



SAFE ROUTES TO SCHOOL STUDY

GILHAM
ELEMENTARY
SCHOOL

EUGENE SCHOOL
DISTRICT 4-J



EUGENE, OREGON

MARCH 8, 2013

GILHAM ELEMENTARY SCHOOL

SAFE ROUTES TO SCHOOL STUDY

EUGENE, OREGON

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PROJECT NO. 2362

MARCH 8, 2013

JRH TRANSPORTATION ENGINEERING

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INTRODUCTION

This document has been prepared in coordination with the Eugene School District 4J to provide a Safe Routes to School plan for Gilham Elementary School at 3307 Honeywood Street, Eugene, Oregon. The parking lots and main entrance to the school are accessed from Honeywood Street to the north. Pedestrian and bicycle access is also available from Lakeview Drive to the south of campus. The location of Gilham Elementary School is illustrated in Figure 1.

The Safe Routes to School program is a national program designed to encourage and provide safe walking and biking to and from school. The program is designed to examine routes that children take to get to and from school, paying particular attention to roadway crossings, to identify and recommend relatively safe routes, to provide treatment options that improve the safety of the routes, to supply students with route information and safety information, and to encourage the use of active modes of travel.

There are typically five elements in a Safe Routes to School (SRTS) plan that are necessary to meet the goals and improve the success of the program. The five elements of a successful SRTS program include Engineering, Education, Encouragement, Enforcement, and Evaluation, with this report focusing on the engineering component.

The **ENGINEERING** element of a Safe Routes to School program addresses the built environment with an emphasis on safety along active transportation routes and crossings. This element typically identifies locations where safety may be a concern and strategies are identified for implementation to improve upon safety. Such improvements can include maintenance and operational measures as well as construction projects. As safety is the first priority, this element of the SRTS program may be the most essential to a successful program, and a safe active transportation routing has the potential to encourage an increase in walking and biking.

EDUCATION is the process of informing students, parents, neighbors, and other drivers in the community of safe driving, walking, and biking practices while in the school area. Aspects of this element can include classroom activities to teach students how to bike and walk safely and can include informing parents, neighbors, and student drivers to yield at crosswalks, drive safely, and to take other actions to make it safer for pedestrians and bicyclists.

ENCOURAGEMENT strategies generally focus on generating excitement about using active modes safely to school. Activities can include participation in the International Walk to School Days, challenges, and activities to encourage walking and biking to school. Some successful challenges and activities have been “Frequent Rider” challenges and “Ride n’ Seek” treasure hunts. Encouragement can also include school participation activities which can promote the health aspects of walking/biking to school. The 4J School District has a program in place at many of their schools to encourage students to

