

Dakota County
Safe Routes to School

DAKOTA
31
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Safe Routes to School Comprehensive Plan

Diamond Path Elementary – School of International Studies

**City of Apple Valley
Dakota County, MN**

May 2010

Prepared by:



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SHIP

Statewide Health Improvement Program

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Project Background

The Statewide Health Improvement Program (SHIP) aims to help Minnesotans live longer, healthier lives by reducing the burden of chronic disease. The Dakota County Public Health Department received SHIP funding to work with community partners to develop and implement programs to improve nutrition, increase physical activity, and reduce tobacco use in schools, workplaces, community settings, and healthcare sites. As part of this effort, comprehensive Safe Routes to School (SRTS) plans have been developed for 10 schools in Dakota County that seek to increase walking and biking to school through the following means:

- **Education** – Teaching children to walk and bike safely.
- **Encouragement** – Developing programs that get children excited about walking or biking to school, such as walk/bike incentive programs or Walk to School Day. May also include methods that help parents and guardians feel comfortable letting their child walk or bike, such as walking school buses or adult crossing guards.
- **Enforcement** – Having law enforcement support, such as speed zone enforcement or increased patrols, along the designated routes to school.
- **Engineering** – Identifying infrastructure barriers to walking and biking, such as sidewalk/trail gaps, hazardous crossings, or the need for secure bicycle parking.
- **Evaluation** – Measuring the effectiveness of the various components of the SRTS project.

The following sections describe the development of a Safe Routes to School Plan for Diamond Path Elementary in the City of Apple Valley, Dakota County, Minnesota.

Existing Conditions

Diamond Path Elementary School is one of three magnet schools that are part of Independent School District 196 serving the Rosemount, Apple Valley, and Eagan communities in the Twin Cities suburbs. Diamond Path Elementary School is located on County Road 33 (Diamond Path) between 144th Street and 145th Street in the City of Apple Valley. Diamond Path Elementary School opened in 1970 and was expanded and upgraded in 2006. The area around the school is primarily residential, although Dakota Ridge, a special education school, is located across 144th Street from Diamond Path Elementary.

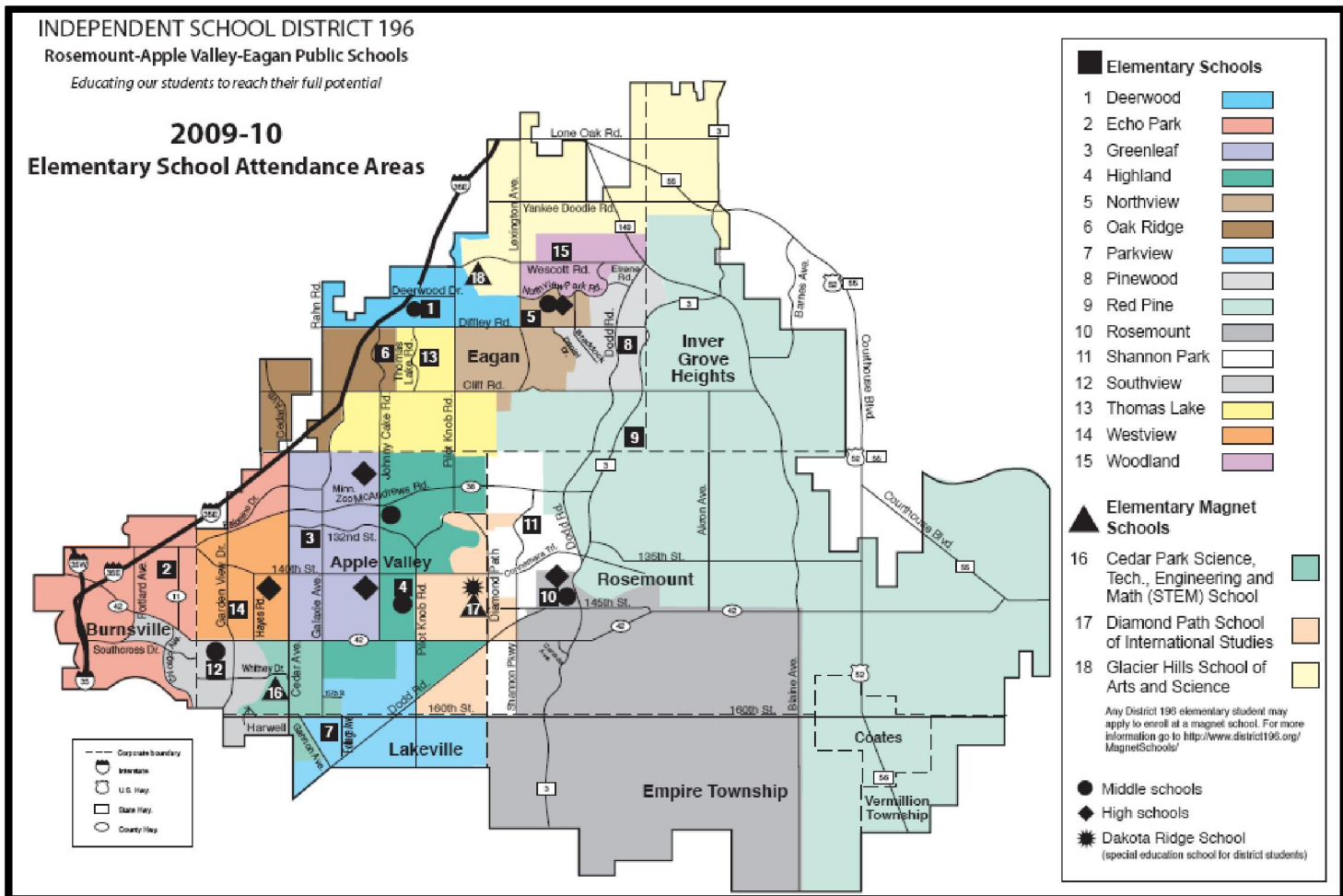
Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Student Data

