Lylburn Downing Middle School

Walkabout Report

Lexington, Virginia

May 2017

Prepared by the Central Shenandoah Planning District Commission
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Lylburn Downing Middle School Walkabout Report

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Introduction

On March 30, 2017, stakeholders for Lylburn Downing Middle School (LDMS) in Lexington, Virginia conducted a walkabout to analyze the bicycle and pedestrian network around the school and to identify potential improvements to be included in a future Virginia Department of Transportation (VDOT) Safe Routes to School (SRTS) grant application. School and community stakeholders are committed to making the walking and bicycling environment safer, and increasing the number of students who can safely walk and bike to school. The stakeholders participating in the walkabout included school administrators, city planning and public works staff, police, two parents, one student, and the VDOT Local Programming Manager. After the pre-walkabout meeting, three groups observed school dismissal at strategic locations. The observation process was followed by a brief walking tour of the streets around the school, and a debrief meeting.

Figure 1 – Main Entrance of Lylburn Downing Middle School

Existing Conditions

School Location

LDMS is located at 302 Diamond St, Lexington, VA 24450, and is the only middle school in the City. The school is located on the eastern edge of the Diamond Hill neighborhood, and just south of Virginia Military Institute. The main residential area surrounding LDMS contains about 200 homes and buildings, including two apartment complexes. Diamond Street is the primary motor vehicle access route to the school property. Vehicle traffic primarily flows onto Diamond Street from Main Street, Randolph, and North Lewis Street. A commercial center resting along US Route 60 and Central Elementary School, a Rockbridge County School, are located approximately ½ mile to the south of LDMS. Downtown Lexington is located about 1 mile to the west of LDMS. On the next page, **Map 1** shows the school location, geography and primary vehicle access.

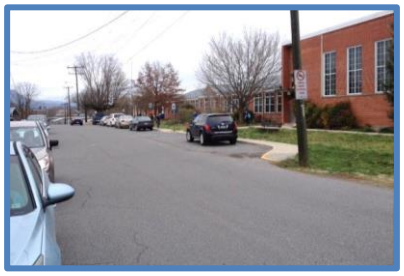

Figure 2 – Parents Queuing along Diamond St near the side entrance of LDMS

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Map 1 – School Location, Vehicle Access, and Geography

Table 1 - Road Information Table

Street Name	2015 Average Annual Weekday Traffic (AAWDT)	No. of Travel Lanes in each direction	Speed Limit	Road Width	Road Classification
Diamond	1500	2	25	22	Local, residential, on-street parking one side
N Lewis St	1600	2	25	33	Local, residential, on-street parking one side
N Randolph St	Unknown	2	25	26	Local, residential, on-street parking both sides

Existing Infrastructure

The City of Lexington currently does not maintain an inventory of their sidewalk network. Therefore, a preliminary sidewalk and crosswalk map was developed only to highlight the primary network relevant to LDMS student travel. Upon first glance, the sidewalk and crosswalk network outlined in **Map 2** of the neighborhood surrounding LDMS is fairly robust and complete. Yet, the quality and condition of the sidewalks is not ideal.

Map 2 – Primary Sidewalks (Yellow) and Crosswalks (Orange)

The sidewalks in the Diamond Hill neighborhood are four feet wide. The lack of ADA ramps and obstructions make wheelchair travel very difficult throughout the network. Some of the crosswalks throughout the network have faded and washed out paint. There are two crosswalks in the primary network that are missing at the intersections of Maury Street and Diamond Street and E. Washington and N. Lewis Street. These intersections have geometry that is can be challenging for all users. **See Figure 3**.

There are a significant number of obstructions on the sidewalks along N. Randolph Street and at the Diamond Street / Maury Street intersection. As shown in **Figure 4**, sidewalk obstructions include fire hydrants, residential trashcans, driveways, flora, and utility poles. The on-street parking on both sides of the street limits space for bicycle traffic.

Figure 3 – Intersections: Maury Street and Diamond Street (top) and E. Washington and N. Lewis Street (bottom)

Figure 4 – N Randolph St traveling south

Existing Infrastructure (continued)

The width of Diamond Street as shown in **Table 1**, between N. Randolph Street and Maury Street presents challenges to widening the sidewalks. There is no barrier between pedestrians and oncoming traffic on this portion of Diamond Street because street parking is on the opposite side of the street (**See Figure 5**). The hilly terrain also presents unique challenges to this stretch of road. During ice and snow events, if the sidewalks are not cleared, students have to walk in the street with vehicle traffic. A safety fence was installed by the City to separate the rapid grade change between the front yards of homes and the sidewalk.

