City of Gervais – Gervais Elementary School Baseline Data Evaluation Report



FINAL July 27, 2022

Introduction

This case study evaluation measures the impacts of Oregon Safe Routes to School (SRTS) 2021 Competitive Construction Grants in communities across the state. The evaluation will assess the effectiveness of individual SRTS projects, techniques, and programs designed to reduce barriers to biking and walking to and from school. Evaluation research questions include:

- What are the impacts for standalone construction grants, and combined outreach and education and construction grants?
- How do different combinations of interventions effectively address the barriers identified by communities and affect mode shift; safety; and perceptions of safety, program lifespan, and equity?

This Baseline Data Evaluation Report represents the "pre-construction" data and provides an overview of existing travel conditions and school site attributes. This report summarizes the funded improvement project, demographics of affected schools, and data from Oregon Department of Transportation (ODOT) and local roadway authority crash records, caregiver surveys, and student travel hand tallies. It is intended to contain the majority of the information needed to plan for the post-construction data collection.

Plan for the Final Case Study Evaluation Report

The Final Case Study Evaluation Report will represent the "post-construction" data. A draft outline for this report is included in Appendix A. For data consistency, the post-construction data will be collected as soon as possible after construction is complete, likely starting in spring 2023. This will reduce weather-related impacts and also allow time during the school year for families to establish or change their travel habits. In addition to the standard caregiver surveys and student travel hand tallies, post-construction data collection methods for the evaluation report may also include caregiver focus groups and surveys or interviews with school staff.

The Final Case Study Evaluation Report will measure shifts using the evaluation metrics laid out in this document to identify the successes of SRTS projects and provide insight on opportunities for further improvement. SRTS performance metrics measured during this evaluation process will include:

- **Mode split:** Are more students walking and biking to school after a project's completion than at the time of baseline data collection?
- Access to safe infrastructure: Do students have better access to sidewalks, bike lanes, or safe crossing locations on their route to school after the completion of the project?
- Safety/perception of safety: Do caregivers and students feel safer or more comfortable walking and biking to school after the project's completion?
- **Program lifespan/partnerships:** Is the SRTS program functioning efficiently and providing adequate support for partner jurisdictions, schools, and districts?
- **Equity:** Are students from a diversity of ethnic/racial and socioeconomic backgrounds benefiting from the investments being made?

In addition to reporting on grant effectiveness, data presented in the Baseline Data Evaluation Report and the Final Case Study Evaluation Report could be used for a variety of transportation and program planning purposes at the local level. Having a comprehensive set of quantitative data and qualitative feedback on transportation conditions and trends around these sites could help inform decisions on school/district policy, SRTS event and program planning by schools/districts/local jurisdictions, and planning for future infrastructure projects, as well as provide supporting documentation for future grant applications.

Baseline SRTS Snapshot: Gervais Elementary

Summary

Gervais Elementary School is a public elementary school serving students in the City of Gervais. Gervais Elementary is a Title 1 school, with more than 82% of students eligible for the Federal Free and Reduced-Price Lunch Program. English and Spanish are the primary languages spoken by students, and 57% of students are registered as Ever English Learners.¹

City staff identified Gervais Elementary School as a high priority site for SRTS improvements due the crosswalks serving all Gervais students on Douglas Avenue that are not controlled with a signal, making students vulnerable to accidents. At the elementary school, there are also no bicycle lanes.

The Oregon SRTS 2021 Competitive Construction grant funded the installation of solar powered flashing beacons at each crosswalk on Douglas, removing and replacing the sidewalk, and building a new bike lane.

In addition to these planned infrastructure improvements, the City has shared this proposed project with the Gervais City Council in various open council meetings.

Key information from Gervais Elementary travel tally:

 Approximately 38% of students ride in a family vehicle to school and 31% use this mode to travel home; 34% of students take the school bus to school, and 35% take the bus home. A significant amount of students walk to school (26%), and even more walk home from school (31%); however, under 2% of students bike to or from school.

¹ Number of students who have been served or were eligible for an English language development program during 2018-19 or at any time in the past. Oregon Department of Education 18-19 SY collected May 1, 2022.