Currently, there are approximately 693 students in kindergarten through 5th grade at Diamond Path Elementary (2009-2010 school year) and the school day is 9:25 am to 3:45 pm. The elementary school boundary map for District 196 shows that the attendance area for Diamond Path Elementary is concentrated to the neighborhoods near the school, within the City of Apple Valley. As a magnet school, approximately 25 percent of the current students at Diamond Path are from outside the attendance area. The attendance boundary between Diamond Path and Shannon Park Elementary is planned to be adjusted for the 2010-2011 school year, resulting in about 50 families between County Road 33 (Diamond Path) and Shannon Parkway being moved to the Shannon Park attendance area.



Source: www.district196.org

Dakota County Safe Routes to School

DAKOTA
31
COUNTY

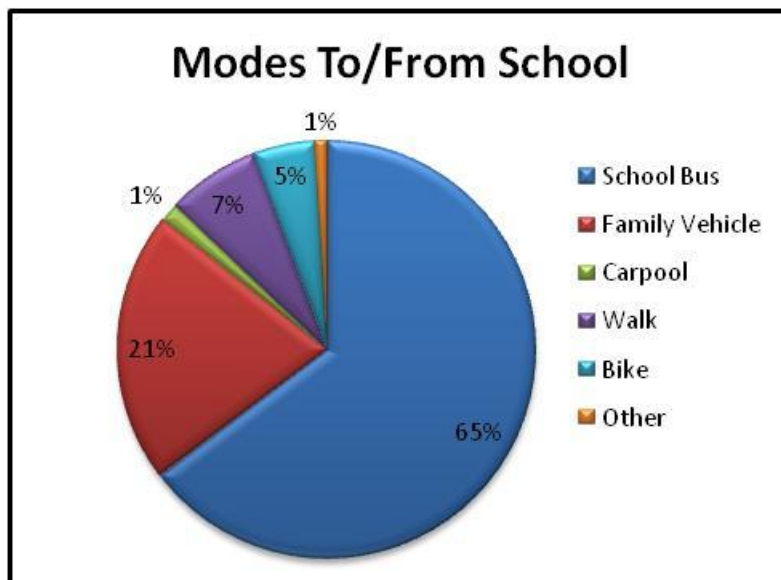


Although the attendance area for the school extends north of 140th Street and south of County Road 42 (150th Street), the designated walk area for the school is approximately ½ mile. In addition, the school district designates hazardous roadways beyond which students are bussed even if they are within the ½-mile walk area. At Diamond Path, the designated hazardous crossings are County Road 33 (Diamond Path). However, with the proposed changes in the Diamond Path and Shannon Park attendance areas, most of the families east of County Road 33 (Diamond Path) will no longer be in the Diamond Path attendance area. The walk area for Diamond Path Elementary is shown on the map on page 13.