Figure 5 – Diamond St Sidewalk looking towards N Randolph St

N. Lewis Street's sidewalk infrastructure is in good condition and does not have the same kinds of obstructions as seen along N. Randolph Street. The City Police have indicated that speeding vehicles are an issue on this street and that the visibility of speed signage should be improved. The offset Diamond Street and N. Lewis Street intersection seen in **Figure 6** also poses operational and visibility issues for all users.

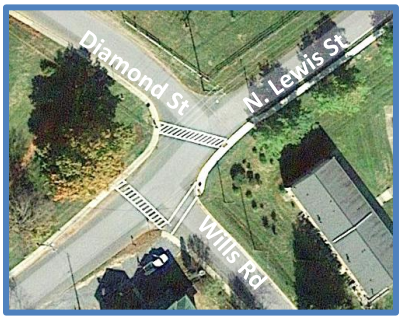


Figure 6 – Diamond / N. Lewis / Wills Offset Intersection

6.1 – Diamond / N. Lewis / Wills Diagonal Crosswalk

"Simply having sidewalks is not enough to encourage foot or wheelchair traffic. Some sidewalks feel too exposed to traffic, though they are actually safe. Landscaping and amenities that create a feeling of separation from the roadway may be needed, to encourage walkers." -City of Lexington Comprehensive Plan, Ch. 8

Connectivity

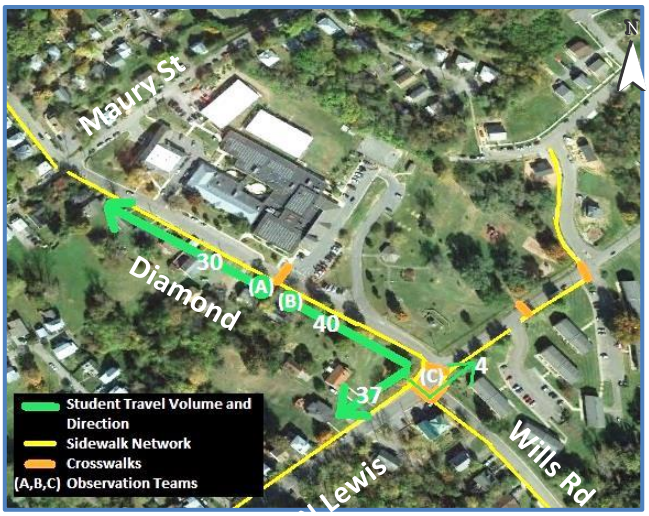
Figure 7 shows a potential bicycle and pedestrian access point highlighted in red behind the school parking lot. The lack of pedestrian infrastructure at this location creates a barrier to non-motorized travel not only for the Thompson's Knoll neighborhood, but also for about thirty homes behind the school, and the Downing Court apartments. Though parts of Thompson's Knoll are still under construction, a logical connection to the LDMS may help to serve future residents.

Figure 7 – Thompson's Knoll Connection

Walkabout Summary

Observation teams were stationed at strategic locations based on advice from school administration, local staff, police, and parents. The roles of each observer were discussed and nine people were divided into three teams A, B and C. **Map 3** shows the location of the teams and observed pedestrian counts.

Figure 8 – Main Crosswalk during Dismissal



Map 3 - Number of Students, Travel Flow and Observation Team Locations during Dismissal

Parent vehicles began queuing at 2:50 P.M. in the parking lot, in front of the school along Diamond Street, and North Lewis Street. All vehicle traffic related to school dismissal had cleared by 3:15 P.M. There was only one crossing guard, a teacher, at the main entrance of the school to cross Diamond Street. The operation of the crosswalk near the main school entrance ran smoothly. The crossing guard was attentive and effective at getting students across safely and vehicles were properly yielding and driving safely.

Parking Lot and Loop

During the 40 minute debrief, each team shared their observations. It was discovered that drivers are not using the loop entrance and parking lots to their full capacity. Many parents park across from the school along Diamond Street or a few blocks away on North Lewis Street **(See Figures 2 and 9)** to wait for their children. As the use of the parking lot and loop decreases, the walkability of the surrounding area also decreases because of the dispersal of vehicle traffic and its associated impacts.

