



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
849	5%	-104%	14%	111	22

There are 35 schools located in unincorporated Knox County. A.L. Lotts Elementary ranks 17th in pedestrian improvement priority based on composite data.

Assessment:

The area around A.L. Lotts Elementary is largely developed with little new home building or other infrastructure expected to be constructed near the school. Several neighborhoods north and south of the school are connected to Westland Drive which serves as the main access to the school and has adequate sidewalks. Construction of an unpaved, switch-back trail south of the school would make walk trips to school shorter for surrounding neighborhoods. Such a trail could make for an interesting demonstration project (hiking, service club, etc.), but would require short connections to neighborhood streets at the top of the hill to accommodate walk to school trips. Walk trips to school from other neighborhoods further north and east of the school can be accommodated along Ebenezer Road, but the distance for these trips is considerable and not likely to be realized.



Sidewalks exist along Westland Drive, but are needed on the eastern school access drive.

Recommendations:

- Construct on-site sidewalks connecting to Westland Drive.
- Develop a neighborhood route and encouragement plan for the Gettysvue, Polo Club, and Anthem neighborhoods. This might include signing and striping walking routes, plans for establishing a walking school bus, etc.
- Explore the possibility of constructing a trail connection from Anthem View Lane to the school.
- Improved north-south connectivity to the school is required to facilitate walking trips from the Pine Springs Road neighborhood. Explore possibilities of two alternates for trail connections:

Alt A - An off-road switch-back trail connection could be constructed from the back of the school to the water tank (all on school property). Construct a connection between the proposed trail and Pine Springs Road. This is the preferred alternative.

Alt B - Construct a trail to connect Pine Springs Road to Gettysvue Way.



If desired by the neighborhood, a short connection from Anthem View Lane to school would provide shorter walk trips.



An unpaved trail to the water tank could link multiple subdivisions with a unique route to school.



Department of Engineering
and Public Works

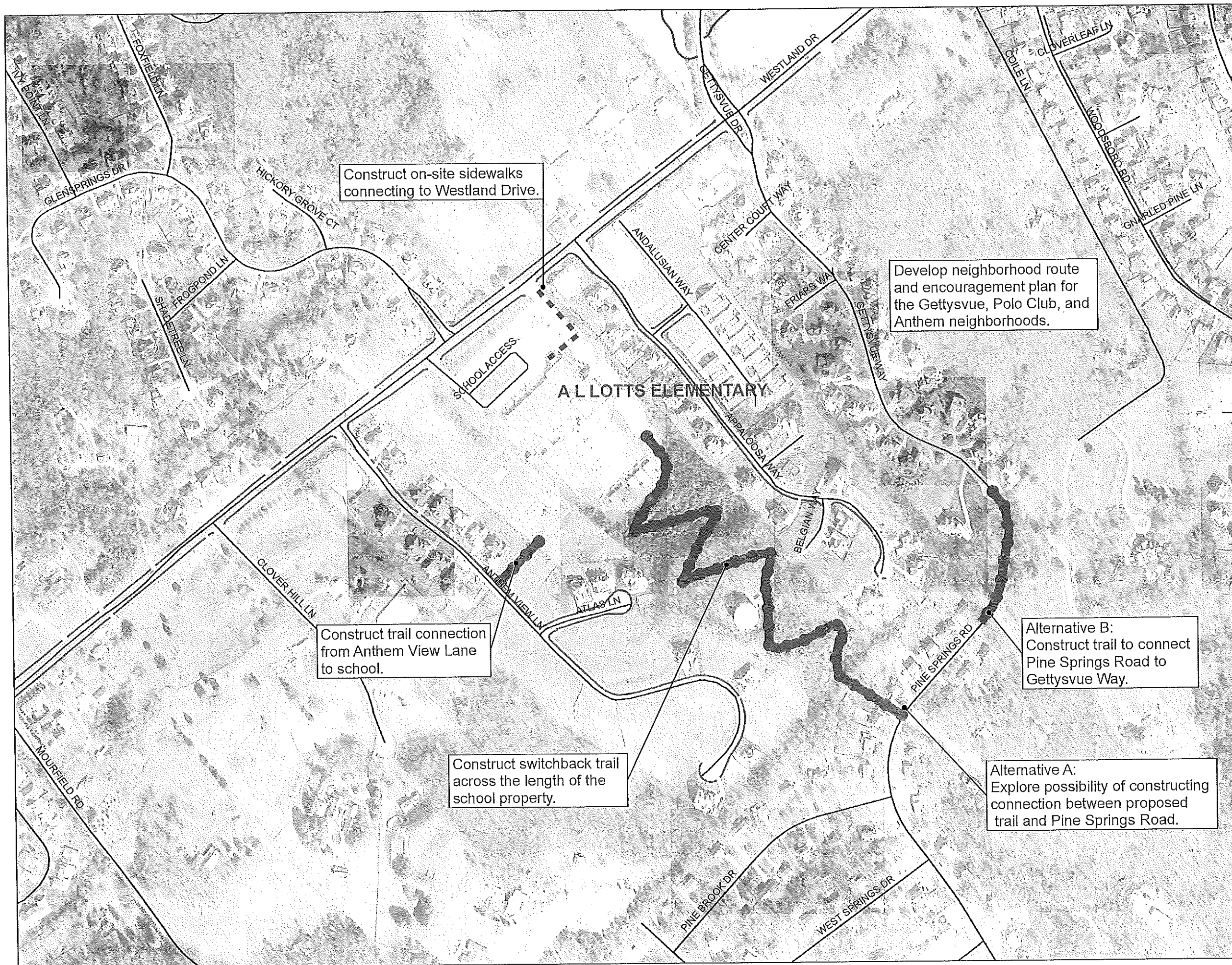


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Pedestrian Improvements Concept Plan

A.L. Lotts Elementary School

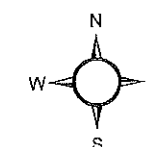


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

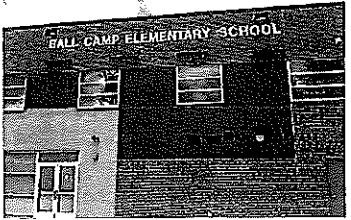
Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 350 700 Feet



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
583	15%	-31%	35%	75	28

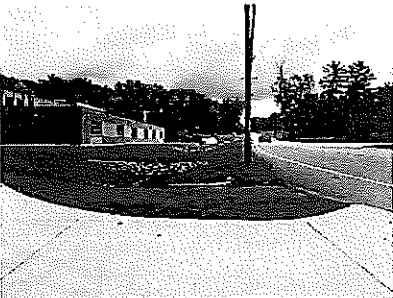
There are 35 schools located in unincorporated Knox County. Ball Camp Elementary ranks 19th in pedestrian improvement priority based on composite data.

Assessment:

Middlebrook Pike already has sidewalks to serve adjacent neighborhoods. A high possibility for new walk trips exists for developments along Lovell Road southwest of the school. Trails through the park are an alternative to sidewalk construction on Ball Camp Pike.

Recommendations:

- Construct a crossing island with rectangular rapid flashing beacons on the east side of the Ball Camp Byington Road and Ball Camp School Road intersection.
- Upgrade the signalized intersection of Middlebrook Pike and Ball Camp Pike with ADA compliant pedestrian poles and pushbuttons, signal heads, crosswalks, and curb ramps.
- Construct sidewalk along Lovell Road from Middlebrook Pike to Bombay Lane (primary).
- Construct sidewalk along Ball Camp School Road from School Access to Middlebrook Pike (primary).
- Construct on-site sidewalks connecting to adjacent streets.
- Explore possibility of constructing trail connection from park trail to Ball Camp Pike.
- Designate a pedestrian route through Ball Camp Park using existing walking trails and driveways. This route could extend north to Hitching Post Drive through the soccer field property.
- Explore the possibility of a trail connection from the park to Ball Camp Pike.
- Construct sidewalk along Ball Camp Pike from school access to proposed trail connection (secondary).
- Extend sidewalk along Hardin Valley Road from Ball Camp Byington Road to Wildflower Way (secondary).