Safe Routes to School Activities

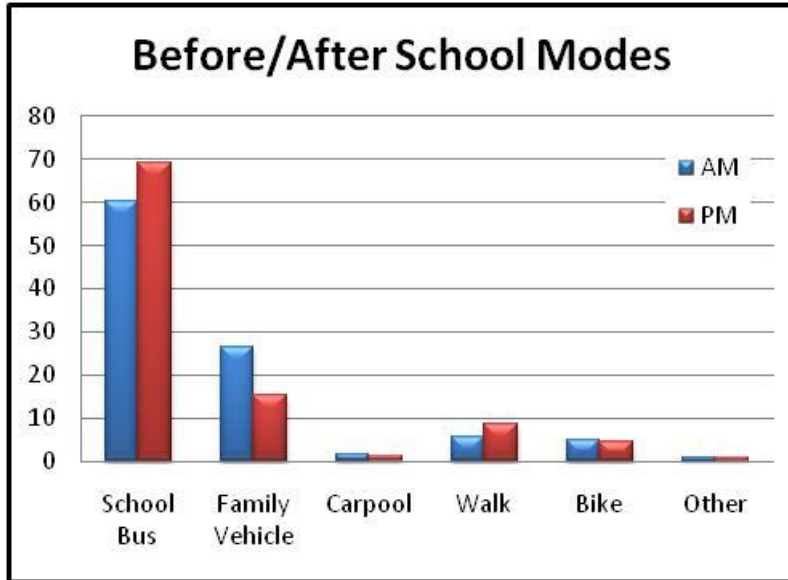
There is not an existing targeted Safe Routes to School program at Diamond Path, but there is a student school patrol consisting of 4th and 5th grade students. In addition, there is an optional running club during recess and bike safety classes have routinely been held for 3rd and 4th graders. An estimated 10 to 20 students regularly walk or bike to school, but more students bike in the spring/summer.

In-classroom tallies of students' arrival and departure modes were conducted at Diamond Path Elementary during April 2010. As shown in the chart below, an average of 7 percent of students currently walk to school and an average of 5 percent of students currently bike to school. The most predominant mode both to and from school is school bus. The tallies also showed that significantly more students walked and rode the bus home from school in the afternoon.

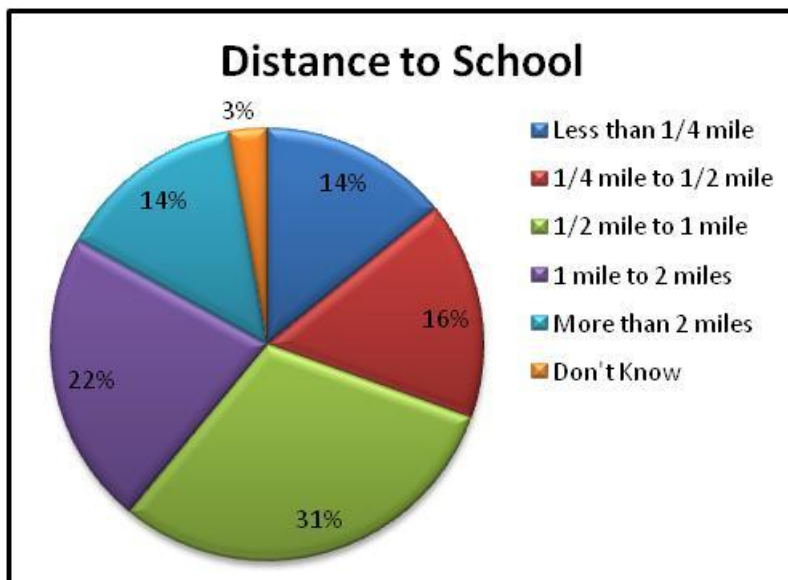


Dakota County Safe Routes to School

DAKOTA
31
COUNTY



A parent survey of concerns and attitudes related to walking and biking was also conducted in April 2010, with 142 responses. Even as a magnet school, more than 50 percent of the students live less than 1 mile from school. Also, approximately 32 percent of the survey respondents live east of Diamond Path. Traffic volumes, traffic speeds, and intersection safety were the most common reasons for not walking or biking, and intersection safety was the improvements that would be most likely to influence parents to starting letting their students walk or bike. The charts on the following pages show some of the other key results from the survey.