Contact Information

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Enrollment and Demographics

Gervais Elementary School is a Title 1 public school enrolling 357 students in Kindergarten through 5th grade. The school serves low-income populations in the City of Gervais; approximately 82% of students are eligible for the Free and Reduced-Price Lunch Program. English and Spanish are the primary languages spoken by students, and 57% are registered to be Ever English Learners.²

ENROLLMENT: 357³	GRADE LEVELS SERVED AND SCHOOL TYPE: K-5 th , Public
STUDENT ETHNIC/RACIAL DEMOGRAPHICS: American Indian/Alaska Native: 0% Asian: 1% Hispanic or Latino: 76% Native Hawaiian/Pacific Island: 0% Multiracial: 2% Black/African American: <1% White: 22%	PREDOMINANT LANGUAGES SPOKEN IN GERVAIS SCHOOL DISTRICT: ⁴ English: 874 Spanish: 530 Russian: 51 Mayan: 10
STUDENTS LIVING WITHIN 1 MILE OF SCHOOL:	NA TITLE 1 STATUS: Yes ⁵
EVER ENGLISH LEARNERS: 57% ⁶	FREE AND REDUCED-PRICE LUNCH ELIGIBILITY: 82.7%7

² Unless otherwise noted below, demographic data are from the Oregon Department of Education Fall Membership Report SY2020-2021 Data, <u>https://www.oregon.gov/ode/reports-and-data/students/Pages/Student-Enrollment-Reports.aspx</u>

³ Oregon Department of Education, SY 2020-2021 <u>https://www.ode.state.or.us/data/reportcard/Media.aspx</u> ⁴ Oregon Department of Education Language Use Survey, SY 2020-2021 <u>https://www.oregon.gov/ode/schools-and-</u>

districts/grants/ESEA/EL/Pages/LanguageUseSurvey.sh2020-2021 <u>https://www.oregon.gov/due/sch00is-a</u>

⁵ Title 1 schools are schools where 40% or more of students are enrolled in USDA's Free and Reduced-Price Meals Program. Oregon Department of Education, SY 2018-2019 <u>https://www.oregon.gov/ode/schools-and-</u>

districts/reportcards/reportcards/Pages/Accountability-Measures.aspx

⁶ Oregon Department of Education, SY 2020-2021 <u>https://www.ode.state.or.us/data/reportcard/Media.aspx</u>

⁷ Oregon Department of Education, SY 2020-2021 <u>https://www.oregon.gov/ode/students-and-</u>family/childnutrition/cacfp/Documents/Site%20Eligibility%20for%20CACFP%20and%20SFSP.pdf

Community Context and Place Type

Place type describes attributes of a built environment, including: access to destinations, density, walkability, mixing of uses, and presence of transit. The evaluation team compiled Oregon Department of Land Conservation and Development's (DLCD) measures of <u>place type</u> for each community studied.⁸ Each attribute is rated as "**Very Low, Low, Medium, or High**" by block group. Place type characteristics provide important context for transportation opportunities and challenges in a community and influence the transportation decisions people make.

Gervais Elementary School is located in the City of Gervais. According to the Place Type Tool, the area surrounding Gervais Elementary School is categorized as low density rural, meaning it contains low density development and has undeveloped areas within its urban growth boundary (UGB). Its development type is also low density rural, with 1,381 people residing and 1,612 people working within the census block group. The area has a medium level of access to regional employment centers and destinations, and a high mix of uses; however, the overall level of street connectivity in the area is characterized as "very low."