Either a trail through the park or sidewalks along Ball Camp Pike will be required to allow walk trips from the east.



Proposed improvements at the intersection of Middlebrook Pike and Ball Camp Pike include straightening and realigning the crosswalks.

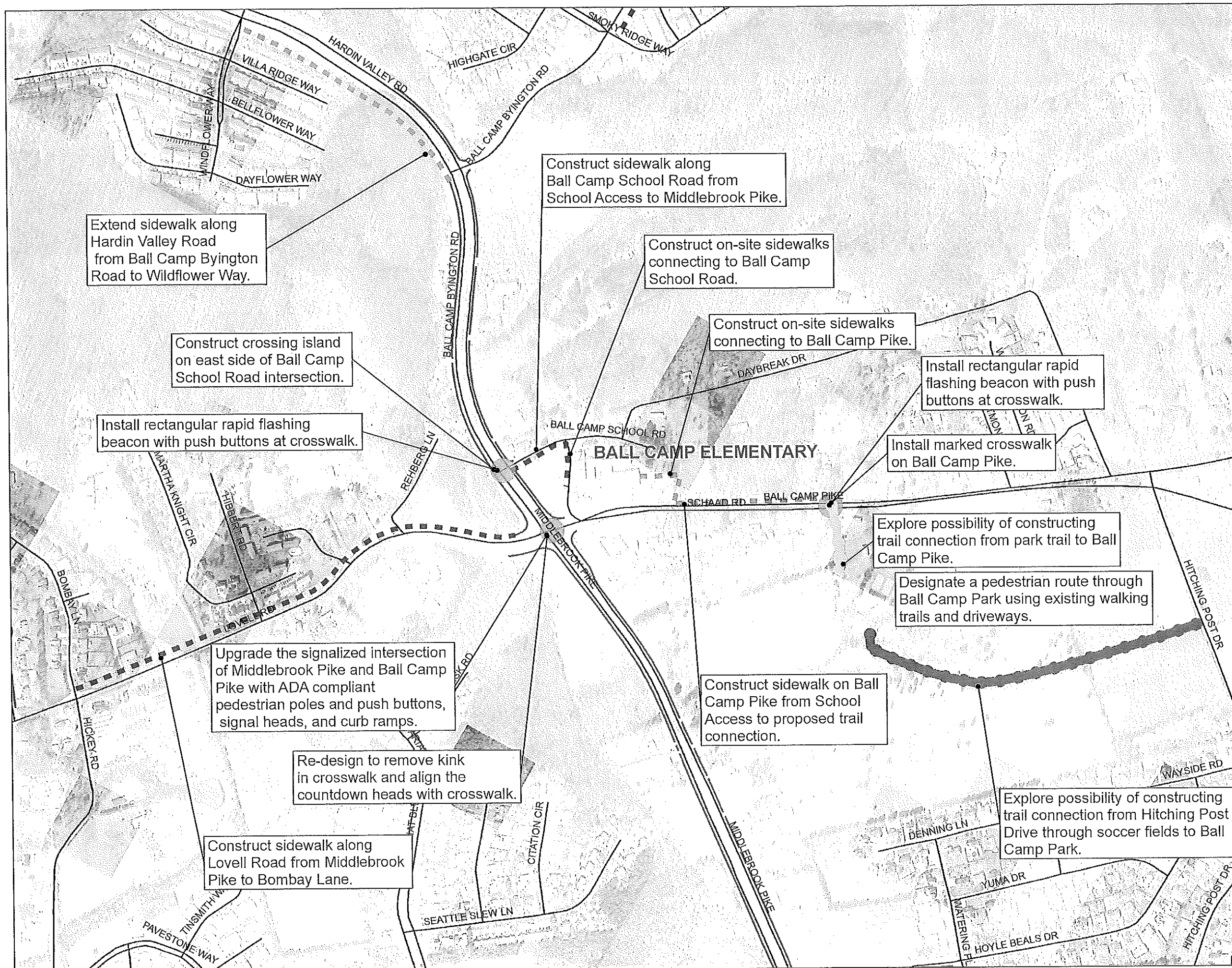


Designating a walk-to-school route through Ball Camp Park can be an alternative to expensive sidewalk construction along Ball Camp Pike.



Pedestrian Improvements Concept Plan

Ball Camp Elementary School

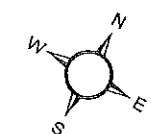


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

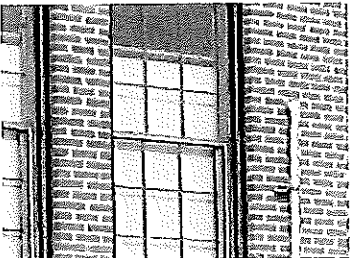
More Trips Produced



0 450 900 Feet

School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
363	19%	1%	45%	43	24



There are 35 schools located in unincorporated Knox County. Bonny Kate Elementary ranks 22nd in pedestrian improvement priority based on composite data.

Assessment:

The majority of the neighborhoods with a high likelihood of walk to school trips are located along Tipton Station Road which provides pedestrian accommodations (sidewalks) east of the school. No sidewalks exist along Tipton Station Road west of the school. The existing greenway along Martin Mill Pike is an ideal pedestrian connection as more development occurs on this road. The walking track around the school playground combined with the Tipton Station sidewalk was also noted to be a community focal point of activity during non-school hours.



Existing sidewalk on Tipton Station Road should be extended between the school access and Broken Creek Lane.

Recommendations:

- Install marked crosswalks and a short sidewalk connection to the greenway at the intersection of Tipton Station Road and Martin Mill Pike.
- Install a marked crosswalk on Tipton Station Road across the school access.
- Construct on-site sidewalk from the school connecting to Tipton Station Road.
- Construct sidewalk along Tipton Station Road from Broken Creek Lane to the school access (primary).
- Look for opportunities to extend access to the greenway. One example is to provide a connection between Jockey Run Trail and the Howard Pinkston Greenway as adjacent development occurs.
- Construct sidewalk along Tipton Station Road from West Martin Mill Pike to Twin Creek Road (secondary).



The Howard Pinkston Greenway provides an ideal pedestrian connection from neighborhoods along Martin Mill Pike to the school. This should be extended as development allows.