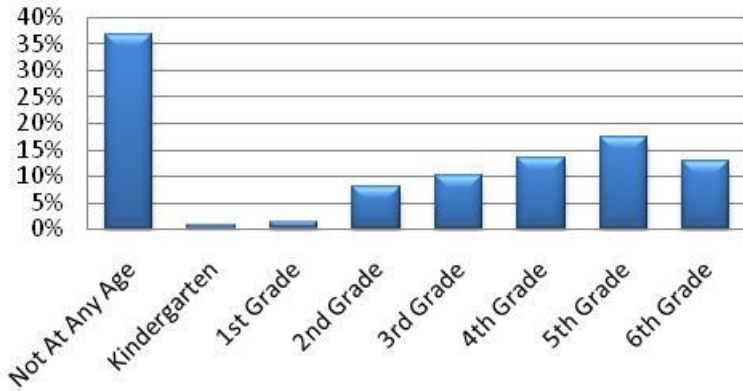


Dakota County Safe Routes to School

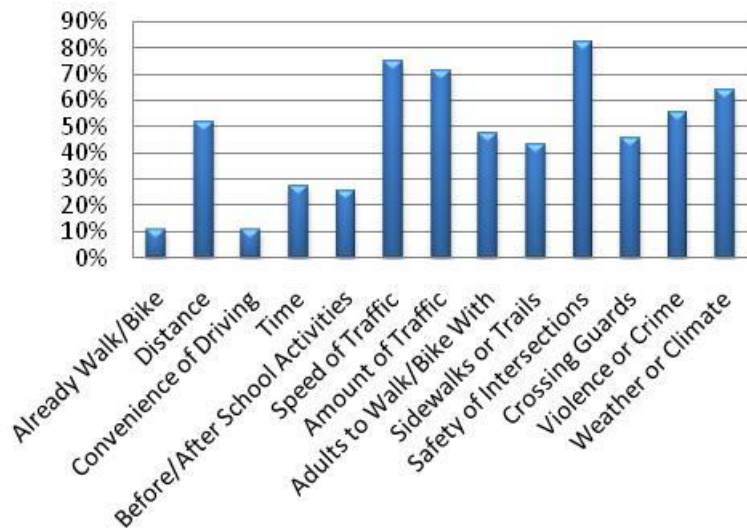
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31
COUNTY



Age Students Can Walk/Bike to School Without An Adult



Factors Affecting Decision to Walk/Bike



Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Infrastructure

The roadways surrounding the school generally have a well-connected system of sidewalks and trails. There are currently trails on the west side of County Road 33 (Diamond Path), both sides of County Road 42 (150th Street), and the south side of 145th Street. There is also a trail that connects County Road 42 to Diamond Path School, with a tunnel crossing under 147th Street. There are currently two designated school crossings on the roadways surrounding the school:

- 144th Street/Drake Path
- 147th Street/Dominica Court

There is a convenient trail connection from Diamond Path School to Dominica Court, which is a residential cul-de-sac, but there is no sidewalk on Dominica Court, so students walk in the roadway to 147th Street.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Existing school crossing on 147th Street at Dominica Court.



View of Dominica Court, looking north towards Diamond Path Elementary. There is currently no sidewalk on either side of the street.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Underpass of 147th Street, south of Diamond Path Elementary.