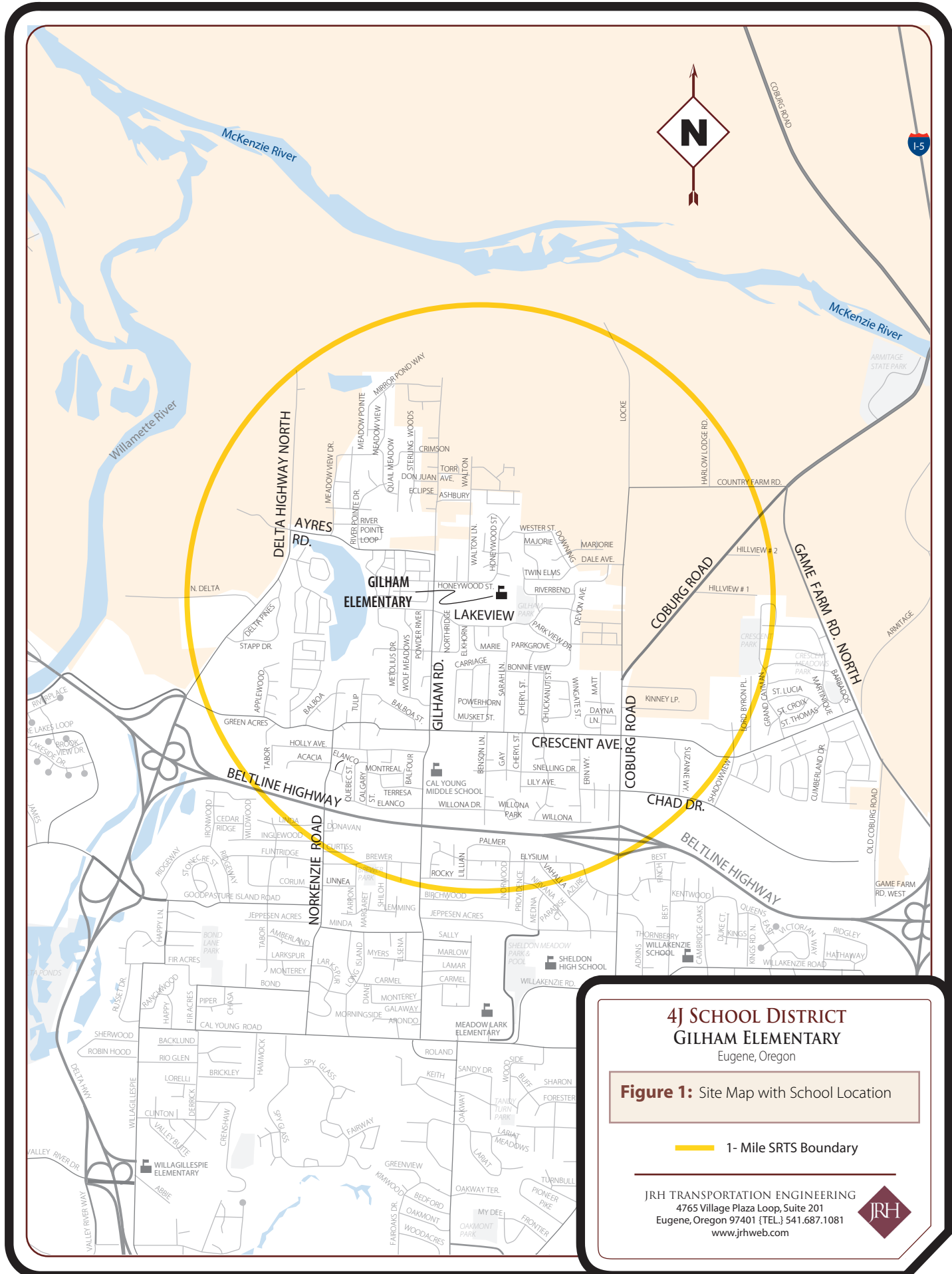


use active transportation to school. Currently, there are eight schools that have complete action plans.

ENFORCEMENT activities are designed to help change unsafe behavior of drivers, bicyclists, and pedestrians and to encourage safe behaviors. Enforcement activities commonly include involving local law enforcement agencies to provide help in enforcing traffic laws and school zone speed limits near the site. Enforcement can also be provided by community members to encourage students, parents, and neighbors to follow traffic laws and to yield at crosswalks and along the routes.

EVALUATION is used to determine if the goals are being met and can identify needed adjustments to the program while it is underway. This process typically consists of the identification of clear goals and objectives, a strategy for achieving goals, and a mechanism in place for measuring the success of the program towards achieving the goals.

As this report focuses on the Engineering aspect of the SRTS Plan, an inventory and analysis of the existing walking/biking facilities along the identified major active transportation routes was performed, followed by a needs assessment which looked at deficiencies and locations where improvements/treatments are necessary.



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Figure 1: Site Map with School Location

 1- Mile SRTS Boundary

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PEDESTRIAN INVENTORY/PEDESTRIAN ROUTES

It is the Eugene School District 4J's policy to not provide school transportation, busing, to students who reside within 1.0 mile from elementary schools. However, 4J will provide busing to students within the 1.0 mile radius that do not have a safe active transportation route to school or who need the service as part of a special needs program. Students living inside the 1.0 mile perimeter are responsible for their own transportation to school, which may include vehicle and active modes of travel.

The Lane Transit District in cooperation with the Eugene School District 4J has provided a map which illustrates the housing locations of existing students in grades K through 5 within the school district boundaries.

The first step in the plan is to identify the routes that pedestrians and bicyclists will likely take to/from school. The student map provided illustrates the origin (housing location) of each student for the most recent school year. From the point of origin a walking/biking route is developed which takes the student to school. These routes are based on a shortest distance to school and type of roadway traveled. Once all of the routes are created they are classified as a minor active transportation route or a major active transportation route. A minor active transportation route is a route that will typically be traveled by few students and are on lower traffic volume roadways. A major active transportation route is a route that a larger number of students will travel or are routes along higher traffic volume roadways. The major routes are typically a section of roadway into which several minor routes connect or funnel. These routes are illustrated in Figure 2.

The major active transportation routes have been identified along Ayres Road, Gilham Road, Honeywood Street, Crescent Avenue, Lakeview Drive, Park View Drive, Walton Street, Holly Avenue, Sarah Lane, and Dale Avenue.

In addition to the roadway routes, there are three locations along Lakeview Drive which provide pedestrian/bicycle shortcuts to the campus. The first shortcut is located just east of Northridge Way. Short concrete walk connects it to the west side of campus, but stops at the campus boundary. A raised (but unmarked) pedestrian crossing extends across Lakeview Drive to connect with this shortcut. The second is located at the intersection of Marie Lane with Lakeview Drive and accesses the middle of campus. This shortcut is a concrete walk which extends through campus to the paved playground. Like the first shortcut, a raised pedestrian crossing extends across Lakeview Drive to connect with this shortcut. This crossing has no pavement markings, but there is school crosswalk signage. The third is located on the east side of the campus just west of the intersection of Lakeview Drive with Park View Drive. This shortcut is a bark path which runs along the perimeter of the park and campus. There is a pedestrian ramp from the sidewalk to the street surface, but there are no crosswalk pavement markings or signage here.

There is a neighborhood cut-through just north of the intersection of Dale Avenue with Riverbend Avenue. This connects to Honeywood Street leading to the school.



Approximately one block south of this intersection is another concrete shortcut from Riverbend Avenue to a paved parking area in the northeast section of campus. These shortcuts are not marked with crosswalks or signage.



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Figure 2: Preferred Bike/PED Routes

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NEEDS ASSESSMENT

EXISTING CONDITIONS

All of the routes illustrated in Figure 2 were inventoried to examine existing active transportation treatments. These treatments include locations where sidewalks and crosswalks are present and intersections which are stop-controlled or signalized. Along major active transportation routes the characteristics are examined to determine if additional treatments are necessary to improve safety. The route characteristics are illustrated in Figure 3.