AREA TYPE describes the role of each neighborhood district compared to the rest of the region (regional center, close-in community, suburban/town, low density/rural)	Low Density/Rural • Very low densities of jobs and ho • Very low accessibility to jobs and • Generally outside UGB or undeve • Auto dependent transportation and services	l services eloped areas within UGB
DEVELOPMENT TYPE describes more detailed physical characteristics of each neighborhood (transit supportive development, mixed use, employment, residential, rural/ low density):	Low Density/Rural • Very low densities of housing and • Very low accessibility to jobs and • Generally outside UGB, or undeve • Auto dependent transportation, o	services eloped areas within UGB due to low activity densities
JURISDICTION POPULATION (ACS 5-YEAR ES	STIMATES):	City of Gervais 2,750 people
CENSUS BLOCK GROUP POPULATION (2010)):	2,508 people
NUMBER OF JOBS IN CENSUS BLOCK GROU	IP (2010):	279 jobs
ACCESS TO DESTINATIONS describes the nu	umber of regional jobs within 5 miles:	Very low
DENSITY LEVEL- jobs and households per ad	cre within ¼ mile:	Very Low
DESIGN LEVEL- level of street connectivity, pedestrian-oriented street density:		Very Low
DIVERSITY LEVEL- Mix of housing and emplo	oyment:	Very low
TRANSIT LEVEL- Afternoon peak hourly trar	nsit service within ¼ mile:	Very Low

⁸ More information about OLCD's Place Type Tool is available at: <u>www.oregon.gov/lcd/CL/Pages/Place-Types.aspx</u>

^{4 |} Oregon Department of Transportation Safe Routes to School Construction Program

Project Description

A map of the project improvements from the Gervais Elementary grant application is included in Appendix B.

PROBLEM STATEMENT:	The crosswalks serving all Gervais students on Douglas Avenue are not controlled with a signal, making students vulnerable to accidents. At the elementary school, there is no bicycle lane and the sidewalk is in disrepair, causing trip hazards.
DESCRIPTION OF BARRIERS TO WALKING AND BIKING:	There have been too many close calls where drivers do not see students in the crosswalk. This especially is a problem on the dark and rainy days. Having the crosswalks illuminated with flashing beacons would have a positive and dramatic impact on student safety on their trips to and from school. Trip hazards can be removed with the replacement of the current sidewalk, and congestion could be alleviated with the addition of a bicycle lane
PROJECT DESCRIPTION:	The project would provide for the installation of solar powered flashing beacons at each crosswalk on Douglas. The sidewalk at the elementary school would be removed and replaced. The replacement sidewalk would be realigned to accommodate a new bicycle lane.
ESTIMATED PROJECT TIMELINE:	August 2022 Completion
PRIORITY SAFETY CORRIDOR? ⁹	Yes
OUTREACH AND EDUCATION:	To the extent of reaching out to the public, we have shared this proposed project with the Gervais City Council in open council meetings where some public has been in attendance. We do not circulate a newsletter and we have not posted anything on the City's website about it. Grace has talked to Dandy Stevens, Gervais School Superintendent, and the elementary principal about this application and project, both of whom are excited the City is applying.

Access Analysis for Students Walking and Biking to School

The project team conducted an analysis to estimate the number of people who would gain walking and biking access to Gervais Elementary School when the project improvements are constructed, shown in Table 1 and Figure 1. First, the project improvements were evaluated to understand the geographic areas that would gain safe access to the school once the funded project was constructed. Next, American Community Survey (ACS)

⁹ A road where the posted speed or 85th percentile speed of traffic is 40 mph or greater OR where two of the following apply: posted speed limit of 30 mph or greater, more than two lanes or a crossing distance greater than 30 feet, 12,000 AADT or greater, or a demonstrated history of crashes related to school traffic.

data was combined with zoning data to estimate the number of people and the number of school-age children that live within the new access areas.

This analysis estimates that approximately 398 students, or 47% of the school-aged population living within a mile of the school, would gain safer walking or biking access to the school.

METRIC	VALUE
Total Population of New Access Areas	1,370
School Age Population of New Access Areas ¹¹	398
Percentage of Students within the School Areas Gaining Access $^{f 12}$	47%

¹⁰ Due to the lack of residential zoning in the surrounding area, the population served is based on the proportion of land coverage in the new access area compared to the School Area, assuming an even distribution of population density across the area.

¹¹ Calculated using the proportion of school-age children (5-17 years old) within the City of Gervais.

¹² The School Area is defined as the area within the school enrollment area that is within one mile of the school.