A review of the crash history for the past five years (2004-2008) showed there has been one pedestrian crash on County Road 33 (Diamond Path) between 140th Street and County Road 42 (150th Street). The crash occurred at the County Road 33 (Diamond Path)/144th Street intersection and was caused by a driver marking a right turn from 144th Street to County Road 33 (Diamond Path) striking a pedestrian that was crossing 144th Street. The County Road 33 (Diamond Path)/144th Street and County Road 33 (Diamond Path)/145th Street intersections have each had 5 reported crashes in the past 5 years, which results in an average crash rate of 0.3 crashes per million entering vehicles, compared to an expected rate of 0.2 crashes per million entering vehicles for similar intersections in the metro area.¹ There was no pattern to the crash types at the County Road 33 (Diamond Path)/144th Street; right-angle type crashes accounted for 3 of the 5 crashes at the County Round 33 (Diamond Path)/145th Street intersection. Based on the crash rates and types of crashes that have occurred, neither of these locations is a significant safety concern.

¹ Source: Average crash rate for Urban/Suburban Thru/Stop intersections in Mn/DOT Metro District, Minnesota Department of Transportation, 2004-2006.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



View of the County Road 33 (Diamond Path)/145th Street intersection from the trail next to Diamond Path Elementary. The trail crossing of County Road 33 (Diamond Path) is on the right edge of the photo.

Traffic counts conducted on County Road 33 (Diamond Path) by Dakota County showed that there are 9,900 vehicles per day between 140th Street and 145th Street. County Road 33 (Diamond Path) becomes a four-lane roadway just south of 145th Street and the speed limit is 45 miles per hour (mph). The high traffic volumes and speeds make crossings of County Road 33 challenging for pedestrians and bicyclist. A study conducted by Dakota County in 2008 showed that a traffic signal is not currently warranted at the County Road 33 (Diamond Path)/140th Street intersection. Based on traffic forecasts, a signal is not expected to be needed at the intersection until 2023.

In addition to the off-site pedestrian and bike facilities, Diamond Path Elementary has a number of bike racks located in front of the school and south of the parking lot near the multi-use trails.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Bike racks located south of the Diamond Path Elementary parking lot, adjacent to the multi-use trail.

Site Evaluation

A site evaluation was completed at Diamond Path School on March 30, 2010 that included walking around the site and observing the arrival process on a typical day. All vehicles enter and exit the site on 144th Street using the same driveway. The north parking lot is used primarily for staff parking and bus loading. The smaller south parking lot is used for parent pick-up/drop-off.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Directional sign as vehicles enter the Diamond Path Elementary site.



Parent vehicles queued in the morning before school. Parents drop off students right at the front door of the school, which results in longer delays and queues in the parking lot. At times, the queue extended to the bus parking lot.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



