. It is important that students understand this fact so they can make good, healthy choices and grow up to become an adult. Facts, figures, and visual aids can be used to help show students why wearing a helmet is so important. This should also be included as part of the active transportation unit in physical education class.

Objective Timeline: One year

This is a major safety factor for students using cycling to travel to and from school. This needs to happen as soon as possible so students know that wearing helmets when



Helmets can be life-saving. Bike helmets should be replaced every 5 to 10 years, or after a crash.

Source: news.mit.edu

bicycling is expected.

72 **Responsible Party: Linn-Mar**

Linn-Mar will be the lead for this item, as they will provide the information to students. The Marion Police Department can also be a lead for this item. Students often view police officers as a reliable, trustworthy sources of learning. Having this message come from them would help students realize the importance of wearing a helmet. Corridor MPO, City of Marion, and Linn County Public Health staff are available to assist in providing the text, facts, and figures to the District, which they will then send out.

Dealing with Unsafe People

Area of Improvement: Students utilizing active transportation may encounter tricky situations or unsafe persons

Students in elementary, intermediate, and middle school have not had a lot of live experience given their age. Students may be unaware of what to do in situations where they are uncomfortable or unsafe because they have never been in that situation before. These situations could be due to the environment they are in, like with a student feeling uncomfortable walking on sidewalk along a high-speed roadway. But, students could feel unsafe or uncomfortable because there are unsafe adults out there. Students need to be educated on how to use active transportation, and a comprehensive education on the topic should include information on how to deal with tricky situations involving people, not just how to be safe in uncomfortable travel conditions.

Solution: Provide education on how students can reasonably deal with “unsafe people”

Being out in public means that you will more than likely encounter other people, leading to potential circumstances where students may feel uncomfortable or unsafe. Parents and students will become educated on what to do when they encounter these types of situations, so they both feel confident they would know what to do. This information should be included an active transportation unit in physical education or health class. This information will be communicated through messaging and at community events. The information provided will be age-appropriate, include suggestions for dealing with unsafe people, and mimic the language and advice used by the school district. For younger students, this can include an explanation of physical boundaries and that any safe adult does not need help from a child. For students in intermediate school, they will learn about peer pressure, what a boundary is and why it is important, trusting your instincts, red flags and warnings signs. Older students will continue learning about the same things as elementary and intermediate students, but they will be more in-depth.

Objective Timeline: Two years

This solution needs to be handled with an abundance of caution, as parents know what is best for their children. However, there are ways to address these situations as they come up. In the unlikely event a



Students need to know how to deal with, and determine who is, a safe and unsafe person.

Source: Adobe Stock

student encounters a tricky person and becomes uncomfortable or unsafe it is better for that student to be prepared but not scared. The information provided on what to do in these situations would be age appropriate. In order to make sure the best information is being provided, this will be adopted into the curriculum within two years of the plan's adoption.

Responsible Party: Linn-Mar

Linn-Mar will be the lead as they will provide the messaging via email, social media, and newsletters about how to deal with tricky people and uncomfortable situations. The Marion Police Department can also assist Linn-Mar in educating parents and students about how they can safely manage these types of situations in an age-appropriate way.

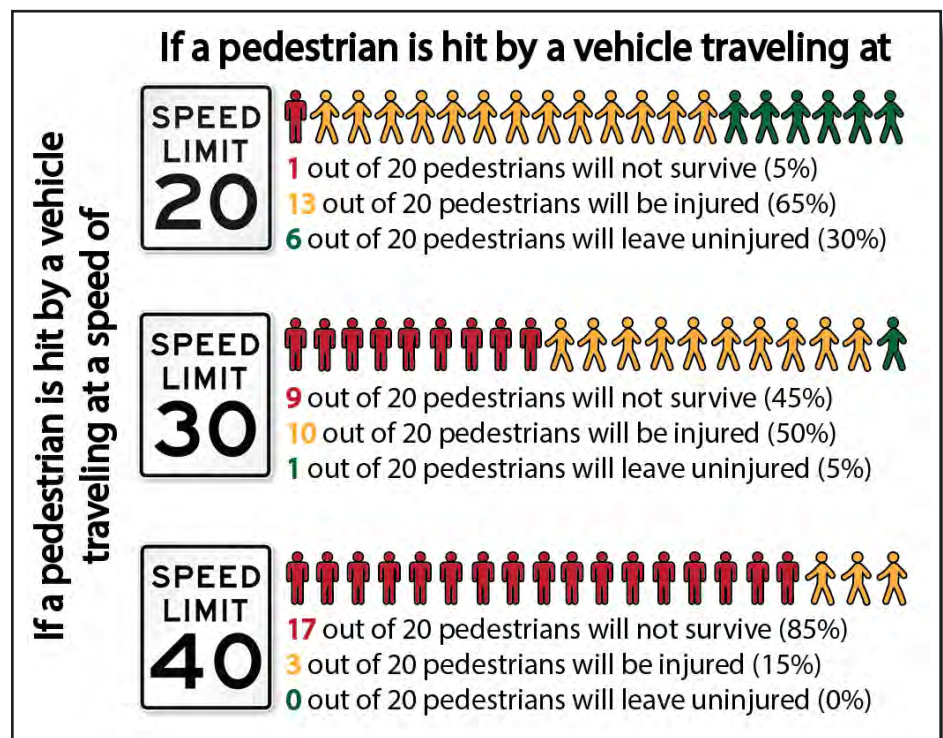
Crash Severity and Speed

Area of Improvement: Transportation culture in the United States prioritizes vehicle movement so streets are designed in a way that intuitively makes drivers feel like they can speed