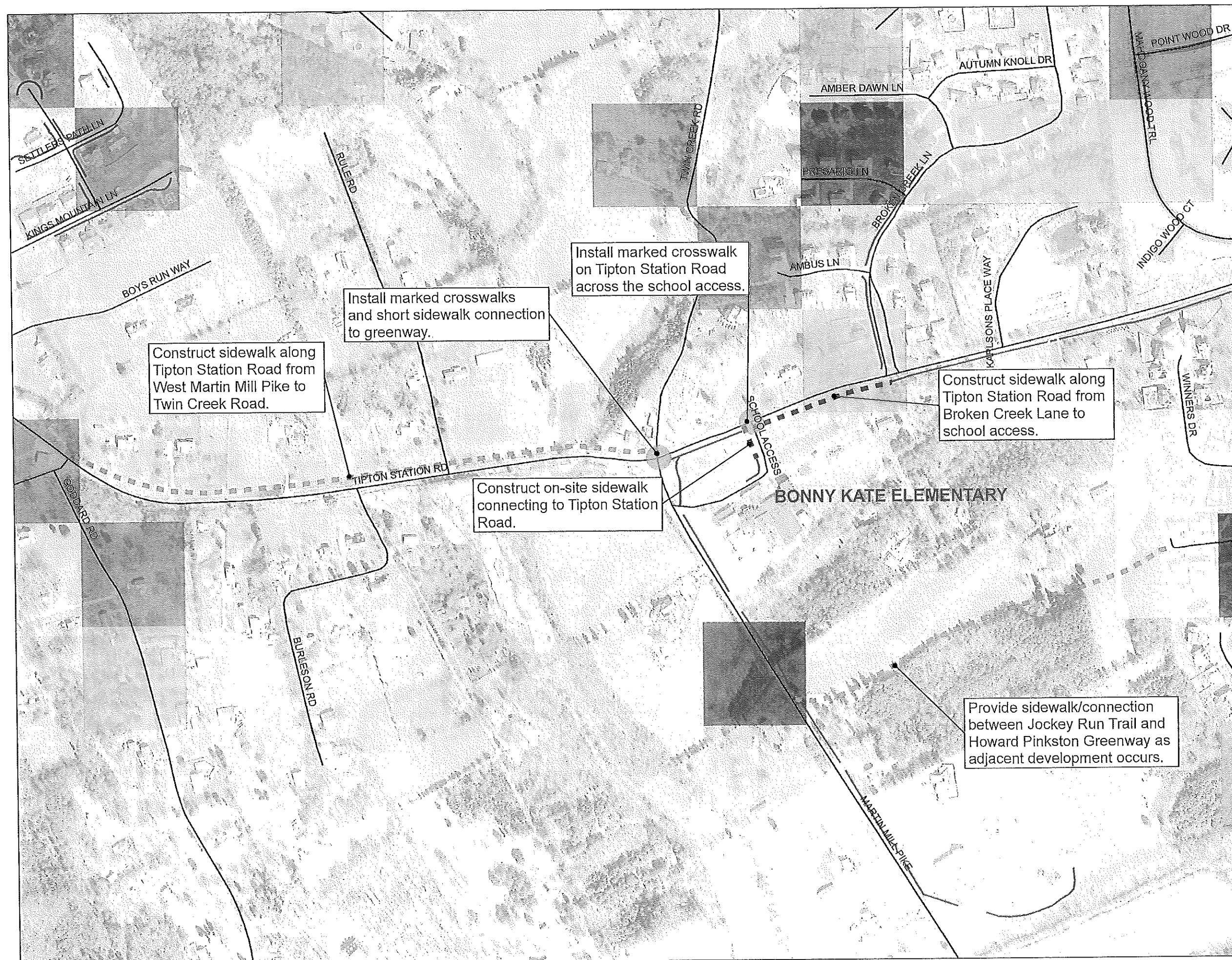
Extension of sidewalk along Tipton Station Road to the west would increase accessibility to the school and greenway.





Pedestrian Improvements
Concept Plan

**Bonny Kate
Elementary School**



Construct sidewalk along
Tipton Station Road from
West Martin Mill Pike to
Twin Creek Road.

Install marked crosswalks
and short sidewalk connection
to greenway.

Install marked crosswalk
on Tipton Station Road
across the school access.

Construct on-site sidewalk
connecting to Tipton Station
Road.

Construct sidewalk along
Tipton Station Road from
Broken Creek Lane to
school access.

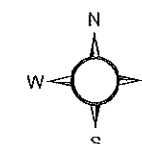
Provide sidewalk/connection
between Jockey Run Trail and
Howard Pinkston Greenway as
adjacent development occurs.

- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

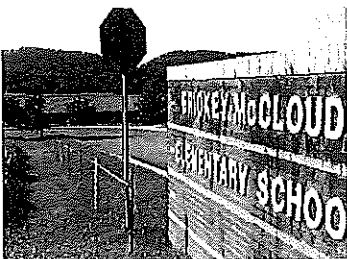
More Trips Produced



0 350 700 Feet

School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
975	6%	-115%	N/A	132	17



There are 35 schools located in unincorporated Knox County. Brickey McCloud Elementary ranks **15th** in pedestrian improvement priority based on composite data.

Assessment:

Good pedestrian accommodations exist for walking along Dry Gap Pike and E. Emory Road, the two access routes for BMES. However, both are difficult to cross in the area of the school. Pedestrian accommodations at two signalized intersections and other crossing accommodations will help. The exclusive right turn lanes at the intersection of E. Emory Road and Dry Gap Pike warrant some “yield to pedestrian” signage here. Extending new sidewalk along Beaver Creek Drive and Greenwell Road will connect newer neighborhoods to the existing sidewalk network.



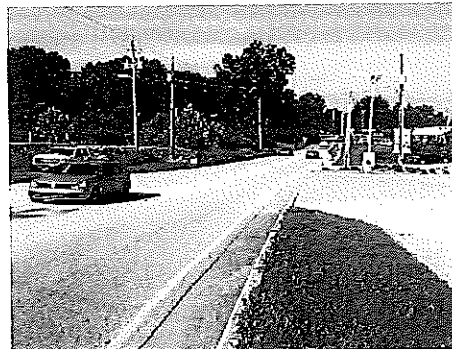
The pedestrian network around BMES is already largely in place.

Recommendations:

- Add pedestrian countdown heads and ADA compliant pushbuttons as well as marked crosswalks at the southern and eastern legs of the E. Emory Road and Dry Gap Pike intersection.
- Install a “Yield to Pedestrians” (R10-15) sign on the east side of Dry Gap Pike and the north side of E. Emory Road facing right-turning traffic.
- Construct sidewalk along E. Beaver Creek Drive from Dry Gap Pike to Ghiradelli Road (primary).
- Construct sidewalk along E. Beaver Creek Drive from Ghiradelli Road to Hurst Lane (secondary).
- Add full pedestrian accommodations at the intersection of Dry Gap Pike and Cunningham Road (curb ramps, pushbuttons, signal heads, etc.).
- Install a rectangular rapid flashing beacon with pushbuttons at the crosswalk at the intersection of Dry Gap Pike and the school access.
- Construct a crossing island and marked crosswalk on the east side of the Greenwell Road and E. Emory Road intersection.
- Construct sidewalk along Greenwell Road from E. Emory Road to Summertime Lane (secondary).



A rectangular rapid flashing beacon would provide a safer pedestrian crossing at the school access during times when a crossing guard is not present.