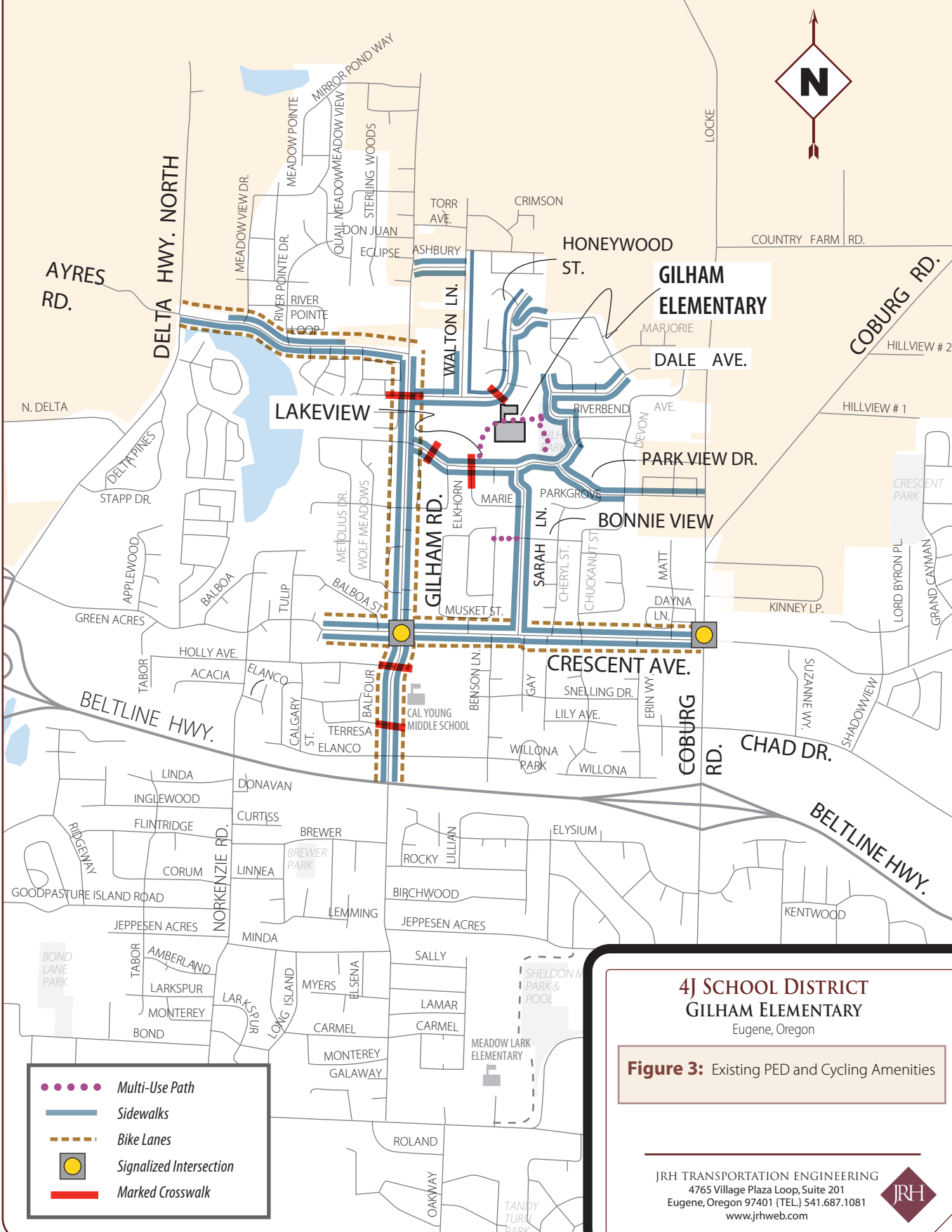
The major active transportation routes have been identified along Ayres Road, Gilham Road, Honeywood Street, Crescent Avenue, Lakeview Drive, Park View Drive, Walton Street, Holly Avenue, Sarah Lane and Dale Avenue.

Ayres Road

Along Ayres Road from north Delta Highway to Gilham Road, continuous sidewalks are present on the south side of the roadway. A sidewalk is present on the north side from just west of Meadow View Drive to east of Lake Shore Drive. There are raised pedestrian crossings at Meadow View Drive and River Pointe Drive connecting to the sidewalk on the south side of the road. Raised bike lanes are present along both sides of the road.



Ayres Road Looking West



- Multi-Use Path
- Sidewalks
- - - Bike Lanes
- ⊙ Signalized Intersection
- Marked Crosswalk

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Figure 3: Existing PED and Cycling Amenities

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Gilham Road

Along Gilham Road continuous sidewalks are present on both sides of the roadway between Ayres Road and Beltline. There are bike lanes along both sides of the road and a raised pedestrian crossing at the intersection of Honeywood Street and Gilham Road. There are also pedestrian crossings south of Crescent Avenue at Holly Avenue and Teresa Avenue. The intersection of Gilham Road and Crescent Avenue is signalized.