Prioritizing the time it takes for motorist to travel from one place to another leads to many roadway projects being justified because they shave off a little bit of travel time for drivers. Prioritizing travel time in decision-making and design can come at the expense of other factors. For instance, safety may not be considered first in roadway design, like the safety for all users on roadway, especially those outside of vehicles. Roads are often designed to allow for the most efficient vehicle movements, typically meaning they are constructed as straight and flat as possible with wide travel lanes. This type of roadway, without proper and safe spaces for vulnerable road users, is not supportive of a safe street for everyone.

Solution: Educate the community on the dangers of speeding and its effect on crash severity

In prioritizing vehicle movement, safety has become a lesser priority and our culture is generally accepting of speeding. Yet people may adopt different behaviors after realizing that even a difference of 10 mph could mean life or death. A vehicle traveling at 35 mph is more likely to fatally hit someone than a vehicle driving 25 miles an hour. This is why neighbors sometimes have the "Keep Kids Alive, Drive 25" signs in their yards. Parents will receive information about speed and crash severity, why

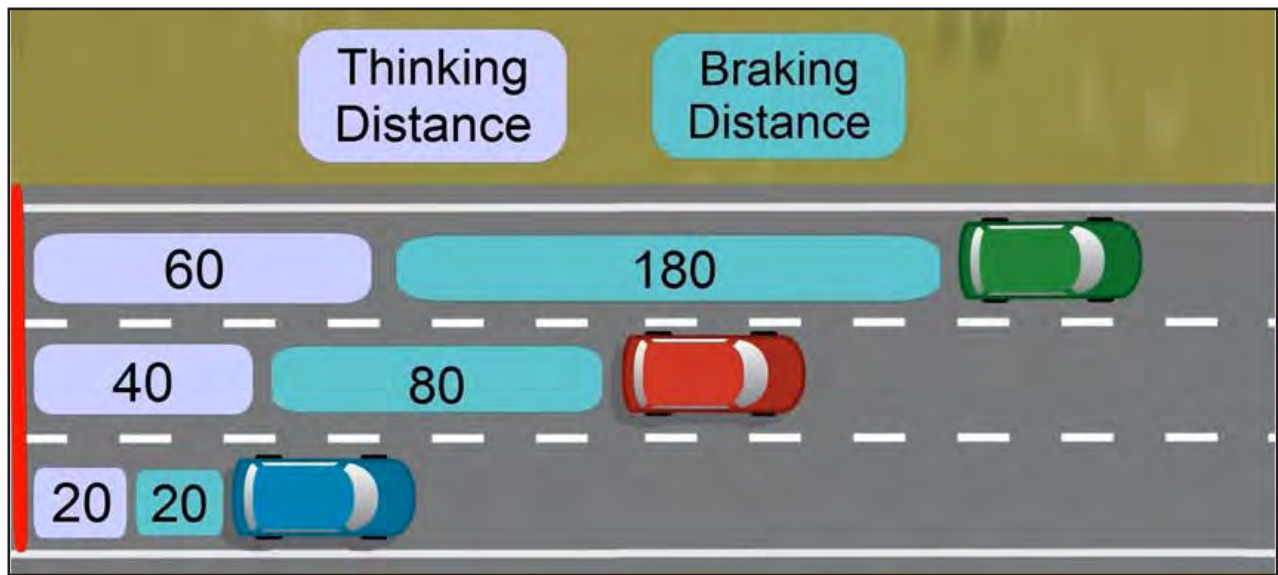


*Impact speed and a pedestrian's risk of severe injury or death.
Source: Smart Growth America (used to create own image)*

we are unintentionally inclined to speed on our roadways, and ways we can work towards safer roadway design to reduce vehicle speeds. This will be done through messaging and at community events.

Objective Timeline: One year

This objective needs to be implemented within the first year of the plan to ensure active transportation can eventually become a part of the culture at Linn-Mar. If drivers are allowed to continue speeding with no consequences, regardless of whether they know better, this behavior will continue to be acceptable. Additionally, if we allow our roads to be designed in a way that is unsafe for those outside of the car, this problem will continue to exist. Education is key in helping the understand why going faster is not necessarily better.



Breaking distance of vehicles is the time it takes for a car to come to a complete stop after a driver has hit the brakes. When a car's speed doubles, the breaking distance quadruples (multiplies by four). Therefore, cars moving at higher speeds will have a further braking distance that a car traveling at a lower speed.

Source: aceable.com

Responsible Party: Linn-Mar and the Corridor MPO

Linn-Mar will be the lead as they will provide the communication to educate parents by email, social media, or newsletter. Corridor MPO will also lead this solution and will begin messaging at a regional level to bring awareness to the dangers of speeding, especially in a school zone. City of Marion staff can assist by providing the text, visual aids, and other information to Linn-Mar staff. Marion Police Department can assist by being trusted source of knowledge, with their messaging potentially being the most meaningful and impactful to students.