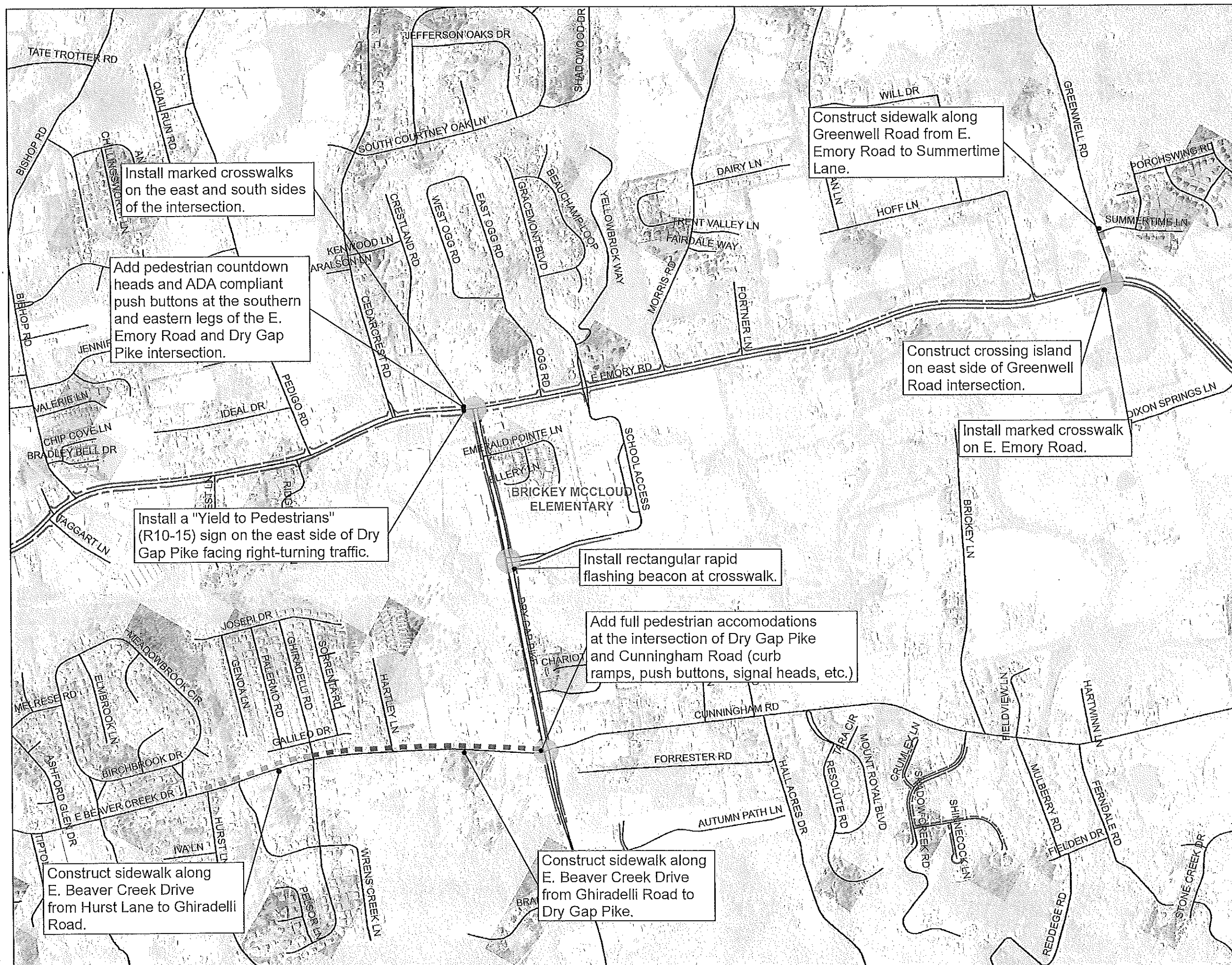


Sidewalk construction along Beaver Creek Drive will complete a walk to school connection for newer neighborhoods southwest of the school.



Pedestrian Improvements Concept Plan

Brickey McCloud Elementary School

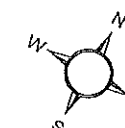


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 800 1,600 Feet

Pedestrian Improvements Concept Plan Supplemental Information

Carter Elementary School 8455 Strawberry Plains Pike



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
579	4%	-31%	59%	59	5

There are 35 schools located in unincorporated Knox County. Carter Elementary ranks 24th in pedestrian improvement priority based on composite data.

Assessment:

The school is surrounded by largely undeveloped land and non-residential land uses, resulting in long trips. Walk trips from the north are also restricted by having to cross Asheville Highway - a high speed divided highway. The most likely walk trips will be from the Carter Mill neighborhood, located about 1/2 mile east along Strawberry Plains Pike. Though Carter Elementary is not on the same campus as Carter Middle and Carter High, all three schools could benefit from some of the same infrastructure. No pedestrian accommodations exist along Strawberry Plains Pike to access the school.



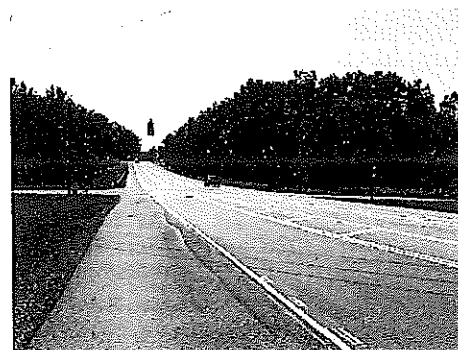
Looking from the Carter Mill neighborhood, no accommodations exist for walking along Strawberry Plains Pike. Sidewalk construction will be difficult given the ditch conditions and limited right-of-way.

Recommendations:

- Construct sidewalk along Woodsedge Road from Drakewood Road to Strawberry Plains Pike (primary).
- Construct sidewalk along Strawberry Plains Pike from Woodsedge Road to School Access (primary).
- Construct sidewalk along Strawberry Plains Pike from School Access to Creek Stone Lane (secondary).
- Construct on-site sidewalk connecting to Strawberry Plains Pike.
- Install marked crosswalk on Strawberry Plains Pike at its intersection with Woodsedge Road.
- Explore the possibility of an off-road trail connection between North Carter School Road and the existing pathway east of Woodsedge Road. This would allow connection to the Carter Branch Library and Park.



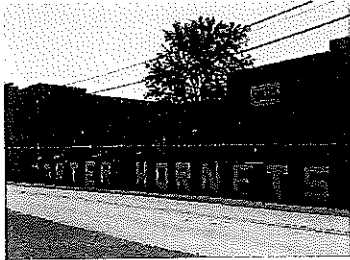
On-site sidewalks would be needed to connect the school building to Strawberry Plains Pike.



Adding pedestrian accommodations to signalized intersections along Strawberry Plains Pike will have limited benefit for students making walk-to-school trips.

Pedestrian Improvements Concept Plan Supplemental Information

Carter Middle and High Schools 204 and 210 N Carter School Road



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
820 (MS)	8%	-7%	61%	32	14
928 (HS)	8%	15%	50%	41	19

There are 35 schools located in unincorporated Knox County. Carter Middle ranks **20th** and Carter High ranks **31st** in pedestrian improvement priority based on composite data.

Assessment:

As at Carter Elementary, residential density around the campus is low, lengthening potential walk trips. Adequate sidewalks exist along N Carter School Road and Strawberry Plains Pike west of the school. However, these sidewalks reach a small number of student households. Extension of the sidewalk along Strawberry Plains Pike and Pleasant Hill Road could be beneficial to serve adjacent neighborhoods.

A multi-purpose project for the community would be to construct an off-road trail connection between the campus and the park/library site southwest of the school. Existing park roads could then serve to facilitate trips from the Carter Mill neighborhood.



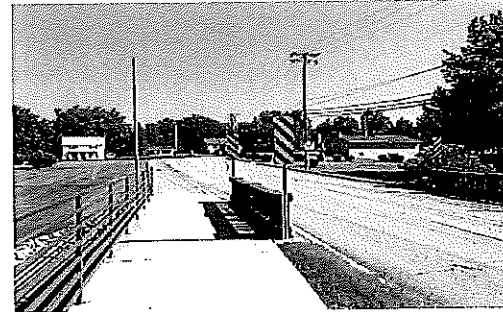
Existing sidewalks near the school serve relatively few trips because they do not extend to neighborhoods.

Recommendations:

- Construct sidewalk along Woodsedge Road from Drakewood Road to Strawberry Plains Pike (primary).
- Construct sidewalk along Pleasant Hill Road from Zesta Lane to Strawberry Plains Pike (primary).
- Explore the possibility of an off-road trail connection between North Carter School Road and the existing pathway east of Woodsedge Road. This would allow connection to the Carter Branch Library and Park.
- Construct on-site crosswalk connecting to North Carter School Road.
- Construct sidewalk along Strawberry Plains Pike from Smoky Row Road to North Carter School Road (primary).
- Install pedestrian warning signs along Smoky Row Road.
- Construct sidewalk along Pleasant Hill Road from Andrew Johnson Highway to Zesta Lane (secondary).



This path from the Carter Mill neighborhood (Edgeworth Lane) connects the neighborhood to the park and library. Extending an off-road trail from the park to campus could facilitate new walk-to-school trips.



Good facilities exist along North Carter School Road but should be extended south to Carter Middle School.