Gilham Road Looking North

Honeywood Street

There are continuous sidewalks along both sides of Honeywood Street for its entire length. There are no bike lanes and one marked pedestrian crossing located just northeast of the easternmost driveway to the campus. This crossing has an adult crossing guard present before and after school.



Honeywood Street Looking East

Crescent Avenue/Green Acres Road

Sidewalks and bike lanes are present along Crescent Avenue/Green Acres Road between North Delta Highway and Coburg Road. There are traffic signals at the intersections of Gilham Road/ Crescent Avenue and Crescent Avenue/Coburg Road.



Crescent Avenue at Gilham Road Looking East

Lakeview Drive

There are sidewalks along both sides of Lakeview Drive between Gilham Road and County Farm Road. There are also three shortcuts to the campus from Lakeview. There



Lakeview Drive Looking East

are two raised pedestrian crossings leading to the shortcuts at Northridge Way and Marie Lane.

Park View Drive

Sidewalks are present along both sides of Park View Drive from Lakeview Drive to Devon Avenue. A sidewalk is present on the north side from Devon Avenue to County Farm Road.



Park View Drive Looking South From Lakeview Drive

Walton Lane

There is continuous sidewalk present along the east side of Walton Lane from Avengale Drive to Honeywood Street. There is no pedestrian crossing treatment at the intersection of Walton Lane and Honeywood Street.



Walton Lane Looking North from Honeywood

Holly Avenue

There are no sidewalks present on Holly Avenue. There are wide gravel shoulders on both sides of the street. Some of the shoulder area appears to be used for parking and some is landscaped.

Sarah Lane

Sarah Lane has sidewalks along both sides of the street for its entire length. The street is closed to through vehicle travel by bollards north of Bonnie View Drive. Sarah Lane connects to Lakeview Drive and the pedestrian shortcuts to campus. There is a pedestrian access from Flintlock Street to Sarah Lane providing an important pedestrian connection.



Sarah Lane looking South

Dale Avenue

Sidewalks are present along both sides of Dale Avenue between Downing Street and Riverbend Avenue. There is intermittent sidewalk between Downing Street and County Farm Road to the east. The intersection of Dale at Riverbend leads to a concrete shortcut north of the Gilham City Park. There is a second pedestrian/bike connection from Dale Avenue to Honeywood Street. These shortcuts provide important pedestrian/bike connectivity between the adjacent neighborhoods and the school.

BARRIERS AND DEFICIENCIES

Barriers located along the major active transportation routes may be viewed as a deterrent to active modes of travel. Barriers are any physical or perceived obstacle/concern along a pedestrian route that would deter a student from walking or biking to school. Barriers may include locations where sidewalks are not present, unsafe road crossing locations or conditions, and the speed/high volume of traffic along the roadways. Figure 4 illustrates the locations.

Crescent Avenue

Crescent Avenue is one of the locations identified as a barrier. While Crescent Avenue itself has sidewalks and bike lanes, there are limited opportunities for pedestrians



traveling to/from school to comfortably cross Crescent. The signal at the intersection of Gilham Road and Crescent Avenue provides the safest opportunity to cross. The signal is busy and can require significant out-of-direction travel for some students.

The Crescent Avenue at Coburg Road intersection, although signalized, still presents an obstacle due to the size of the crossing and very heavy traffic volumes. The signal is busy and can require significant out-of-direction travel for some students.

Lakeview Drive

The signage and markings for all the crossings to the shortcuts to campus along Lakeview Drive could be improved to emphasize their presence and encourage pedestrian use.

Honeywood Street

The single marked crosswalk across Honeywood Street is an area of concern and further investigation. Its location in a curve limits sight distance and visibility for both pedestrian and drivers. It is also aligned between two driveways and one of the crossing signs is obscured by vegetation.