The August 2020 Derecho resulted in the loss of at least half of the tree canopy in Marion and Cedar Rapids

Source: strongtowns.org

Equity

Lack of Shade for Active Transportation Users

Area of Improvement: Current walking routes have limited shade

The areas in Marion that are being newly developed tend to generally be within the Linn-Mar boundary. Most housing developments are constructed on agricultural land which often means trees have been removed from the area to make room for crops, and then eventually housing. Removing mature trees, which provide more shade than young trees, make active transportation users more susceptible to heat-related illnesses, like sunburn and heat exhaustion. There is no requirement for developers to keep mature trees anywhere on their site. Some developers already recognize the benefits of mature trees, keeping good quality trees and constructing their development around those trees.

Solution: Identify locations in the right-of-way where trees can be planted

Providing shade along active transportation routes will assist pedestrians and cyclists in remaining cool and reducing the risk of heat-related illness. Planting trees now ensures that they will grow into large, mature trees even sooner, as it takes a decade or more to get the benefits of shade from most trees. Activities done alongside nature, like trees and green space along a roadway, has a calming effect which can improve mood.

Objective Timeline: Two years

Time to identify locations is within two years of the plan because tree planting is needed as soon as possible. The City of Marion has been working to plant more trees, especially after the August 2020 windstorm. This timeline recognizes their current efforts while also working to incorporate regular tree planting in places where trees were removed. This also recognizes that funding will need to be secured to get trees into the ground.

Responsible Party: City of

City of Marion staff from and community will lead the discussion and review whether trees are CMPO and Linn County by identifying funding planting trees.



In order to do active transportation safely and effectively, bicycles, bike helmets, and walking shoes should be in good condition.

Source: blog.schulersshoes.com

Marion

the arborist, engineering, development departments implement the process to necessary along routes. Public Health can assist opportunities to assist in

**Students Lacking
Active Transportation**

Items Needed to Use

Area of Improvement: Students at the four schools may not have the equipment or items needed in order to utilize active transportation to and from school

Linn-Mar has students who are unable to participate in walking, rolling, or riding their bike to school because they do not have the right equipment. To ride a bike, a student needs a bicycle and helmet, which is not possible on every family's budget. Likewise, to walk to school, a student would need proper shoes to prevent injury. Without this equipment, it makes it more challenging to roll, cycle, or walk for transportation. This is a barrier for students that could be addressed with assistance from the community.

Solution: Determine whether students have the necessary items to utilize active transportation to and from school

Provide an opportunity for community members and their children who lack the necessary active transportation equipment to get these things via fundraising or donations from a third party. This is a need that can be identified by staff at the four schools or come from district members seeking assistance. Additionally, while doing surveys, it may be discovered that students do not have the proper equipment.

Objective Timeline: One year

Within one year, have a process where Linn-Mar figures out which students are in need so all students can participate in SRTS as soon as possible.

Responsible Party: Linn-Mar

Linn-Mar staff is the lead for this solution, as they would figure out or hear about which students are in need. Once the need is identified, a third-party organization could come in and do fundraising or solicit donations to get students the items to support active transportation. Corridor MPO and City of Marion staff can assist where needed.



An inaccessible curb. Curb cuts were installed after World War 2 for veterans with disabilities and physical limitations.

Source: Learning for Justice

Active Transportation Infrastructure is a Barrier to Students of All Abilities

Area of Improvement: Areas around the schools do not have the necessary infrastructure to allow everyone to participate in active transportation

Safe Routes to School is inclusive, and it is necessary to ensure students of all abilities can participate in using active transportation to and from school. The infrastructure in place may be an obstacle or barrier, preventing those with differing abilities from walking, rolling, or cycling to and from school because there simply is not the space provided for them to do so within their abilities.

Solution: Set up a walk audit to see whether equity-related infrastructure improvements are needed

To understand the barriers people with differing abilities have, it is suggested that a walk audit is conducted to get the baseline for the area. This would identify projects that are needed to help with ensuring all can utilize active transportation. The projects identified can be included in the Safe Routes to School plan, and funding options will be discussed before committing to the projects. The aim will be to have two walk audits annually for each of the four schools in this Plan: one in spring and one in winter. The spring walk audit will be done in nice weather, to allow those on conducting the audit the ability properly assess the infrastructure and surrounding area. The winter walk audit will occur after a winter weather event. This will be done to assess the burdens, if any, with using pedestrian infrastructure in the winter, like uncleared sidewalks.

Objective Timeline: One to two years

Considering equity, this should be addressed as soon as possible. However, understanding there are limitations on funding and availability for the projects, this process can identify potential projects without committing funding. Identifying needed projects sooner rather than later helps get them built quicker, as there is more time to plan and identify funding sources.

Responsible Party: City of Marion

The City of Marion would be the lead for this item, with the Corridor MPO assisting. The City of Marion would be responsible for helping set up with walk audit, with any necessary assistance from MPO staff. Staff from the City of Marion, Corridor MPO, and Linn-Mar administrators would be required to participate. Every effort should be made to include people with differing abilities or people with disabilities be included to gain insight from their perspective. The phrase "Nothing about us, without us" applies here.