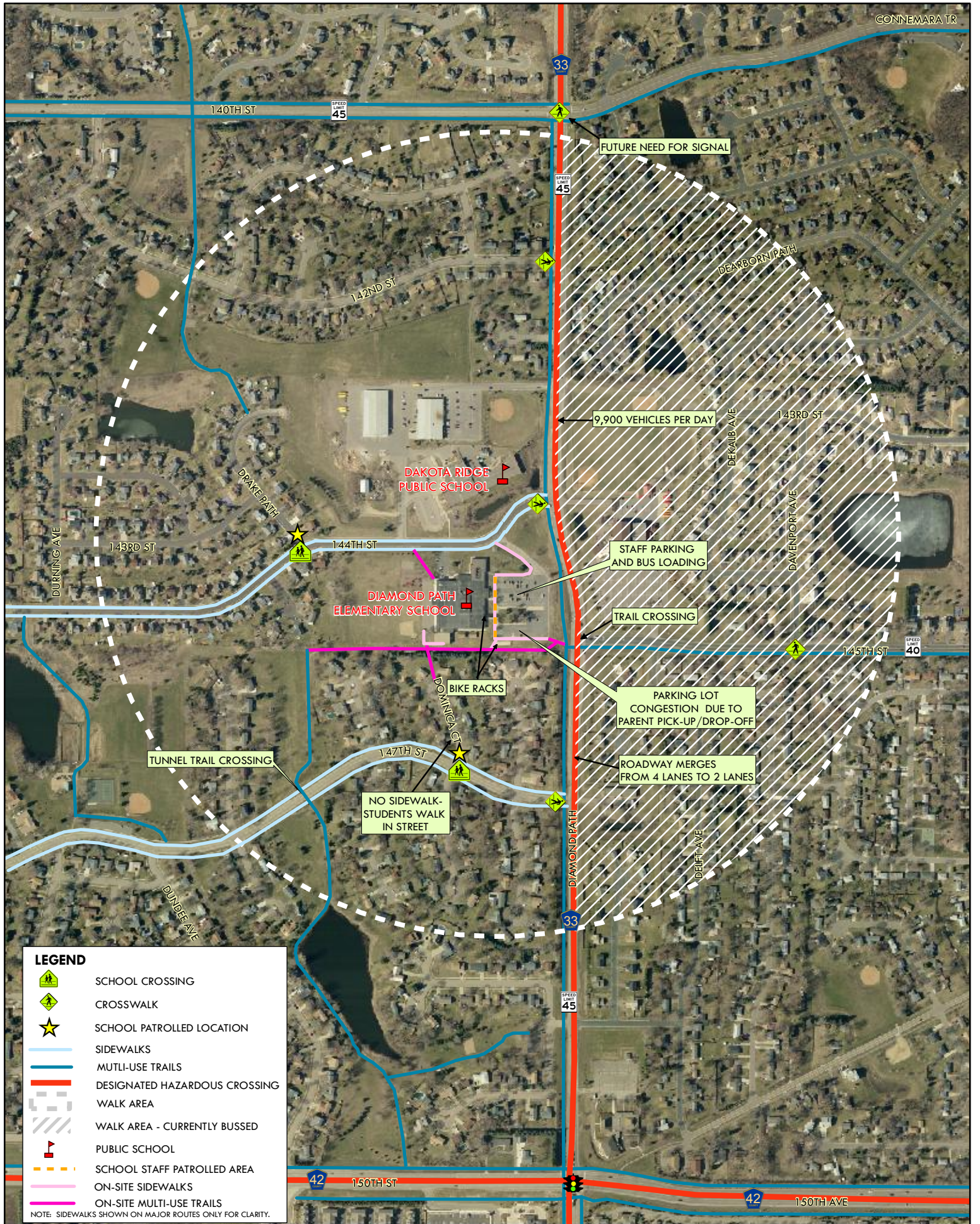
Existing Issues and Challenges

In addition to the data collection and site evaluation completed as part of this project, a Safe Routes Working Group was established for Diamond Path Elementary that included teachers, the City of Apple Valley, Dakota County, and a parent representative. The role of this group was to identify and discuss barriers to walking and biking to school as well as potential ways to overcome the barriers.

The existing challenges to walking and biking to Diamond Path Elementary are summarized in the following bullets, as well as the map on the following page:

- Parking lot and entrance congestion due to parent pick-up and drop-off.
- The volume of traffic on the school site and the resulting congestion contributes to the perception that it is not safe to walk or bike.
- Reluctance to allow students to use the trails west of the school and the tunnel under 147th Street unless accompanied by an adult.
- County Road 33 (Diamond Path) is a real and perceived barrier to walking and biking to school. Crossings of four-lane roadways inherently have issues with “double threat”, i.e., one vehicle stops at the crosswalk and blocks the view of a driver in the adjacent lane, who then cannot see the pedestrian and therefore may not stop.
- Past research studies have shown that on a high volume high speed four-lane roadway, signing and marking of crosswalks do not improve safety, and can actually result in higher incidence of pedestrian crashes than locations without signing or crosswalk markings.² On these types of roadways, even devices such as pedestrian actuated flashers are frequent sources of complaint due to driver non-compliance, such as on County Road 11 at 140th Street.
- Other schools with crossings on high volume four-lane roadways, such as Greenleaf Elementary, have had difficulty recruiting adult crossing guards due to safety concerns.
- County Road 33 (Diamond Path) merges from 4 lanes to 2 lanes just south of 145th Street.
- Parents would be more willing to let students walk or bike if they were in a group and knew they would be supervised.
- District budgets may increase walk radius in the future, which provides the opportunity for more walking and biking, but could also result in even more parents driving.

² *Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations – Final Report and Recommended Guidelines*, FHWA Publication Number HRT-04-100, September 2005.



Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Recommendations

Despite some of the current challenges to walking and biking to Diamond Path Elementary, the school's location adjacent to the neighborhoods it draws students from and the excellent existing sidewalk/trail infrastructure provide great opportunities to increase the numbers of students regularly walking and biking to school. The following recommendations have been developed specifically for Diamond Path Elementary to address the identified challenges to walking and biking. The short-term recommendations are actions that could be implemented prior to or during the 2010-2011 school year, while the long-term recommendations may require policy changes, additional discussion and coordination, or significant funding sources. In addition to the recommendations, the group that should take the lead in implementing the recommendation has also been identified.

Short-Term Recommendations

The short-term recommendations included in this section primarily consist of low-cost improvements that can be implemented in the six months, although some are dependent on funding availability. The recommendations are generally prioritized in terms of actions that are easiest or most necessary to complete first. The infrastructure recommendations are also summarized on the map included at the end of this report.

1. Start a walking/biking incentive program that builds on the existing running club. Laps or mileage can be tracked in each classroom and competitions held between classes or an overall mileage/lap goal could be set for the school. Implementation lead – Diamond Path.
2. Purchase or create mobile or permanent signs that can be used in the parent pick-up/drop-off area to better direct parent vehicles to pull forward and reduce the queue in the driveway. Implementation lead – Diamond Path/District 196.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Examples of signs that could be used in the parent pick-up/drop-off zone.

3. Investigate the feasibility of a remote pick-up/drop-off site on 147th Street to reduce the vehicle conflicts and congestion on the school site. This would require increased adult supervision between the remote sites and the school site, but would result in more physical activity for students and would reduce the pedestrian/vehicle conflicts on the school site. Implementation lead – Diamond Path.
4. Establish a permanent Safe Routes committee at Diamond Path to provide on-going support and organization for Safe Routes activities, including regular Walk to School days, adult crossing guard volunteers, and special events. Implementation lead – Diamond Path.
5. Start a weekly or monthly “Walk to School Day” with staff or parent volunteers walking with students or stationed along the trail on the designated walk and/or bike days. Implementation lead – Diamond Path.
6. Create information for parents that communicates the benefits of walking or biking to school, as well as the safety and operations procedures for pick-up/drop-off. Implementation lead – Diamond Path, with assistance from Dakota County Public Health.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



7. Organize a walking school bus³ or bike train for student to walk and bike together as a group to and from school. The best potential for this would be for students that live immediately east of County Road 33 (Diamond Path) or north/south of the school where there is access to the trail leading to the school. Implementation lead – Diamond Path.

Long-Term Recommendations

The long-term recommendations included in this section primarily consist of higher cost improvements or actions that would require a significant policy change, either of which would be expected to take longer than six months to occur. These recommendations are generally prioritized in order of importance, however funding availability may mean that the highest priority recommendations are not the first to be implemented. The infrastructure recommendations are also summarized on the map included at the end of this report.

1. Consider eliminating the school crossing on 147th Street at Dominica Court and only using the tunnel crossing under 147th Street or relocating the school crossing to 147th Street/Dundee Avenue due to the lack of sidewalk on Dominica Court. The tunnel crossing eliminates the vehicle conflicts at 147th Street and Dundee Avenue has sidewalk on both sides, providing good connections to the rest of the neighborhood. Due to the increased distance between the school and the 147th Street crossing (at the tunnel or Dundee Avenue), additional adult supervision may also be necessary. Alternatively, or as a short-term measure, the pedestrian walk area could be marked on the street on Dominica Court, since it is a cul-de-sac with very low traffic volumes. Implementation lead – Diamond Path, with assistance from City of Apple Valley.
2. Increase the visibility of walking and biking on the site and improve wayfinding from the school to the various trail connections. Wayfinding signs should be located along the trails, but could also be tied into the existing destination sign at the front of the school. Implementation lead – Diamond Path/District 196, with assistance from City of Apple Valley.

³ A walking school bus is a group of children walking to school with one or more adults. It can be as informal as two families taking turns walking their children to school to as structured as a route with meeting points, a timetable and a regularly rotated schedule of trained volunteers.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Existing destination sign near the entrance to Diamond Path Elementary.