Figure 1. Gervais Elementary New Access Area for Students Walking and Biking



Gervais Elementary School Students with New Access to Walking and Biking

Estimated Number of Students: 398 Proportion of Students within 1 Mile: 47% To view the methods for this analysis, please see Appendix.





Baseline Data

The following section presents pre-construction data, which will be compared against similar data collected after the project has been constructed, in order to estimate the impact of the improvements.

Hand Tallies

DATE COLLECTED:	November 2 and 3, 2021
DATA COLLECTION PROCESS:	44 classrooms surveyed about their trip to and from school at Gervais Elementary School, Middle School, and High School
NUMBER OF STUDENTS:	764 students participated in hand tallies
TRIPS RECORDED	2,539 trips recorded by the hand tallies

SUMMARY OF DATA COLLECTION AND METHODOLOGY

The November 2021 baseline hand tally data from Gervais Schools includes 2,539 recorded trips collected from 764 students in 44 classrooms across three schools from kindergarten to 12th grade. The hand tally process surveyed all students in each classroom on which transportation mode(s) they had used to get to and from school the day of the survey. The Oregon SRTS's hand tally data collection forms and process were used. Gervais School District staff collected the data. This data provides a snapshot of student travel behavior trends.

SUMMARY OF RESULTS:

Gervais school district travel tally data from 2021 indicates that a majority of students travel by family vehicle in the morning (38%) and return home by school bus in the afternoon (35%) (see Figure 2 and Table 2). Walking was a popular method of traveling to school, with 26% of students using this mode to travel to school and even more (31%) using it to travel home. Bikes were used by between 1% or less students to get to school and home, and carpool was used by less than 3% of students to get to school.





Note: Percentages may not total 100% due to rounding.

Table 2. Count of Student Mode Split to and from School, 2021 Hand Tally Data

TIME OF DAY	WALK	BIKE	SCHOOL BUS	Family Vehicle	CARPOOL	TRANSIT	OTHER
Morning	335	7	428	477	17	0	6
Afternoon	398	6	438	393	22	0	12

Caregiver Surveys

DATE COLLECTED:	November 2021
DATA COLLECTION PROCESS:	The Oregon Department of Transportation SRTS caregiver survey was distributed by hard copy to caregivers at an in-person SRTS event in Gervais
NUMBER OF SURVEYS:	2 total

SUMMARY OF DATA COLLECTION AND METHODOLOGY

Alta Planning + Design Staff visited Gervais on November 2, 2021 to conduct a site visit and held several activities related to Safe Routes to School Planning. In the afternoon, Alta staff tabled at a Day of the Dead Celebration at Gervais Middle School and distributed the SRTS caregiver survey; however, given the severity of the COVID-19 pandemic, the event had low turnout. This resulted in a lower-than-normal number of surveys completed by Gervais caregivers.

SUMMARY OF RESULTS:

Two caregiver surveys were returned during the site visit, which is not a sufficient amount of data to base any conclusions on.

Crash Data

DATE COLLECTED:	2014-2018
DATA COLLECTION PROCESS:	Crash data included in this report originates from relevant roadway jurisdictions, as well as the ODOT SRTS Web Map Application for the years 2014-2018. This analysis does not determine whether the grant intervention <i>caused</i> any change in the occurrence of crashes, due to small sample size. Additionally, due to insufficient mode split data to calculate crash <i>rates</i> , this report offers a count and description of reported incidents.
NUMBER OF REPORTED CRASHES INVOLVING BIKES AND PEDESTRIANS WITHIN 1 MILE OF SCHOOL:	Between 2014 and 2018, two crashes involving a bicyclist or pedestrian were reported within one mile of the school.
TIME OF REPORTED CRASHES INVOLVING BIKES AND PEDESTRIANS WITHIN 1 MILE OF SCHOOL*:	Each of these reported crashes occurred during school commuting hours. * For these purposes school commuting hours were defined as 6 AM to 9 PM.
NUMBER OF REPORTED INJURIES BY SEVERITY WITHIN 1 MILE OF THE SCHOOL:	Each of the reported crashes involved pedestrians. One incident included two pedestrians. Figure 3 illustrates the location of the crashes by type and injury severity. The map includes a pedestrian fatality on I-5 and a bicycle injury collision on Highway 99; these occurred more than one mile from the school.
ADDITIONAL CRASH DATA CONSIDERATIONS:	N/A