Some kids need to build up their confidence in the built environment to feel more comfortable with walking and bicycling to school. Parents can help model how intersections and streets work and what to do at them.

Source: as-they-grow.com

Encouragement

Students Unsure of how to Navigate

Intersections

Area of Improvement: Students unsure of how to walk, roll, or ride through intersections, including roundabouts

Students in Kindergarten to 8th grade are young and therefore do not have much life experience to understand how intersections work. Additionally, younger students' brains are still developing, and with that comes the learning process of gauging speed and timing.

Solution: Demonstrate how to walk, roll, and ride through intersections and roundabouts at the Healthy Kids Day/City Showcase

Many people, especially children, may be apprehensive about trying something different if it is new to them. Additionally, parents could be worried about their students using active transportation for several reasons. At the City Showcase/Healthy Hometown event, have SRTS partners set up a demonstration of how to walk, ride, and roll through intersections and roundabouts. An intersection will be set up using items that mimic real-world conditions. For instance, demonstrate how intersections work by placing a map on a table showing a nearby intersection with Hot Wheels cars and small figurines. Another option would be to put out traffic cones and tape down in a parking lot. This solution aims show kids how intersections and roundabouts work without going in the real-world for practice.

Objective Timeline: One year

Within the year, demonstrate to students how they can safely walk, roll, and ride through an intersection or roundabout at the City Showcase event. Students could also learn at a bike rodeo at their school. This could be a source of confidence for students, and they may want to share what they learned about intersections with their peers or a bike rodeo at their school.

Responsible Party: City of Marion

The City of Marion will be the lead because they host the City Showcase event. Corridor MPO staff will assist Marion staff in and running the the event. Linn-Mar other school staff will this solution, as they out the information their school networks option to participate. Linn-Mar would be and City staff could Iowa Bicycle Coalition creating bike rodeo could be utilized when school.



Getting students out of cars and using human-powered transportation (cycling and walking) to school may need to have incentives for students to utilize it.

Source: johnstoncsd.org

creating the materials demonstration at administrators and also help assist with will need to send regarding this event to and can have the To set up a bike rodeo, the lead and MPO assist, as necessary. is working towards "kits", and these kits doing bike rodeos at a

Students Not Utilizing Active Transportation

Area of Improvement: Students are not using active transportation because there are no incentives

The United States, in the last 100 or so years, has been largely constructed to adapt the car and vehicle traffic. As such, this has reinforced the idea in the United States that cars are a superior mode to all other transportation modes. Additionally, especially in areas of the Midwest without high density, most residents who own a vehicle will drive to their destinations instead of taking another means to get there. Driving is often the fastest way to get somewhere, so it makes sense why a student would grow up learning through role models and their environment that cars are prioritized, which can lead to the belief that cars are the superior and “best” transport mode.

Solution: Provide students with Positive Behavior tickets when they use active transportation for school travel

To counter a typical student’s behavior and what is considered “normal”, some students may need incentives to use active transportation. This can help students, who may otherwise not be interested in active transportation, start to utilize it, and realize the benefits.

Objective Timeline: Two years

This objective is given two years, as we ideally want to develop a sustainable, consistent incentive that can be used year after year. In the first year of the SRTS plan, an incentive will be provided and then evaluated at the annual Linn-Mar SRTS evaluation meeting. Based upon how well the incentive worked to get students using active transportation, some changes may be needed from the first year to the second.

Responsible Party: Linn-Mar

Linn-Mar staff is responsible for this item, as they are the ones who will be providing the incentives to students. Linn-Mar SRTS Committee can assist, as needed, in finding incentives.



While speaking with parents at Echo Hill, one called the school traffic line the “line of death”. It is a common sentiment that parents and guardians do not enjoy waiting in line.

Source: tampabaymoms.com

Long Pick-up and Drop-off Lines

Area of Improvement: School traffic leads to long, time-consuming lines

Most students within the Linn-Mar district arrive at school by vehicle, whether a personal vehicle or school bus. For those that are dropped off in a car, those adults often have to sit in lines for 15 minutes or more to pick up or drop off their student. Students can also be waiting for 15 minutes or more to get dropped off.

Solution: Create and determine drop zones for each school

Providing an alternative established drop off and pick-up zone for students allows parents to get their child part of the way school by vehicle. Students would be dropped off or picked up at an established site away from the school site, and the rest of the trip to school would be by walking or bicycling. Walking and biking school buses could also operate from these alternative drop off zones. By dropping off or picking up their child at a location near the school, but not on site, parents do not have to wait in the long lines and their child gets some of the benefits of using active transportation for school trips.

Objective Timeline: One year

This is a high priority solution, as there are currently frequent issues at each of the schools with traffic backing up out of the school site and onto the city street. The alternative drop off locations can be identified and promoted within the year. Even a few parents choosing to drop off their kid this way is a win as everyone benefits and experiences a shorter line. Students will be safer because there are fewer vehicles they could cross paths with. Parents are also able to make their own arrangements for an alternative drop zone, like at a friend's house that lives nearby their child's school. This solution is meant to be advertised school-wide to inform everyone established and offer an alternative to waiting in line.

Responsible Mar and

Linn-Mar and lead item, as can determine zones are Corridor MPO suggested areas could be the school site, will help with



Parents, teachers, school staff or administrators, and community members can all be advocates for SRTS.