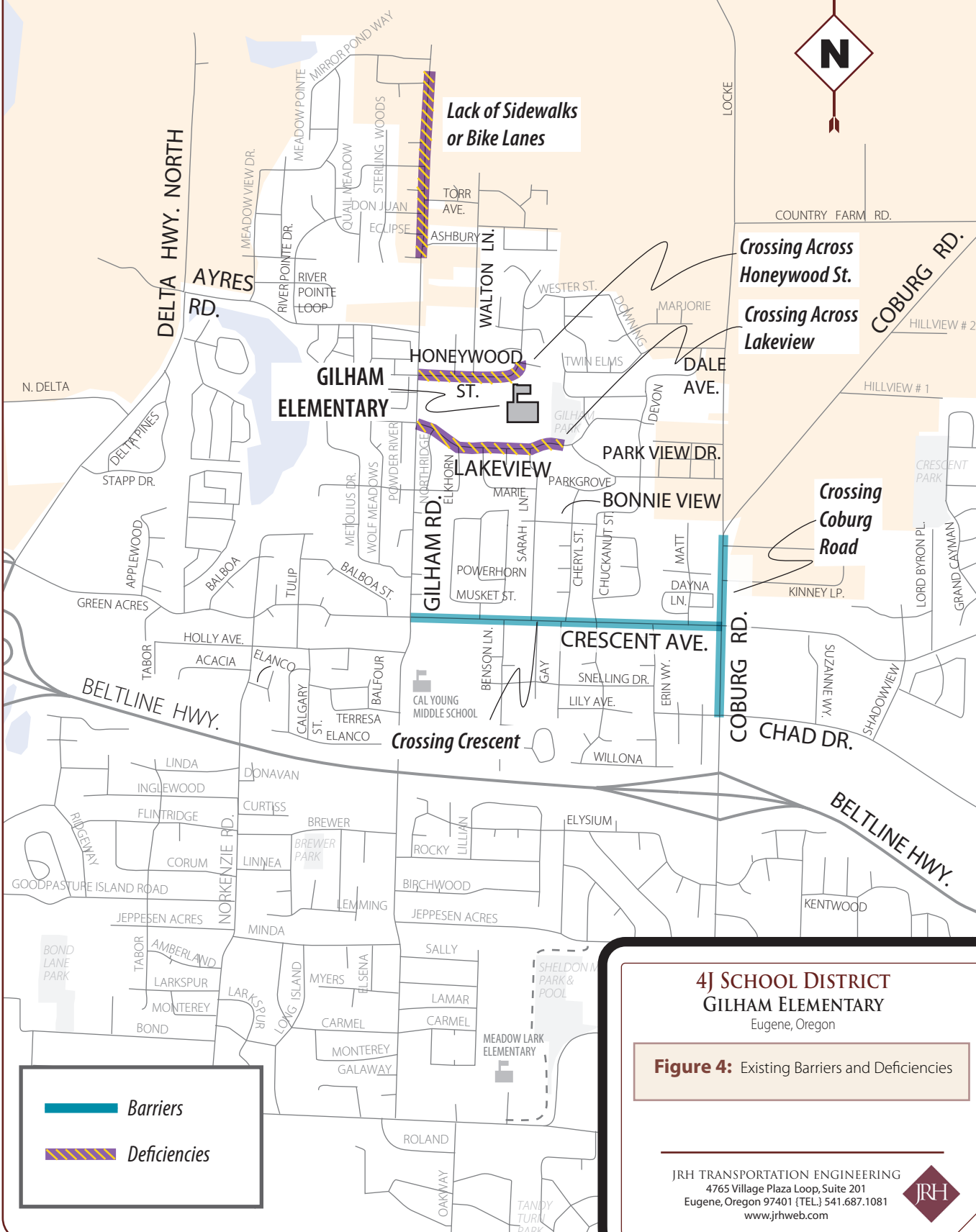
Gilham Road

Gilham Road north of Ayres Road lacks bicycle and pedestrian amenities making it troublesome for those modes of travel.


Coburg Road

Coburg Road is a busy five-lane roadway. Although the intersection of Crescent Avenue and Coburg Road is signalized, the crossing of Coburg Road by a student can be perceived as a safety barrier.

The neighborhood streets around Chuckanut Street have circuitous routing which make it difficult for pedestrian and bicycle travel.



 Barriers

 Deficiencies

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Figure 4: Existing Barriers and Deficiencies

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ENGINEERED SOLUTIONS

There are a variety of treatments that are engineered solutions to enhance safe routes to school including the following:

- **Sidewalk improvements:** new sidewalks, sidewalk widening, sidewalk gap closures, sidewalk repairs, curbs, gutters, and curb ramps.
- **Traffic calming and speed reduction improvements:** roundabouts, bulb-outs, speed humps, raised crossings, raised intersections, median refuges, narrowed traffic lanes, lane reductions, full- or half-street closures, automated speed enforcement, and variable speed limits.
- **Pedestrian and bicycle crossing improvements:** marked crossings, median refuges, raised crossings, raised intersections, traffic control devices (including new or upgraded traffic signals, pavement markings, traffic stripes, in-roadway crossing lights, flashing beacons, bicycle-sensitive signal actuation devices, pedestrian countdown signals, vehicle speed feedback signs, and pedestrian activated signal upgrades), and sight distance improvements.
- **On-street bicycle facilities:** new or upgraded bicycle lanes, widened outside lanes or roadway shoulders, geometric improvements, turning lanes, channelization and roadway realignment, traffic signs, and pavement markings.
- **Off-street bicycle and pedestrian facilities:** exclusive multi-use bicycle and pedestrian trails and pathways that are separated from a roadway.
- **Traffic diversion improvements:** separation of pedestrians and bicycles from vehicular traffic adjacent to school facilities, and traffic diversion away from school zones or designated routes to a school.

RECOMMENDED TREATMENTS

Based on the current inventory of roadway conditions and routes to school, there are key locations that would benefit from improved pedestrian treatments. These locations are Gilham Road north of Ayres Road; the pedestrian crossing at Honeywood Street; crossing Crescent Avenue; and the crossings to the pedestrian shortcuts along Lakeview Drive. As mentioned previously, a new crossing of Crescent Avenue near Sarah Lane is recommended. This crossing needs to be further studied to ensure the best possible treatment is implemented. The options available for pedestrian crossings along Crescent Avenue include the following:

PEDESTRIAN TREATMENT OPTIONS

HAWK Signal (Pedestrian Hybrid Signal):

The Hawk Signal (High-intensity Activated crossWalk) is a pedestrian hybrid signal used to warn and control traffic at an unsignalized location to assist pedestrians crossing a street at a marked crosswalk. The pedestrian hybrid signal provides a sequencing of amber and red lights to warn and stop motorists at the crossing and to provide a gap in traffic in which to facilitate the crossing of pedestrians. The pedestrian hybrid signal is activated by a pedestrian push button mounted at the edge of a crosswalk. When activated, amber warning lights warn motorists, followed by a red light sequence to instruct motorists to stop at the crossing. The red light sequence provides pedestrians sufficient time to cross the street safely. A typical HAWK pedestrian hybrid signal is shown below.