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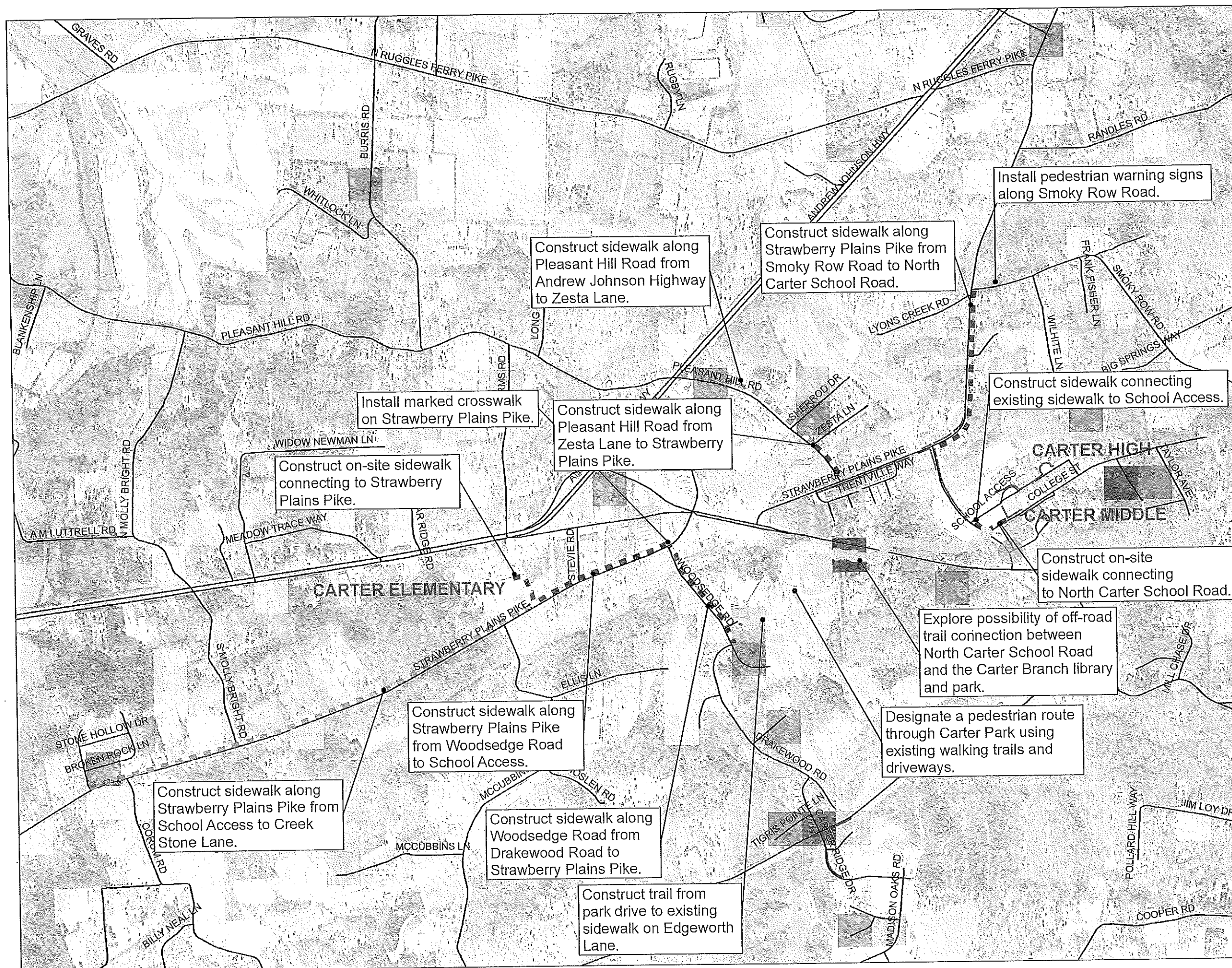


Transportation
Consultants, LLC



Pedestrian Improvements Concept Plan

Carter Elementary, Middle, and High Schools

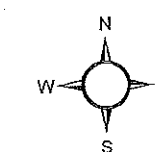


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

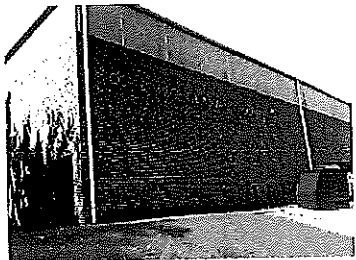
More Trips Produced



0 1,000 2,000 Feet

Pedestrian Improvements Concept Plan
Supplemental Information

Copper Ridge Elementary School
2502 East Brushy Valley Drive



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
556	4%	-113%	50%	30	8

There are 35 schools located in unincorporated Knox County. Copper Ridge Elementary ranks 32nd in pedestrian improvement priority based on composite data.

Assessment:

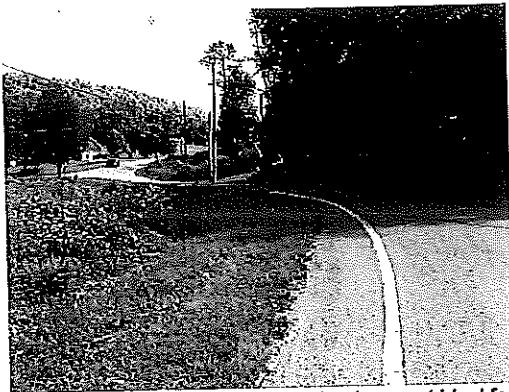
Mountainous topography and narrow roads within the school vicinity limit the feasibility of providing pedestrian accommodations within the school area. The number of students residing close to the school (within the PRZ) has also dropped significantly. Nonetheless, completing a basic sidewalk network along the school frontage would facilitate trips from the closest households and may help in arrival/dismissal procedures. Pedestrian warning signage may also be appropriate on school approaches along E. Brushy Valley Drive and Pedigo Road.



Completing a basic network of pedestrian accommodations adjacent to the school can benefit short trips from nearby residences.

Recommendations:

- Install one pedestrian sign on the south side of E. Brushy Valley Drive west of the school.
- Construct sidewalk along E. Brushy Valley Drive between school accesses.
- Construct on-site sidewalk connecting to E. Brushy Valley Drive.
- Install one pedestrian sign on the east side of Pedigo Road east of the school.
- Install one pedestrian sign on the west side of Pedigo Road east of the school.



Roads in the vicinity of the school are not ideal for walking, but some parents may walk with students to school a short distance. Warning signs can be installed if pedestrian activity along the roads is observed.