Figure 3: Gervais Elementary School Bicycle & Pedestrian Collisions (2014-2018)



Follow-Up Data Collection Plan

Timeline

Post-grant field visits to collect follow-up data will be scheduled to take place the spring following the completion of each grant intervention. The City of Gervais estimates the project will be completed by August 2022.

Follow-Up Data Collection Process

METHOD	PLANNED AT THIS SITE?	TARGET SAMPLE SIZE	TARGET FIELD WORK DATE
STUDENT HAND TALLIES:	Yes	At least 2 classrooms per grade per school	Early spring 2023 (assuming project completion)
CAREGIVER SURVEYS:	Yes	At least 30 caregivers per school	Early spring 2023 (assuming project completion)
CAREGIVER FOCUS GROUPS:	Yes	4-10 caregivers	Early spring 2023 (assuming project completion)
STAFF SURVEYS:	Yes	1-3 school staff and administration	Early spring 2023 (assuming project completion)
COMMUNITY SURVEY	Yes	At least 20 community members	Early spring 2023 (assuming project completion)
CRASH DATA:	Yes	N/A	N/A
OTHER:	None	N/A	N/A

Appendix A. Final Report DRAFT Outline

Note: The following Final Report outline is subject to change.

Chapter 1. Introduction

- Description of SRTS Construction Grant Program
- Description of Final Report purpose and contents

SUMMARY OF FUNDED INFRASTRUCTURE IMPROVEMENTS

- Project description
- Map of improvements
- Project timeline

BACKGROUND

- School demographics
- Summary of Non-Infrastructure SRTS Work
- Place Type

Chapter 2. Data Collection and Results

HAND TALLY DATA

- Data Collection Methods
- Change in walking and biking rates

CAREGIVER SURVEY DATA

- Data Collection Methods
- Change in mode split by distance from school
- Change in barriers to walking and biking
- Change in perceptions of walking and biking
- Other observations

FOCUS GROUPS

- Data Collection Methods
- Change in barriers to walking and biking
- Change in perceptions of walking and biking

CRASH DATA

- Data included in analysis
- Change in crash data (If available, otherwise this will provide updated baseline crash data from ODOT)

Chapter 3. Findings

- Impact of Infrastructure improvements on mode split
- Impact of Infrastructure Improvements on Access to Safe Infrastructure

- Impact of improvements on safety/perception of safety
- Impact of infrastructure improvements on Program lifespan/partnerships
- Impact of infrastructure improvements on equity
- Other Findings
- Next Steps and Recommendations

Appendix B. Competitive SRTS Infrastructure Grant-Funded Project Map

Figure 4. Gervais Elementary Competitive SRTS IN Grant Funded Project Map



Appendix C. Access to SRTS Detailed Methodology

Purpose

The access map analysis was designed to estimate the number of students with new or significantly improved access to school upon the implementation of a proposed walking or biking facility. While determining the number of students who benefit from a proposed project is not an exact science, this analysis provides a common approach that utilizes school district boundaries, census population data and local zoning codes to generate rough estimates. These estimates lend greater insight into the impact of a particular Safe Routes to School project, allowing facility improvements to be compared and thus aid in prioritizing investments. This memo outlines the data sources, methods, and assumptions that inform the access map analysis described in this report.

Data Sources

Three primary data sources were used in this analysis in conjunction with the information provided in each project application:

Name	Source
American Community Survey (ACS) Population Estimates	US Census Bureau
Oregon School District Boundaries	Oregon Department of Education
2017 Oregon Statewide Zoning Map	Oregon Department of Land Conservation and Development

Methods

The analysis establishes two geographical areas in which census block population data are apportioned to: 1) the school area and 2) the access area. The school area is defined as the area that is within a 1-mile radius of the applicant school or within the enrollment boundary, whichever is closer. This area covers residents within reasonable walking or biking distance of the school. The access area is the area that covers all residents who would experience new or significantly improved access to school upon the implementation of the proposed walking or biking facility.