Source: publicnewsservice.org

school-wide to that these areas exist, alternative to

Party: Linn-Corridor MPO

the MPO will they both where drop be located. can provide where students dropped off of and Linn-Mar coordinating

and promoting the drop of zones. City of Marion staff can assist and provide knowledge regarding the drop zone sites. They can also be consulted for advice and review of potential drop zone sites.

Fewer Students Bused Leading to Increased Drop-Offs

Area of Improvement: Increased drop-offs due to decreased area of free busing

The district has expanded the busing boundary, increasing the distance from school that students must live to be eligible for free busing. Students that live within two miles of school are no longer able to be bused for free. If parents want to continue having their child ride the bus, but they live within two miles of an elementary, intermediate, or middle school, then they have to find an alternative means to get to and from school, as they cannot pay for busing. The expanded walking shed, due to decreased bus service, could result in more students arriving to school by personal vehicle.

Solution: Encourage parents to drop students off at alternative drop-off zones

Parents are able to drive their child most of the way to school, but then the child will have a much shorter walk to school, without being dropped off right at the school site. By encouraging adults to only transport their student part of the way to school, the student can utilize active transportation the rest of the way, increasing their activity level and reducing vehicular congestion at the school property.

Objective Timeline: One year

Identify and promote the alternative drop off zones to parents and guardians could start within a year of the plan's item should be rather than later no cost to it, just enough time to the owner of the get their approval of students.

Responsible

Linn-Mar is the solution, as they student drop-off Corridor MPO and able to support.



Every student needs somewhere safe and secure to store their items.

Source: Linn-Mar's Website

adoption. This explored sooner because there is ensuring there is coordinate with drop off spot to for parents to drop

Party: Linn-Mar

lead for this are in charge of and pick-up. The City of Marion are

Storing Active Transportation Items at School

Area of Improvement: Students do not have a place to safely store the things they need to walk, bike, or roll to school

Riding a bicycle to school is great for many reasons. However, if there is no place to store the bike, they may not want to park their bicycle somewhere vulnerable or not locked up. Students also need a locker or other secure storage for helmets, shoes, socks, etc. If a student takes walks that day wearing snow boots or walking shoes, they may bring an extra pair of shoes to change into at school. Students will need a secure place to store their shoes or bicycle helmets.

Solution: Ensure suitable spaces are provided to store students' active transportation items

To use active transportation, you need to have a bicycle, helmet, walking shoes, etc. Students do not want to, nor do they can carry all these items. Some items, like a bicycles, are too large to store inside in the hallway. Students will not be encouraged to use active transportation if there is not a secure place to store their items.



While this is a Safe Routes to School plan, it really is a community plan. All residents in the Linn-Mar community will benefit from safer streets, but volunteers and champions are needed to succeed.

Source: Nebraska Safe Routes on flickr

Objective Timeline: One year

Within the first year of the plan, storage of active transportation items must be installed to support the rest of the solutions presented in the Linn-Mar SRTS plan. Shelving, lockers, and bike racks need to be

installed at the schools, if not already provided. The location where these items are stored should be reasonable. Lockers should be in a secure location close to homeroom and bicycle racks should be close to the main entrance to the building.

Responsible Party: Linn-Mar

Linn-Mar is the lead for this solution, as they can provide and add storage options for students' active transportation items.

Safe Routes to School Champion

Area of Improvement: There are few champions modeling active transportation for young, impressionable students

Linn-Mar students' families all diverse, each having different backgrounds and structures. Some students may not have a parent or other trusted adult in their lives that models how to safely use active transportation. There are also parents or other people they look up to that may be apprehensive about, or look down on, walking and opinion could get passed down likely to be interested in walking

Solution: Find a SRTS

Identify a responsible administrator, parent, etc.) advocating for students using This SRTS Champion could also to use active transportation do not want to do something encouraged. It would be SRTS Parent Champion.



Reducing idling will prevent children's exposure to pollutants, save some money, and help the environment.

Source: cleantechnica.com

cycling for transportation. That to the child, making them less or cycling to school.

Champion at each school

adult (volunteer, teacher, that can become involved in active transportation for travel. inspire other parents and adults for trips. Humans frequently new or different without being demonstrated safely by the

Objective Timeline: Two years

Ideally, it would be great to identify a SRTS Champion within the first year of the plan. However, this plan will be implemented for the 2023-2024 school year. This process should get started in the first year of the plan. A process to identify a SRTS Parent Champion must happen before the 2023-2024 school year to ensure the longevity of the plan.

Responsible Party: Linn-Mar

Linn-Mar would be the lead for this item because they are the organization that works directly with parents and guardians of students at the schools. They will be in charge of determining SRTS champions (teachers, parents, etc.) annually for each school. Corridor MPO staff can work to help identify potential persons that could be champion, if they are knowledgeable about the school. Corridor MPO staff will also have these SRTS champions as contacts to bring into their network and provide assistance on SRTS programs within the City of Marion. They are sort of a community representative that demonstrates how active transportation can be utilized for travel.