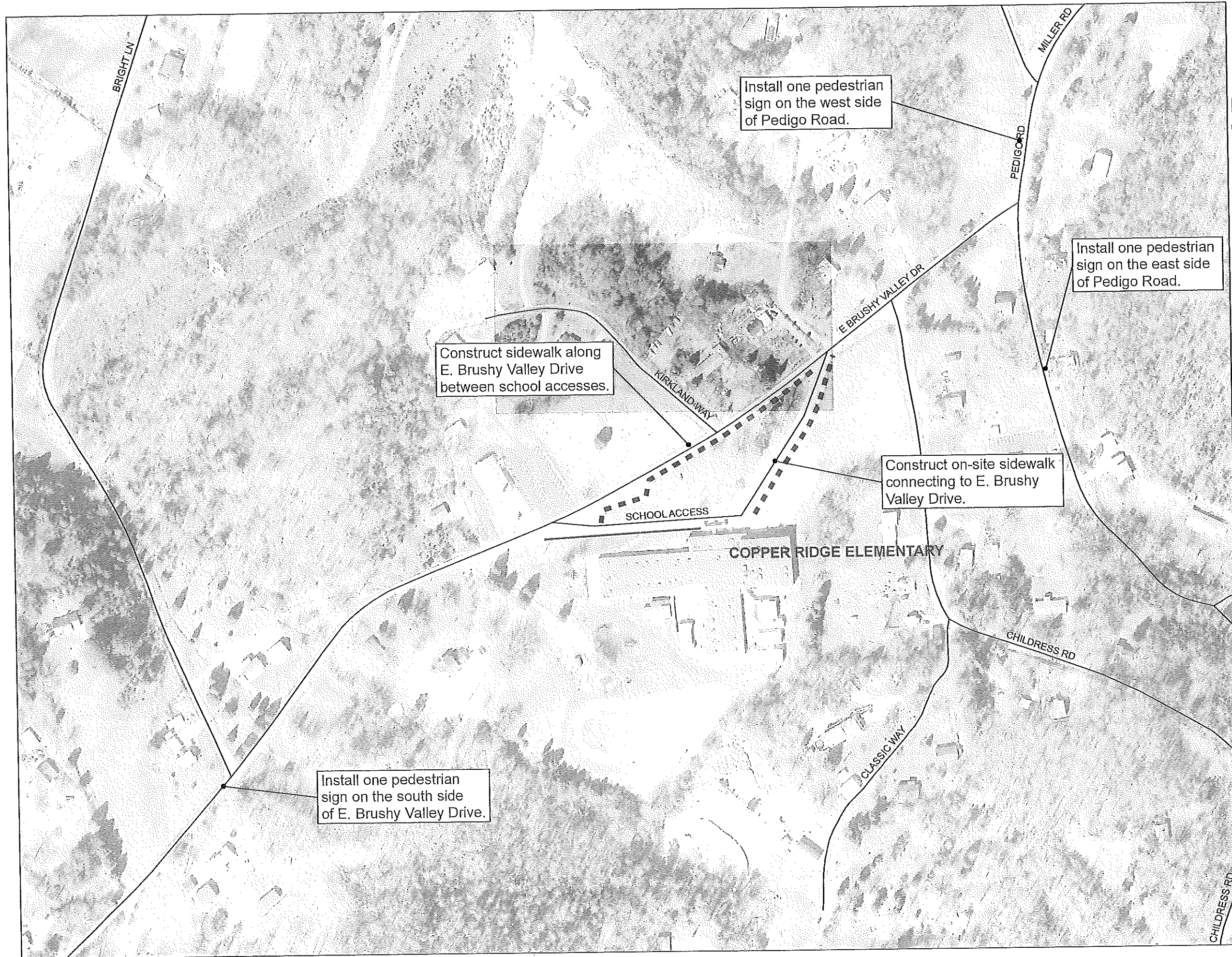
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Pedestrian Improvements Concept Plan

Copper Ridge Elementary School

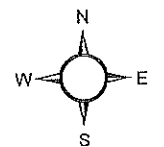


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 225 450 Feet

Pedestrian Improvements Concept Plan
 Supplemental Information

Corryton Elementary School
 7200 Corryton Road



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
199	10%	0%	49%	19	7

There are 35 schools located in unincorporated Knox County. Corryton Elementary ranks 34th in pedestrian improvement priority based on composite data.

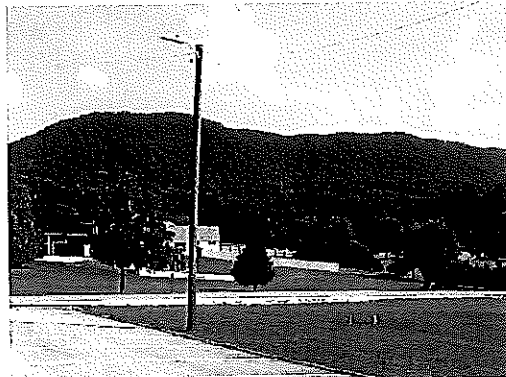
Assessment:

Having the second lowest enrollment in the district and low residential density in the Corryton community results in Corryton Elementary having the lowest predicted number of walk trips of any school in Knox County. Pedestrian improvements would require sidewalk construction along Corryton Road. Although this construction is feasible, the length of sidewalk required and the limited number of school trips that would be realized make pedestrian improvements here difficult to justify.



Under today's conditions, sidewalk construction along Corryton Road is difficult to justify.

Although currently generating a small number of walk trips, the school is surrounded by large tracts of land not restricted by apparent topography or other natural features. This may result in development opportunities not likely at other low-ranking walking schools. Development projects in the area should continue to be monitored and should include the addition of sidewalks along Corryton Road where appropriate.



Recommendations:

- The lack of potential walk-to-school activity at Corryton Elementary combined with the expected cost of introducing pedestrian infrastructure in the area makes improvements difficult to justify. Therefore, no recommendations are provided for Corryton Elementary School.



Scenic (top) and large tracts of relatively developable land may result in future residential projects like the one above. Development proposals should include sidewalk construction internally and along Corryton Road when appropriate.



Pedestrian Improvements Concept Plan

Corryton Elementary School

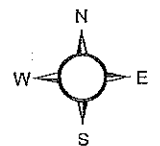
The lack of potential walk-to-school activity at Corryton Elementary combined with the expected cost of introducing pedestrian infrastructure in the area makes improvements difficult to justify. Therefore, no recommendations are provided for Corryton Elementary School.

- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

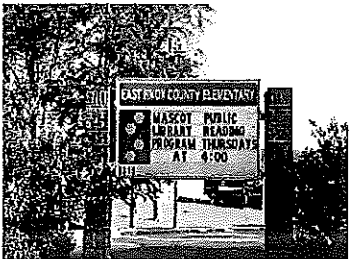
Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 375 750 Feet



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
523	3%	-100%	76%	49	7

There are 35 schools located in unincorporated Knox County. East Knox County Elementary ranks 28th in pedestrian improvement priority based on composite data.

Assessment:

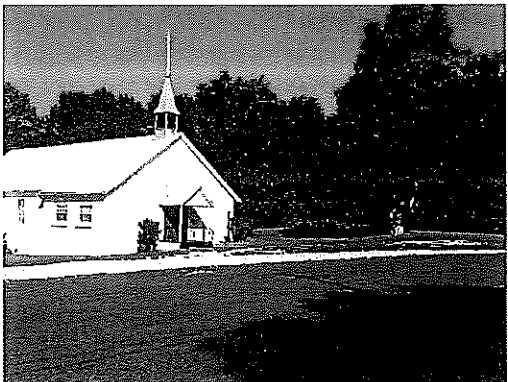
The main school access is located on Rutledge Pike, a four-lane highway with a grass median and no sidewalks. Neighborhoods north of the school can access the school through Millertown Pike, but it also has no sidewalks. The Shipetown Road community generates some trips, but connecting these to the school is difficult using existing roadways. Other trips originate from Three Points Road, Roseberry Road, and Cameron Road south of the school. A park is located adjacent to the school to the west and north.



Any walking along Rutledge Pike would require construction of a path separated from the shoulder of the road. Right-of-way generally appears adequate for this.

Recommendations:

- Install pedestrian warning signs along Three Points Road.
- Construct a multi-use path or trail connection along Rutledge Pike from the School Access to Three Points Road. This could be in the right-of-way, but separated from the road.
- The following three recommendations would result in a pedestrian loop which would serve some walk-to-school trips but that would also provide an amenity route for the community.
 - Construct on-site sidewalk connecting through the park to Millertown Pike (primary).
 - Construct sidewalk along Millertown Pike from the park access to Rutledge Pike (secondary).
 - Construct a trail connection along Rutledge Pike from the School Access to Millertown Pike.
- Construct on-site sidewalk connecting to Rutledge Pike.
- Explore the possibility of constructing an off-road trail along the creek roughly parallel to Roseberry Road. This would provide a connection to the Shipetown Road community.

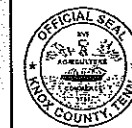


Although not likely to facilitate large numbers of walk-to-school trips, improvements on Millertown Pike and Rutledge Pike could result in a community walking loop connecting EKES, East Knox Park, and the historic Hopewell UMC and cemetery.