Once both of these areas were established, the consultant team identified the census blocks that intersect each. We then apportioned the population data from the census blocks to the school area and the access area, based on the relative coverage of each census block. To account for varying residential densities in each census block, we used residential zoning data to determine the proportion of the population that should be attributed to the school area and access area. After the estimated populations of both the school area and the access area are calculated, the local jurisdiction's youth rate is applied to each to get the number of people ages 5-17 in those areas, which we refer to as the "school age population." Finally, the school age populations of the access area and the school area are compared. The percentage of school age students with new or improved access to school represents the proportion of students impacted by the project out of all the students in the school area who could reasonably walk or bike to school.

Defining the Access Area

The boundary of the school area is readily calculable using GIS and the rules described above. By contrast, the access area boundary was determined manually based on the project description and professional judgement of impact. While this method inherently includes subjective judgement, the high variability and nuance in the transportation context surrounding the proposed project makes this method more suitable for determining the residential areas apportioned that would benefit from its implementation than a purely GIS-based workflow. The following assumptions and rules of thumb were adopted in order to make the assessment of the access areas as uniform as possible:

- 1. The analysis assumes people are willing to "walk around the block" half the distance of their street in the opposite direction of school in order to utilize a safe path to school.
- 2. The analysis assumes that Google Earth street view imagery is up to date, as this was used to determine sidewalk connectivity and condition, which informed the access areas.
- 3. Places without sidewalks, particularly in small towns, are considered walkable if the street is narrow, residential, and designed for a low volume of traffic (i.e., lacks a centerline)
- 4. The access areas consider ADA accessibility and account for those in wheelchairs or other mobility devices.
- 5. The access areas may include residents who have to walk more than one mile to school, based on the available street network.
- 6. Even if some residents may have already had access to school, they might be included in the access area if the proposed project would significantly improve their access to school.

Apportioning Census Population Data

As described above, census population data was apportioned to both the school area and the access area based on how much a census block covered them. However, to account for varying population densities across census blocks, residential zones in the census blocks were identified.

The statewide zoning data provided by the Oregon Department of Land Conservation and Development groups residential zones across all jurisdictions in the state into 13 categories of increasing density. Our team further consolidated these categories into just 4: Low Density, Medium-Low Density, Medium-High Density, and High Density. We then weighted these categories by their relative density compared to Low Density:

Residential Zone Group	Population Density Factor
Low Density	1

Residential Zone Group	Population Density Factor
Medium-Low Density	2
Medium-High Density	5
High Density	15

These factors serve to more accurately distribute the population data across the residential zones within the census block. In other words, if the census block contained only Low -Density residential zones, then the population of any given area within that census block is equal to the proportion of the census block that that area covers. By contrast, if a census block contains Low Density residential zones and High-Density zones, we attribute 15 times the population of the census block to the High Density zones than the Low Density zones. The density factors were determined using the typical number of dwellings per acre in each zone.

The analysis uses these four zoning categories to identify the spatial distribution of the population of the census block and apportion it to the overlaying school area and access areas based on how much those areas cover the residential zones of the census block.

General Assumptions

- This analysis assumes that the Oregon Statewide Zoning code reflects the actual residential densities of the current built environment.
- Areas that were zoned for housing that had no development on them according to the latest satellite imagery (and therefore significantly impacted the output) were removed from the analysis in order to improve the accuracy of the estimates. This was only utilized in a few low-population jurisdictions.
- For rural schools with no local residential zoning reported, the population of the appropriate block group is assumed to be evenly distributed across the school zone and the percentage of people served is equal to the percentage of the school zone covered by the new access area.
- This analysis assumes that families are evenly distributed between each of the four residential zone groups.
- The reported number of school-age students includes all students ages 5-17, not just elementary or middle school students. Thus, the number of students who actually attend the applicant school is likely much lower than the reported figure.