Idling Cars and Unhealthy Air

Area of Improvement: School traffic lines release invisible harmful gases that students pass to get into school

In addition to being time consuming, the school pick up and drop off lines cause vehicles to idle, or stay still, while having the engine running. Idling vehicles still release gases even though they are not actively being driven. Those gases and fumes are invisible, but still greatly affects student health.

Solution: Provide reminders to parents to turn off their car while waiting in line

Not everyone has the same knowledge or life experience, and therefore some adults may be unaware that their vehicle's emissions are extremely unhealthy and harmful to young, growing minds and bodies. Putting signage along the pick up and drop off line to turn off vehicles while waiting will remind parents that their actions, however well-intentioned, have consequences for those outside of their vehicle. Idling vehicles are opposite to student health and the signage will remind them to turn off their vehicle while waiting in line, as possible.



There are currently crossing guards to assist students at Echo Hill Road and Alburnett Road, but more may be needed or they may need to be repositioned.

Source: qsaltlake.com

Objective Timeline: Three years

Through initiatives in this SRTS plan, it is the hope that more students and parents will decide to get to school via active transportation. It will take time and effort to dissuade parents from using the pick up and drop off line and find another way for their kids to get to school. Until active transportation travel becomes more integrated into the culture at Linn-Mar, parents will still drop off and pick up students in line, and they need to be reminded that there are unintended consequences (unhealthy air) to the way they want to get their child to school.

Responsible Party: Linn-Mar

Linn-Mar will be the lead for this item, as the pick-up and drop-off lines for each school are located within each school's site and are owned and maintained by the district, so they can install signage themselves with the City's approval of the sign. If signs are desired in the City of Marion's right-of-way, then that would be the responsibility of the District to get approval, for the sign and its location, and install reminder signage to turn off their vehicles to prevent unhealthy air. Corridor MPO staff can provide assistance as needed.

Unfamiliarity with Roundabouts and Intersections

Area of Improvement: Parents and students do not understand how roundabouts and certain intersections work so they avoid them

Parents and students may be avid cyclists or walkers, but they may be unsupportive and apprehensive about roundabouts. Installing roundabouts in the City of Marion and the greater Cedar Rapids metropolitan area is a relatively new intersection type being introduced. The City of Marion's first roundabout was



Many parents feel uncomfortable with their child walking or biking to school alone and would prefer their child walk in a group.

Source: The Globe and Mail

installed in 2011. People may not have had a lot of time to become comfortable using a roundabout as a driver, walker, or cyclist. Because there are more being installed, and they remain unfamiliar, people may choose alternative routes for their trips to avoid these intersections.

Solution: Station crossing guards at roundabouts and difficult intersections near Linn-Mar schools

Crossing guards at roundabouts and difficult intersections would allow a responsible adult to see students as they travel through roundabouts to ensure they get through the traffic circle safely. Crossing guards can notify drivers that children are present nearby, keeping an eye on students and helping with the flow of traffic. The crossing guards would provide a visual reminder that students are nearby. Some parents may find this eases some of their concerns about the safety of roundabouts. A crossing guard may make users feel more secure using these intersections and roundabouts. Certain intersections and roundabouts identified for consideration of crossing guards would be along 29th Avenue and for a longer duration at Alburnett Road and Echo Hill Road.

Objective Timeline: Present, continued

The number of roundabouts constructed in area continues to grow after the first one was installed in Marion in the mid-2010s. City Engineers in the area understand the positives of roundabouts. However, the general public may continue to be apprehensive, especially older individuals who do tend to resist change. Corridor MPO, City of Marion staff, and Linn-Mar provided roundabout information prior to the 2022/2023 school year. Visual displays and text were provided about how to navigate a roundabout as a driver, pedestrian/roller, and cyclist. Providing this and similar information year-over-year will encourage more people to utilize active transportation for travel.

Responsible Party: Linn-Mar

Linn-Mar will be the lead with this solution because they manage and hire crossing guards. They will also evaluate whether crossing guards are in the best location for student safety based upon their feedback of traffic conditions. Corridor MPO can assist with the best location to stage the crossing guards.

Pace of Pick Up

Area of Parents wait to their student right

Parents prefer student directly in door to ensure they school safely by into the building. It parent would want is not sustainable every morning and too. Dropping off at



As Blue Zones says, "A walking school bus is essentially a carpool without a car." Parents could help lead walking school buses.

Source: bluezones.com

and Drop Off

Improvement: drop off or pick up in front of the door

to drop off their front of the school's make it inside the seeing them walk makes sense that a to do this, but it also if every parent, afternoon, does this the door leads to

long lines and is time-consuming, in addition to leading to potentially unsafe conditions. Drivers are often impatient, and when an opportunity arises to no longer be inconvenienced by a car in front of them, they may decide to go around and speed off, not taking into account that young students are nearby. Many crashes between child pedestrians and vehicles that occur near school sites result in severe injury or fatality.

Solution: Staff work school traffic lines, encouraging parents to drop or pick up their student close but not directly in front of the entrance

Having fewer parents drop off and pick up their students directly in front of the entrance will lead to the line moving faster. This will help to prevent vehicle drivers becoming annoyed at the inconvenience and speeding off, forgetting that there are children present. School staff and volunteers will be stationed along the school line to tell parents they can pick up or drop off their student away from directly in front of the main entrance and that they have their child's back to ensure they get into school safely from their car to the door. The parent can then leave sooner, allowing all motorists behind them to move forward and drop off their students efficiently.