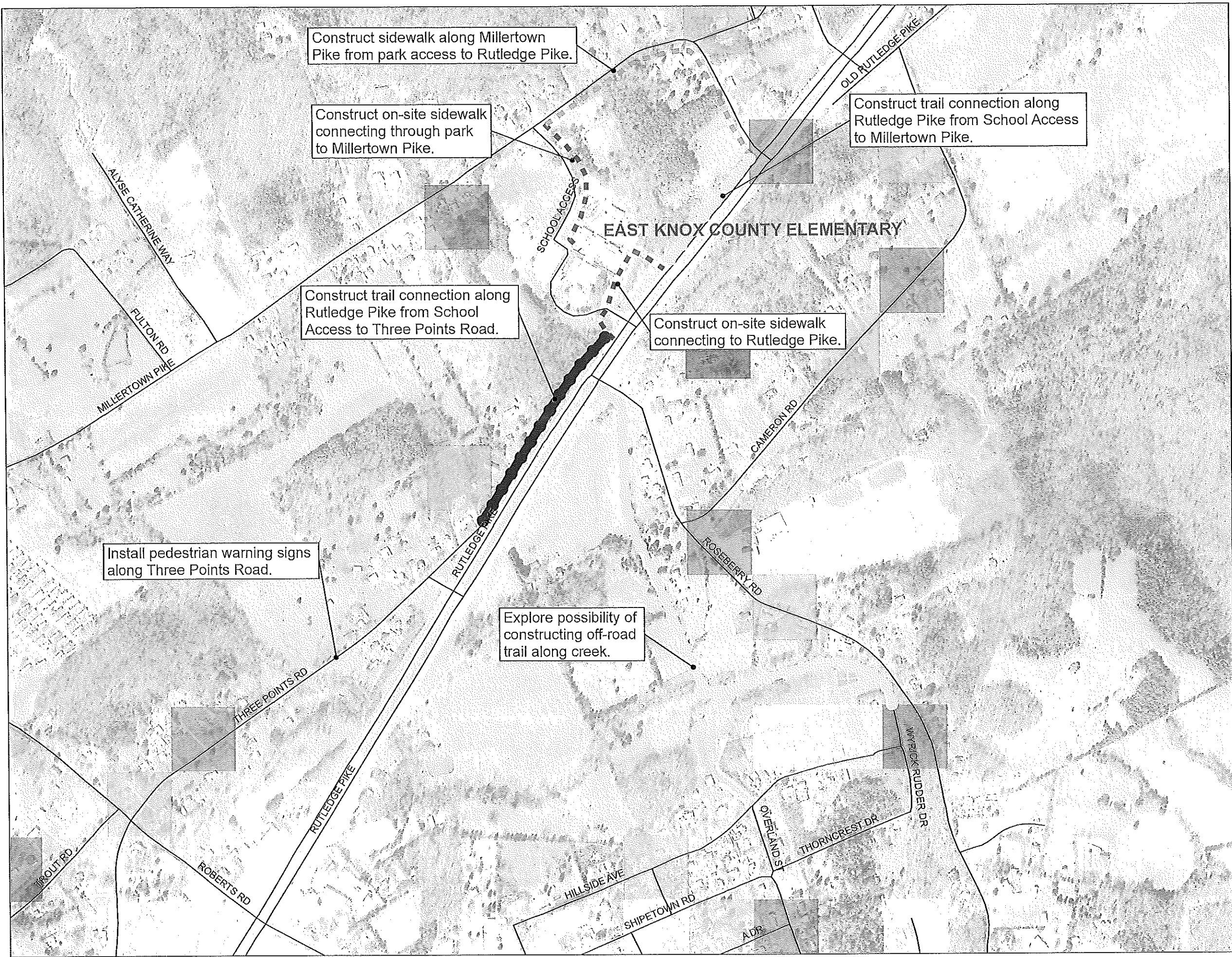
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Pedestrian Improvements Concept Plan

East Knox County Elementary School

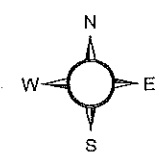


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 500 1,000 Feet



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
107	25%	-56%	63%	23	11

There are 35 schools located in unincorporated Knox County. Gap Creek Elementary ranks 30th in pedestrian improvement priority based on composite data.

Assessment:

Gap Creek Elementary School has the smallest enrollment of any school in the KCS district. Any walk-to-school trips that would occur must be made along Kimberlin Heights Road, a collector road with a 40 mph speed limit and no shoulders.

The school is located less than one mile from the intersection of Kimberlin Heights Road and Hodges Ferry Road, the center of the Kimberlin Heights community. Johnson University is also located nearby. Sidewalk construction along Kimberlin Heights Road would have significant community use aside from walk-to-school trips.



Sidewalk construction is needed along Kimberlin Heights Road for walk-to-school trips to be made safely.

Recommendations:

- Construct sidewalk along Kimberlin Heights Road from School Access to Bays Mountain Road (primary).
- Construct sidewalk along Kimberlin Heights Road from Rhodes Valley Way to School Access (primary).
- Construct sidewalk along Kimberlin Heights Road from Finger Road to Rhodes Valley Way (secondary).
- Construct on-site sidewalk connecting to Kimberlin Heights Road.
- Install pedestrian warning signs along Swaggerty Road.
- Install marked crosswalks and pedestrian warning signs at the intersection of Kimberlin Heights Road and Hodges Ferry Road.
- Construct sidewalk along Hodges Ferry Road from Kimberlin Heights Road to Johnson Drive (secondary).
- Construct sidewalk along Kimberlin Heights Road from Bays Mountain Road to Hodges Ferry Road (secondary).
- Construct sidewalk along Bays Mountain Road from Kimberlin Heights Road to Bays Mountain Park (secondary).
- Install pedestrian warning signs along Bays Mountain Road south of Bays Mountain Park.



Ultimately, sidewalks could connect from GCES to the center of the Kimberlin Heights community and Johnson University, less than a mile away.



Sidewalk construction on Kimberlin Heights Road can be prioritized to connect the closest streets first, like Swaggerty Road.