HAWK Signal Located in Portland, Oregon
(photo from flickr.com)

Pedestrian Flashers and Median Refuge

An option for a pedestrian treatment is the installation of pedestrian flashers and a median refuge. Pedestrian flashers alert drivers that there are pedestrians in the crosswalk. The flashers remain inactive until activated by a pedestrian push button located at the edge of the crosswalk. Although, not a regulatory device, the flashers provide greater visibility to motorists or pedestrians in the crosswalk. The increased visibility encourages vehicles to yield to pedestrians and waiting to cross safely.

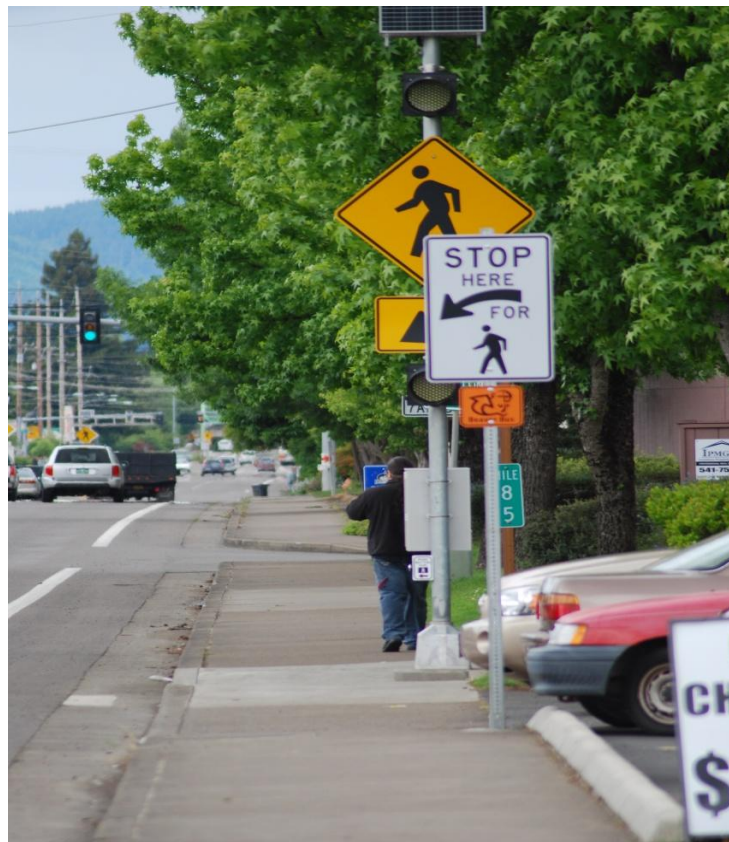
In addition to flashers, pedestrian refuge islands can be placed between travel lanes if space is available to allow pedestrians to cross a multi-lane roadway in stages. A pedestrian can begin to cross the roadway when there is a sufficient gap in traffic to allow the pedestrian to cross sections of the roadway to the median. The pedestrian can take refuge in the island until there is an adequate gap in traffic to cross the remaining section of roadway.



Typical Pedestrian Flasher and Median Refuge



Typical Pedestrian Flasher and Median Refuge



Typical Pedestrian Flasher

Pavement Markings and Crosswalk Signage

Another treatment option for crosswalks is pavement markings and crosswalk signs. Crosswalk signs and pavement markings serve to alert motorists of a pedestrian crossing point not controlled by traffic signals or STOP signs. A recommended pavement marking option is the Continental crosswalk markings. The Continental pavement markings consist of several white longitudinal lines parallel to the traffic flow within the crossing.

School crossing signs should also be installed as part of this treatment. It is recommended that the MUTCD School Crosswalk Warning Assembly be used at the crosswalk locations. The School Crosswalk Warning Assembly should consist of a “Stop Here for Pedestrians” sign and a supplemental “School” plaque or a “School Advanced Warning Sign” and a “Diagonal Arrow” supplemental plaque at the crosswalk location. Below are examples of a typical pedestrian crosswalk treatment, the School Crosswalk Warning Assembly, and the MUTCD guidelines for sign placement.