Objective Timeline: One year

As active transportation becomes more ingrained in the culture at Linn-Mar, parents will start to choose to have their child use it to travel to and from school more often. The solutions contained aim to get to this point. Until then, where most students do not use active transportation, accommodating vehicles and making conditions safer for students is necessary to make sure students are not severely or fatally injured by an impatient driver.

Responsible Party: Linn-Mar

Linn-Mar will be the lead as they are the day-to-day implementers of this plan. They are responsible for both ensuring students get into school safely and that the pick up/drop off line moves at a reasonable pace.



Walking or cycling to school can get students prepped and ready to learn, leading to improved academic performance..

Source: scholarlyyoa.com

Adults Uncomfortable with Students Using Active Transportation

Area of Improvement: Some students may want to use active transportation but their parent is uncomfortable

As students become more educated and gain confidence, they may like the independence that active transportation provides them. However, a potential obstacle is a parent being unsupportive of active

transportation. This could be due to perception of active transportation being inherently unsafe. Because of tricky people, bullying, worrying about other drivers' unsafe actions, etc.

Solution: Have walking and/or biking school buses for each of the schools

Having a trusted adult lead students in walking or cycling to school would alleviate parents' concern of their child not being supervised while walking, rolling, or riding. An adult would be present with their child and a group of children. That adult or another child could take action if an emergency or unsafe situation happens.

Objective Timeline: One to two years

Linn-Mar does have some parents that already walk or cycle with their student to travel to and from school. But each school needs to have at least one adult, once per week, lead a group of students walking or cycling to school. Often both parents work, leaving a limited amount of time and few people to able to lead a group of students. It may take a little time to get this to be consistent and more than once per week. Ideally, the goal would be the build the program so that a walking or biking school bus can come from each direction to all of the schools.

Responsible Party: Linn-Mar

This will be the responsibility of Linn-Mar, because they will help identify adults, or older trusted students seeking volunteer hours, that can help with this. They are also the ones with direct communication to parents and the community.

Engagement

Unaware of Active Transportation and its Benefits

Area of Improvement: Lack of understanding about active transportation and its many benefits

The average person does not know what "active transportation" refers to. Those outside the world of

urban planning and similar professions or interests may not think about how using your body's energy for travel is itself considered a form of transportation. Parents may understand what active transportation is but may not understand why advocates push for Safe Routes to School.

Solution: Promote active transportation to parents and guardians by tabling at community events

Promote and advocate for active transportation at a community event by providing information specific to Linn-Mar and SRTS in general and answering peoples' questions. Information can be provided on poster boards, through demonstrations, information sheets, plus others.

Objective Timeline: One year

In the Spring of 2023, the Linn-Mar SRTS Committee attended the City of Marion Showcase event in April. This event will include a demonstration of safe active transportation and information about SRTS. After this first outreach event, and each one after, the Linn-Mar SRTS Committee will decide annually whether we will have another outreach event again in the next year. Tabling can also occur at other events hosted by Linn-Mar or the Corridor MPO, however, many families attend the City Showcase so it is a prime opportunity to engage Linn-Mar families in discussions about active transportation.

Responsible Party: Linn-Mar

Linn-Mar will lead this solution, as they are responsible for educating the parents and guardians of students about Safe Routes to School and active transportation in general. The City of Marion's City Showcase event is one of their major events of the year. Corridor MPO and Linn-Mar staff can also will be a part of the City Showcase event and assist the City of Marion with the planning, set up, and execution for the tabling event.

Parent Safe Routes to School Champion

Area of Improvement: Parents do not have a stake in SRTS at Linn-Mar

For SRTS to be successful at Linn-Mar, parents must be engaged and understand



Image 28: Parents can drop off their children at a location nearby their school and then walk the rest of the way. There are two parking lots at Lowe Park that connect to the three schools by trail or sidewalk

Source: Google Earth

what it is in order to support it. Not having parent ownership on the plan can lead to slow progress and may lead to a lack of trust. It needs to be reiterated throughout the Safe Routes process that parents are included and welcome to participate in this process.

Solution: Have SRTS Parent Champions at each school

To get parents to take ownership of the plan, they need to continually be engaged. This could be done through having a parent, or multiple parents, at each school be a champion for SRTS. This committee could operate a few ways, but it is suggested that at least one parent from each school would be that school's SRTS Parent Champion. The adults in this role at each of the four schools will take information from Linn-Mar, Corridor MPO, or City of Marion staff and then share that with their social networks. Many of the neighborhoods around the four schools have Facebook Groups where people can post information or ask questions. This is one place where many parents seem to get community information. The SRTS Parent Champions will be able to engage their own networks and could either post or have one of their contacts post in the Facebook Groups and generally get the information out. Receiving information from their fellow parents will help make parents feel like they are being engaged and that this is a community effort. While messaging from the government and district is important, it is also important to ensure there are conversations happening within the community. Engaging parents through another parent's network, and having them then share information with their networks, will help lead to greater ownership of the plan by parents at the Linn-Mar School District.