Figure 9 – Group C at Diamond St and N Lewis Intersection

There is a misconception that there is heavy traffic during dismissal, and backups occur frequently in the parking lot and loop. The Principal of LDMS, Jason White, assured that heavy traffic is a rare occurrence. The debrief group decided to send out a newsletter to share Walkabout findings and remind parents that it is safer for everyone to use the parking lot and loop as it was intended.

Pedestrian and Bicycle Observations

Teams A and B were located near the school entrance. Observers noted that students walking north on Diamond Street through the Maury Street intersection have no crosswalk, and there are obstacles like fire hydrants, uneven pavement, and utility poles. Three students crossed Diamond Street without using the crosswalk to meet their parents for pick up or to cross the street near the aftercare facility.

Team C noted that vehicles frequently do not yield to pedestrians at the Lewis Street intersection. The majority of students used crosswalks properly and followed instructions. Only one student rode a bicycle.

Motor Vehicle Observations

Motor vehicle observers witnessed a greater amount of vehicle traffic coming to and from the direction of North Randolph Street and North Main Street. There was one instance where an observer witnessed a driver texting on Diamond Street in front of the school near the main crosswalk. Parent traffic and vehicle pickup along Diamond Street in front of the school was heavy. In two cases, parents swung open car doors into the road causing vehicles to go into the opposite lane to get around. Sergeant Huffman pointed out that vehicle flow in and out of the parking lot as shown in **Figure 10**, was smooth and witnessed no unsafe driving habits at this location.

Figure 10 – LDMS Parking Lot Exit

A teacher at LDMS, who is also a parent of a student at LDMS, indicated that she would like her child to be able to ride a bicycle to school, but that the intersection at Washington and North Lewis Street was too hazardous for her child to traverse. During the debrief, a City Police Officer, Keith Moeller, noted that speed is an issue along North Lewis Street, and that the speed signage is inadequate and hard to see. No other speeding or unsafe driving habits were observed during the walkabout.

Student Travel Modes and Distance from School

As of March 2017, there were 206 students that attended LDMS. On a cool springtime Thursday afternoon, the Walkabout teams observed 70 student pedestrians and 1 bicyclist.

On the next page, **Map 4** visualizes the spatial distribution of students' addresses in relation to the walking distance from the school. Buffer rings radiate out from the school which identifies how many students live within each buffer zone in ½ mile, 1 mile, 2 mile and >2 mile walking distance increments. Student distance was found to break down into thirds where about 1/3 of students live within 1 mile, 1/3 within 2 miles, and 1/3 beyond two miles. **Figure 11** contains an infographic summarizing students' distance from school and travel modes.