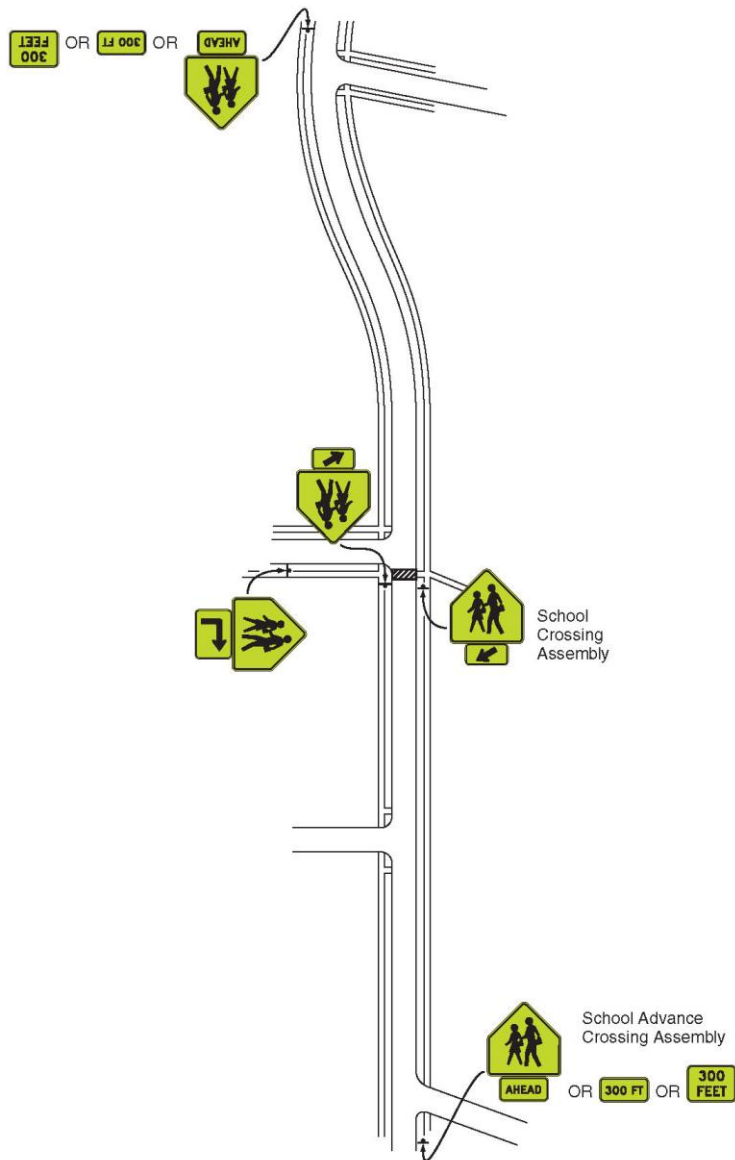


Typical Continental Crosswalk Treatment and School Crosswalk Warning Assembly



Recommended School Crosswalk Warning Assemblies

Figure 7B-4. Example of Signing for a School Crossing Outside of a School Zone



RECOMMENDED PEDESTRIAN TREATMENTS

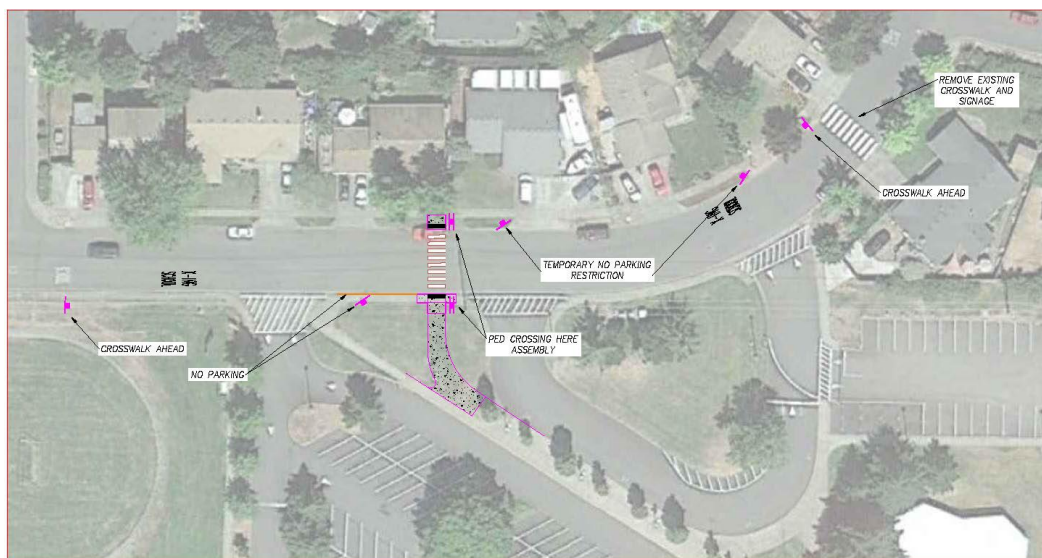
As previously stated, pedestrian treatments are recommended for the locations of Gilham Road north of Ayres Road; the pedestrian crossing at Honeywood Street; crossing Crescent Avenue; and the crossings to the pedestrian shortcuts along Lakeview Drive. The following discusses the recommended treatment options at these locations. Figure 5 illustrates the crossing locations, crossing treatments, and proposed sidewalk locations.

Gilham Road north of Ayres Road

It is recommended that sidewalks be provided along Gilham Road north of Ayres Road in order to improve pedestrian safety and encourage pedestrian use. Currently there are no sidewalks and the shoulders available to pedestrians are very narrow. The road is also only about 20 feet wide between shoulder stripes, which is comfortable for vehicles but makes no allowance for pedestrians.