Objective Timeline: One year

Parent ownership of the plan is vital to its success. Because of that, parents need to be engaged and included in the SRTS processes from the beginning. After this plan is adopted in fall 2023, processes will begin to identify one parent volunteer from each school to provide information to other parents and guardians at that school. It is ideal to have SRTS Parent Champions identified before the 2024-2025 school year.

Responsible Party: Linn-Mar parents and guardians

Depending upon the information provided, the responsible party is ultimately the parent(s) from each of the four schools that share to the Facebook Groups (or have their network do so). However, they will be provided information from City of Marion, Corridor MPO, and potentially others, like Marion Police Department, to share to those groups. This item can be supported by staff, however this is an item that parents should lead as they are largely vital in the plan's success.

Vehicle Idling and Dropping off at Front Door

Area of Improvement: With so many vehicles idling at one time, it creates a situation where children must walk through unhealthy air

Parents and guardians that drive their children to and from school will often have their car sit and idle until their child can get out right in front of the school entrance. Vehicles still burn gas even when parked but not turned off. The invisible fumes from vehicles idling in line can greatly affect a young person's health. Unhealthy air affects children more than adults, making them more susceptible to complications from air pollution-related health effects.

Solution: Have an alternative drop-off location close to the school

By providing alternative drop-off zones for each school, parents can drop their students off at these locations, and then their students can still walk a much shorter distance to school than from home. Alternative drop zones allow parents to still drive their child nearly all the way to school but then enables the student to walk the rest of the way. Students will get in some physical activity before the school day and not be exposed to unhealthy air while entering the school building.

A similar way to do this is through parent networks, which would not be managed through this plan. Alternative drop off areas through a parent network would instead be an agreement between both parents. When meeting with parents at Echo Hill, it was noted that sometimes they would pick up or drop off their student at their friend's house, which was closer to the school than their own. This is another way to get fewer vehicles idling in the school traffic line.

Objective Timeline: One year

Having a strategic pick up and drop off process is vastly important to ensuring all students can travel to and from school safely. This should be started in the school year after this plan is adopted because it is essential to get cars out of line to support SRTS.

Responsible Party:

The Linn-Mar department will be for distributing The City of Marion will provide the aids, text, studies, District can send newsletter.

Volunteers to School Buses

Area of Parents about allowing to walk or bike transportation

Parents are often apprehensive about allowing their children to use active transportation to or from



Some parents may be apprehensive about walking or cycling in their community, which may lead them to not encourage their child to utilize them.

Source: highways.dot.gov

Linn-Mar

Communications the primary lead this information. and Corridor MPO information (visual etc.) that the out via email or

Lead Walking

Improvement: apprehensive their student for school

school because they may be unsafe, such as if they encounter a non-trustworthy adult or a bad driver. Additionally, there is a lack of “eyes on the street” because many adults work during the day, whether working from home or at their workplace. In the Linn-Mar district, there are even fewer people able to monitor the street because there are few shops or businesses, so those employees are not there to see what is happening on the street. Highly residential areas leave few, if any, people able to view the daily activities of a street throughout the day.

Solution: Trusted adult leading a walking or biking school bus

Having a trusted adult lead the walking school bus will allow parents, initially apprehensive about active transportation, to feel more at ease knowing their student will have adult supervision and eyes on them at least traveling for school. This will also be an opportunity for students to walk as a group with safety in numbers, as there would be other people around to assist if needed. Walking and biking school buses assist in keeping more eyes on the street as both children and the adult leader are able to monitor what is occurring around them.

Objective Timeline: One year

Establishing walking school buses should be done within the plan’s first year to ensure that walking school buses can be successful and sustainable.

Responsible Party: Linn-Mar

Linn-Mar Communications and building administration staff will lead this item, as they will seek volunteers to lead the walking school buses. The Parent and SRTS Champions will also need to assist, as they may be leading the walking school buses or helping the schools find other trusted adults to help. Corridor MPO and the City of Marion will assist as necessary.

Getting Students to School Safely with Active Transportation

Area of Improvement: Parents unsure about the safety of using active transportation for travel

While it may seem like there is no possible way, you can safely travel to school by walking, cycling, or rolling. There are helpful tips that can make doubters realize that active transportation is often safe when

done responsibly.

Solution: Inform parents how students can safely utilize active transportation

Through consistent messaging throughout the year, parents can be reminded and educated on how their child can get to and from school via active transportation. This messaging will give parents and guardians consistent information about active transportation, helping lead them to the conclusion that simply being a pedestrian or cyclist is not inherently dangerous, child or not.

Objective Timeline: One year

Consistently messaging this will help make SRTS at Linn-Mar sustainable by working to change the culture to be more supportive of Safe Routes to School. This messaging needs to be started as soon as possible to get the expectation set that students do have the ability to use active transportation safely.

Responsible Party: Linn-Mar

Linn-Mar Communications department and building administrative staff will be the leads for this solution. They will provide messaging via email, website, social media, and newsletter about how students can safely utilize active transportation for travel. The Corridor MPO and the City of Marion would assist by providing information, visual aids, and text that Linn-Mar staff can utilize and send out to parents.

Best Route to Walk/Roll/Bike to and from School

Area of Improvement: Students and parents are unsure of the best, most



Grading and utilities construction on Tower Terrace Road between Alburnett Road and C Avenue in Cedar Rapids.

Source: medcoiowa.org