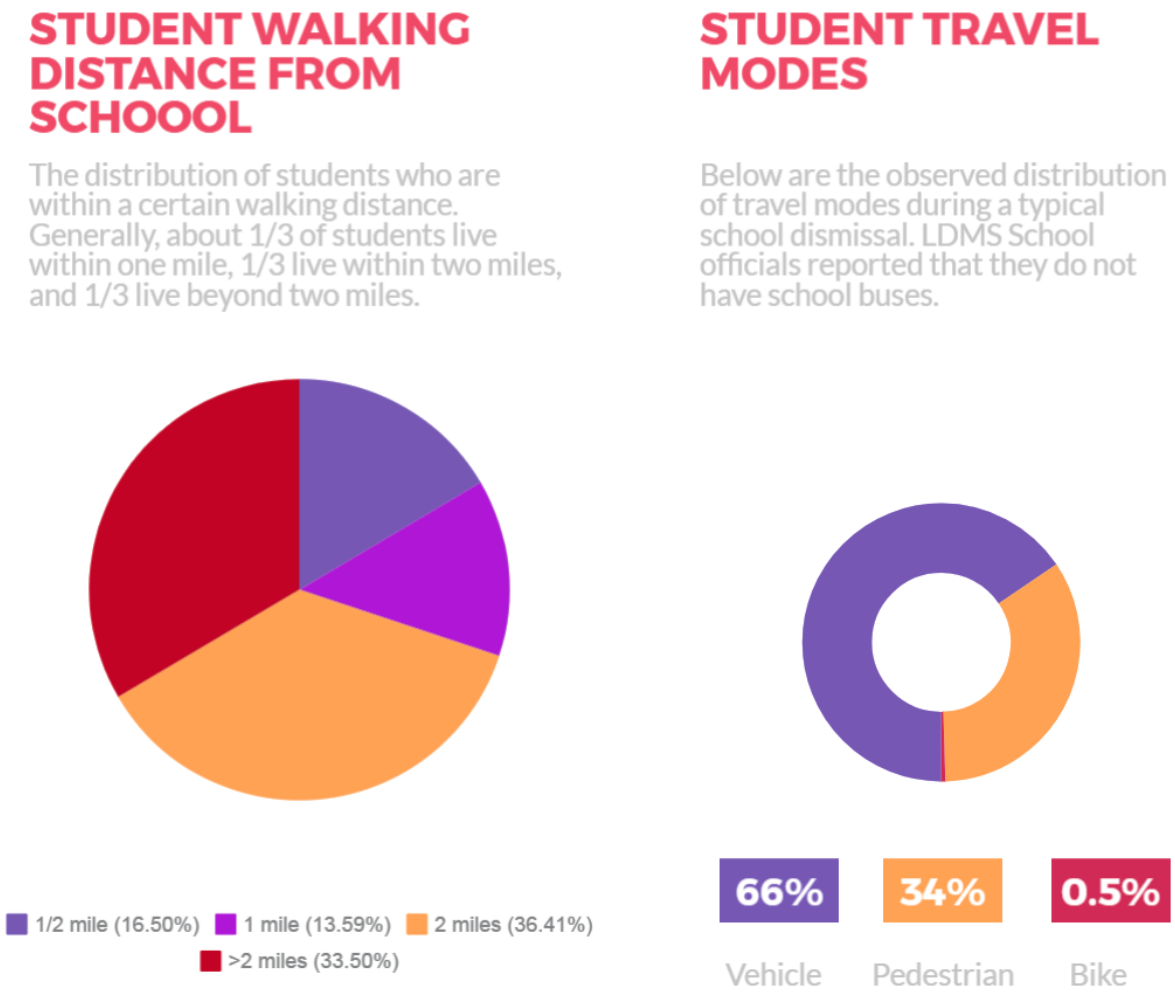
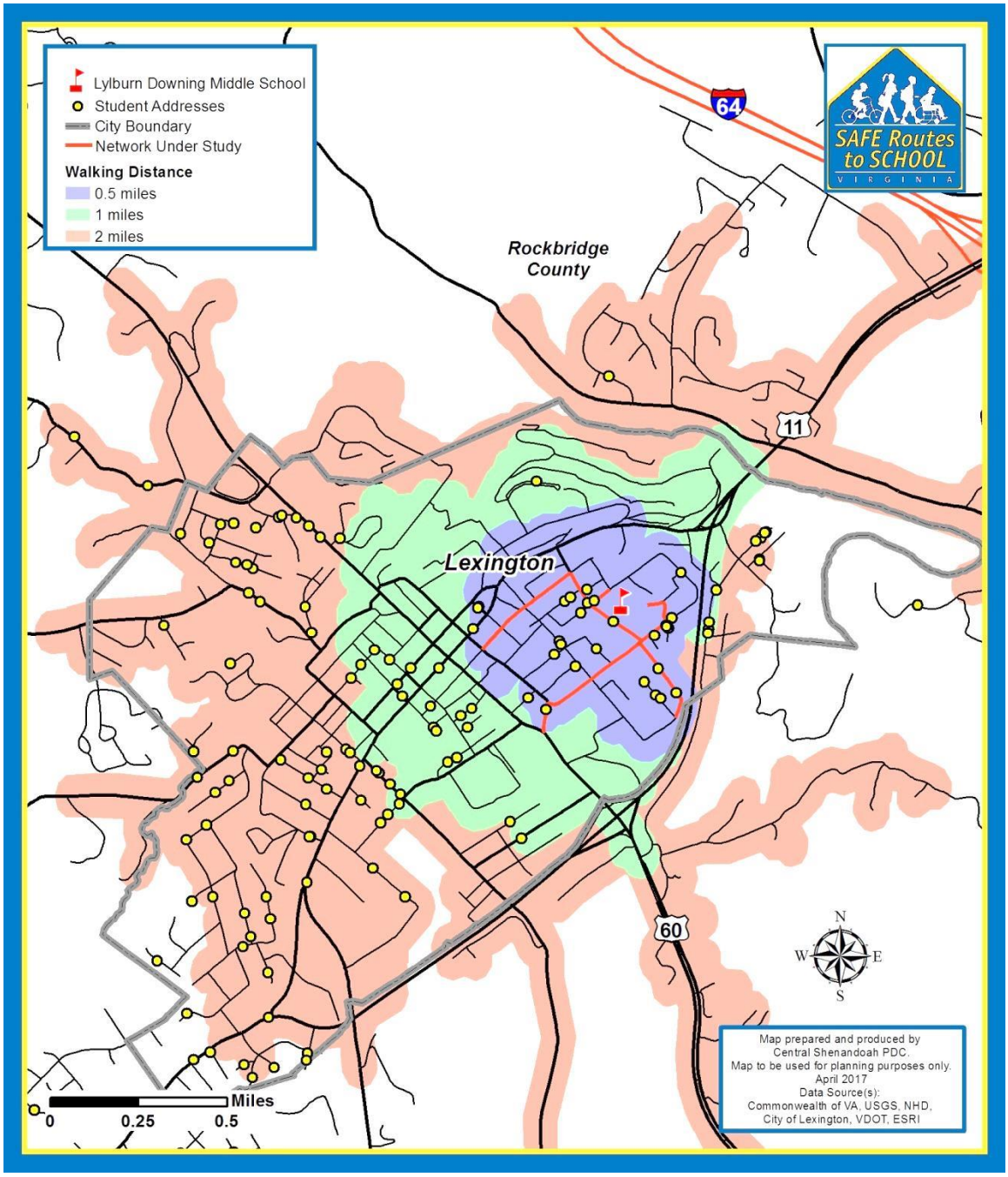