Pedestrian Crossing at Honeywood Street

The single marked crosswalk across Honeywood Street is located in a curve which limits sight distance and visibility for both pedestrian and drivers, especially when vehicles are parked along the roadway. It is also aligned between two driveways and one of the crossing signs is obscured by vegetation. It is recommended that the crossing be moved to a more favorable location. A suggested location and treatment is shown below. This location improves both the visibility of the crosswalk and pedestrians to vehicles as well as the visibility of vehicles to pedestrians and crossing guard. A permanent parking restriction would be in force along the curb adjacent to the crossing on the south side of Honeywood Street. A part-time parking restriction could be in force on the north side of the street in the vicinity of the crosswalk. These restrictions would further enhance the visibility of the crossing during school drop off/pick up times. This design also allows students to follow a concrete walk directly to the crosswalk and avoid the parking areas during the times of increased vehicle activity.



Proposed Crosswalk Treatment for Honeywood Street

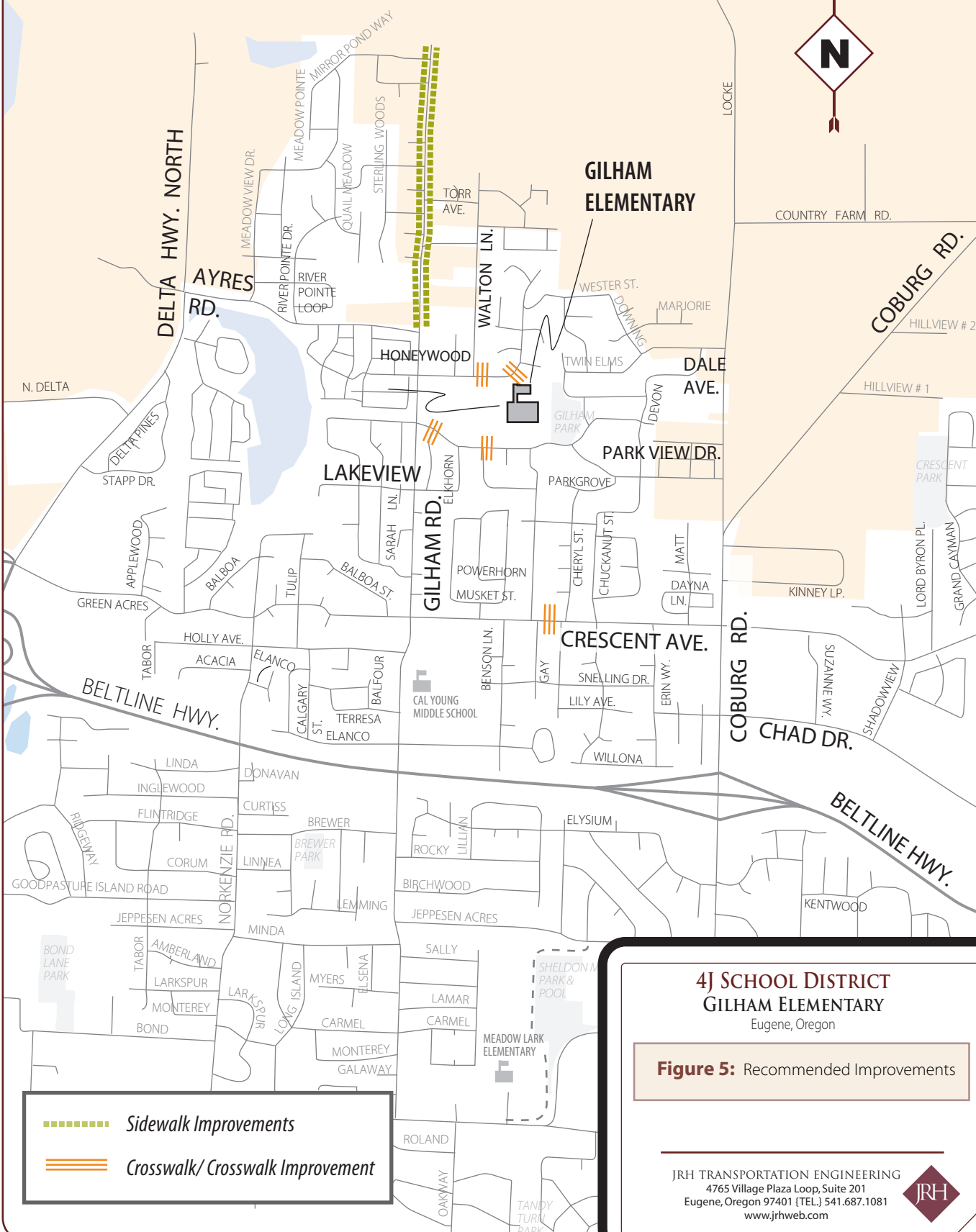


Crescent Avenue

It is recommended that an additional pedestrian crosswalk be provided across Crescent Avenue in the vicinity of Sarah Lane to facilitate pedestrian connectivity from the south. Two possible treatments for this crossing are using the Rectangular Rapid Flashing Beacon (RRFB) in conjunction with standard signing and pavement markings or a pedestrian hybrid signal, such as the HAWK signal.

Lakeview Drive

It is recommended that the two existing pedestrian crosswalks across Lakeview Drive be upgraded to include crosswalk striping. The existing raised crosswalks with contrasting walk surfaces do not by themselves indicate a marked crosswalk. Transverse crosswalk striping here will legally delineate the crosswalk and also provide clear indication of where vehicles should stop for pedestrians in the crosswalk. The crosswalk at Northridge Way is not signed for a school crossing.



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Figure 5: Recommended Improvements

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