Concept trail destination sign that could be installed at Diamond Path Elementary.

3. Install additional bike racks when the capacity of the existing racks is reached.
Implementation lead – Diamond Path.
4. Conduct further study to determine under what criteria County Road 33 (Diamond Path) would no longer be designated as a hazardous crossing (for example, number of lanes,

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



vehicle speeds, etc). If the roadway were no longer designated as hazardous and students would be crossing County Road 33 (Diamond Path) regularly, Dakota County and the City of Apple Valley would need to conduct an engineering study to determine:

- Location of the trail crossing
- Any trail connections that may be needed from the existing crossing location to the proposed location
- Crossing infrastructure, such as pedestrian-actuated flashers, median refuge, a HAWK signal⁴, or grade separation (overpass/underpass)

In conjunction with the engineering study, the school district may also need to consider providing adult crossing guards and could consider reallocating funding from bussing across County Road 33 (Diamond Path) to paying the crossing guards.

5. Develop a Safe Routes website for Diamond Path Elementary that provides walking/biking route information as well as other information, such as the schedule for adult volunteers and a list of students with the highest number of laps completed or most days walked/biked to school. Implementation lead – Diamond Path.
6. Designate a Safe Routes coordinator at the district level and each of the individual elementary schools in the district. The district-level coordinator would share information and coordinate Safe Routes activities and best practices among all the District 196 schools. The school SRTS coordinator would be responsible for scheduling meetings of the SRTS committee, training adult volunteers, and working with parents and students to address issues or concerns related to walking and biking. Implementation lead – District 196.

⁴ A HAWK signal is a High-Intensity Activated Crosswalk signal that was recently incorporated into the Manual on Uniform Traffic Control Devices. It is pedestrian actuated and designed to be installed at mid-block locations, not at intersections where the side street has stop control.

- 1 - USE MOBILE SIGNS TO IMPROVE PICK-UP/DROP-OFF
- 2 - POTENTIAL REMOTE PICK-UP/DROP-OFF LOCATION
- 3 - TARGET AREA FOR WALKING SCHOOL BUS
- 4 - RELOCATE CROSSING GUARDS OR CREATE PEDESTRIAN ROUTE ON DOMINICA
- 5 - INSTALL TRAIL WAYFINDING SIGN
- 6 - CONDUCT FURTHER STUDY OF TRAIL CROSSING



LEGEND

- SCHOOL CROSSING
- CROSSWALK
- SCHOOL PATROLLED LOCATION
- SIDEWALKS
- MULTI-USE TRAILS
- DESIGNATED HAZARDOUS CROSSING
- WALK AREA
- WALK AREA - CURRENTLY BUSSED
- PUBLIC SCHOOL
- SCHOOL STAFF PATROLLED AREA
- ON-SITE SIDEWALKS
- ON-SITE MULTI-USE TRAILS

NOTE: SIDEWALKS SHOWN ON MAJOR ROUTES ONLY FOR CLARITY.

Dakota County Safe Routes to School

DAKOTA
31
COUNTY



Funding and Implementation

Funding for the various recommended projects may come from a variety of sources depending on the type of project and who is implementing it. Some potential funding opportunities that currently exist and may be used to fund these recommendations include, but are not limited to:

- Statewide Health Improvement Program funds, which are available through several programs administered by Dakota County Public Health:
 - Safe Routes to School mini-grants
 - Active Living grants, which are available to cities in Dakota County, but may be used to fund improvements on school sites
 - Assistance with preparation of infrastructure grant applications. Cities in Dakota County can submit infrastructure projects and the County's consultant will assist in identifying potential funding sources and preparing applications.
- Blue Cross Blue Shield of Minnesota
- Federal Transportation Enhancement (TE) funds through the Metropolitan Council
- Federal Safe Routes to School funds through the Minnesota Department of Transportation⁵

No one of the E's of Safe Routes to School will by itself increase walking and biking, which emphasizes the need for cooperation among school, city, county and other agencies to implement change.

⁵ The federal Safe Routes to School program was funded through fiscal year 2009. Future funding will be dependent on passage of the Federal Surface Transportation Reauthorization Bill, which is currently being discussed in the United States Congress.