Figure 11 – Students' distance from school and travel modes



Map 4- Student Locations and Walking Distance

Recommendations

During the debrief session, a list of ideas and recommendations were brainstormed on how to potentially resolve certain issues. The zones created for **Map 5** are based on areas that share similar geography, character and infrastructure. The recommendations were then organized by zone for ease of reference in **Table 2**.

Map 5 – Zones of Improvement

Table 2- Zone Recommendations

Zone 1
A) Create a North Randolph Street bike boulevard with signage, road markings and removal of on-street parking on one side of the street if possible.
B) North Randolph Street: Widen the sidewalk in order to move utility poles and fire hydrants out of the through-way.
C) Re-stripe the existing crosswalks at the intersection of North Randolph and Diamond Streets.
D) Re-locate N. Randolph Street crosswalk away from the adjacent residential driveway to a more suitable location.
Zone 2
A) Re-locate main entrance crosswalk away from the adjacent residential driveway to a more suitable location.
B) Reconstruct sidewalk ramps and add a crosswalk to the intersection of Maury Street and Diamond Street.
C) Parking Lot and Loop Improvements. Parent newsletter encouraging them to use the parking lot as a safety precaution.
Zone 3
A) Diamond Street/North Lewis Street Intersection Improvements a. Long Term: Realign Diamond Street with Wills Road b. Short Term: Remove the crosswalk at the southern leg of the intersection (connecting to the eastern side of Lewis Street at the Montessori School), and formalize the diagonal crosswalk from the southwestern corner of the intersection to the eastern side of Lewis Street adjacent to the apartment complex.
B) North Lewis Street Speed Signage—install additional signage closer to the Diamond Street intersection. Consider increasing enforcement activity for a time as well.
C) North Lewis Street/East Washington Street Intersection Improvements—restripe, improve the pedestrian refuge in the center, and expand the curb ramp/landing pad at each side of North Lewis Street.
D) Create a North Lewis Street bike boulevard with signage, road markings and a protected bike lane on one side of the street if possible
Other
A) Recommend a city-wide pedestrian and bicycle infrastructure assessment and inventory be performed. A GIS shapefile with relevant attribute data will be developed.
B) Thompson's Knoll Trail Connector

List of Walkabout Participants

Name	Representing
Paige Williams	Parent Teacher Association
Jason White	Principal
Laura Joyner	Faculty
Karen Doyle	Faculty
Izzie Pfauf	Student and Pedestrian
Arne Glaeser	City Planner
Mike Huffman	City PD, Sergeant
Keith Moeller	City PD, Officer
Mark Riley	City PD, Chief
Jeff Martone	City Engineer
Mike Kennedy	Director of Public Works
Scott Jeffries	Superintendent of City Schools
Mike Branscome	VDOT
Ann Cundy	CSPDC
Jonathan Howard	CSPDC