Department of Engineering
and Public Works

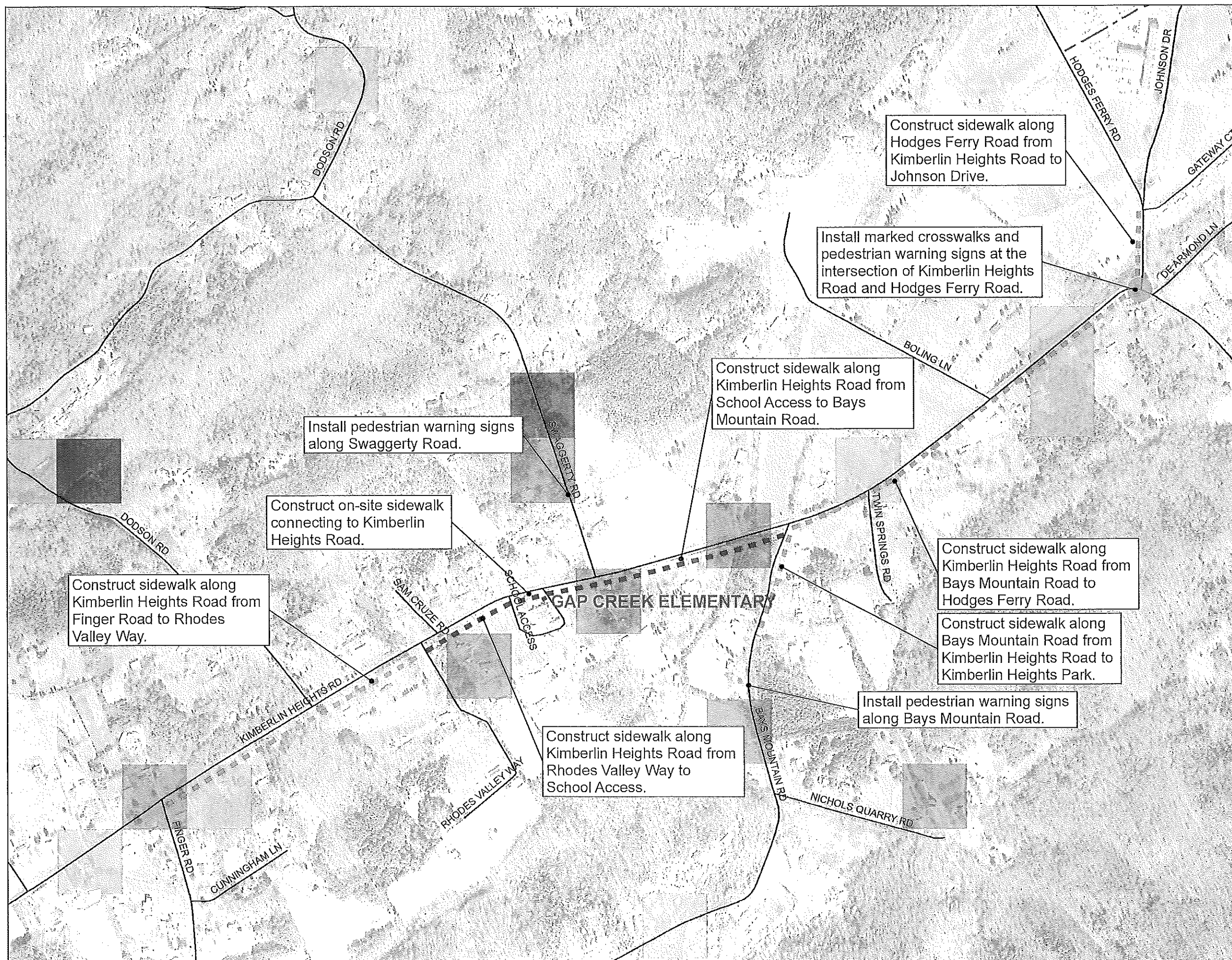


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Pedestrian Improvements Concept Plan

Gap Creek Elementary School

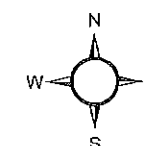


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 500 1,000 Feet

School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
797 (ES)	1%	-278%	42%	91	3
1,089 (HS)	6%	21%	38%	57	17



There are 35 schools located in unincorporated Knox County. Gibbs Elementary and High rank 21st and 26th in pedestrian improvement priority, respectively, based on composite data.

Assessment:

Gibbs Elementary in particular is surrounded by large tracts of undeveloped land, which contribute to it having the lowest number of walk trips originating within the PRZ. Both schools, however, are surrounded with pockets of higher density housing. Connecting these subdivisions to the school by means of an off-road trail is desirable. Alternatively, future development in these areas may be used to further complete a suitable walking network to the Gibbs campus. Such a connection already exists from Applecross Road to Gibbs High, but could be improved.



Pedestrian facilities along Tazewell Pike are important for the schools now and will be even more important as development continues in this area.

Recommendations:

- Develop a neighborhood route and encouragement plan for the Scotch Meadows neighborhood utilizing the existing trail to Gibbs High.
- Complete the existing trail to Gibbs High School classrooms from Applecross Road.
- Explore the possibility of constructing off-road trail connectors to Gibbs Estates and Grandeur Estates neighborhoods.
- Construct sidewalk along Tazewell Pike from Gibbs High School access to the Ruritan Park access (primary).
- Construct sidewalk along Tazewell Pike south of the proposed school driveway to E. Emory Road (secondary).
- Construct a pedestrian connection between the Nicholas Crossing neighborhood and the campus (maybe as part of new development).
- Construct on-site sidewalks from the schools connecting to Tazewell Pike.
- Designate a pedestrian route through Ruritan Park using existing walking trails and driveways.
- Explore the possibility of constructing a trail connection from Country Rose Lane to Ruritan Park.



The trail through the Scotch Meadows neighborhood provides a good connection, but should be completed and expanded to other neighborhoods to the east.



Sidewalks along Tazewell Pike will be more necessary as development continues in the Gibbs community. Ultimately, a pedestrian connection between the campus and Ruritan Park should be a goal.



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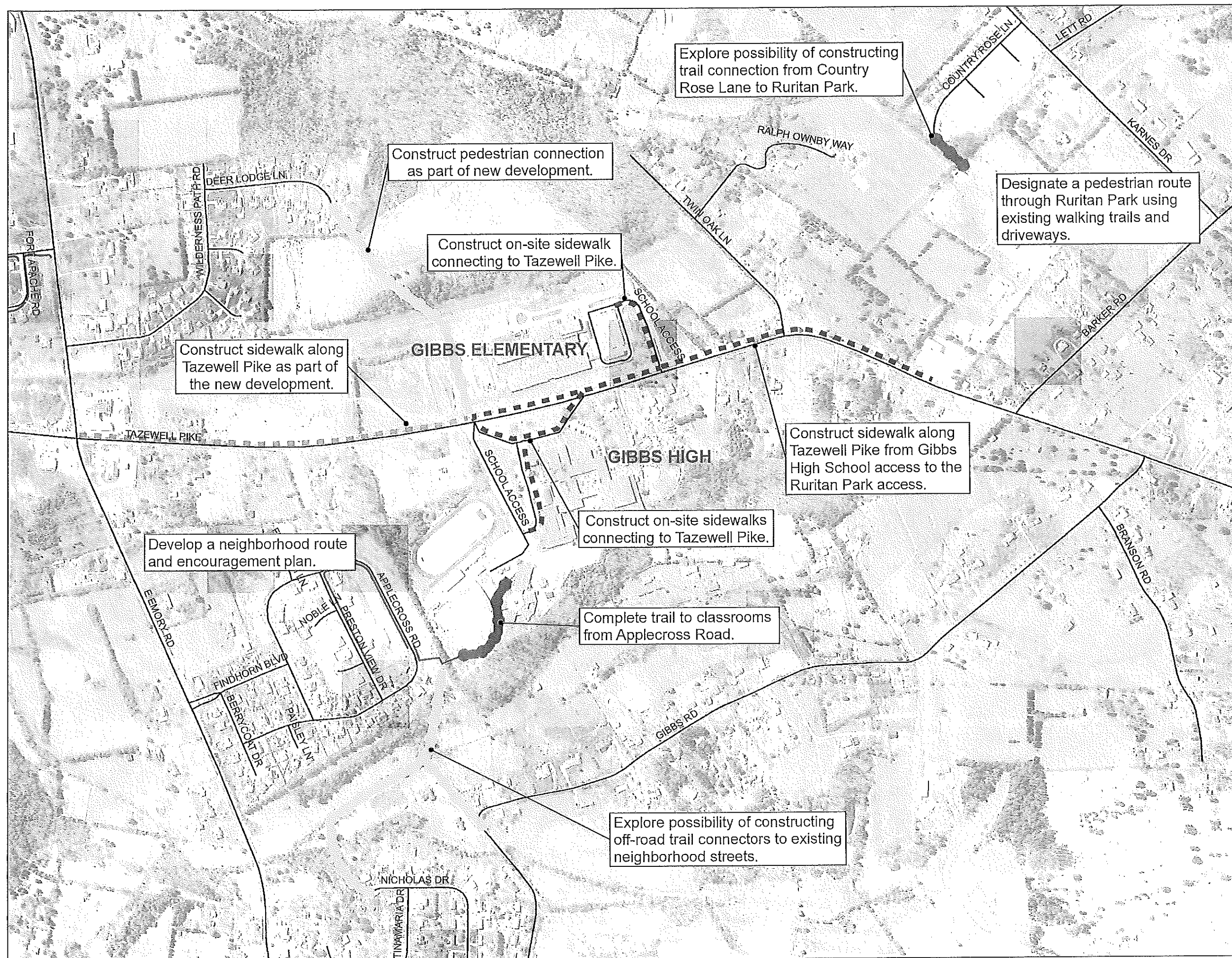


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Pedestrian Improvements Concept Plan

Gibbs High School and Elementary School

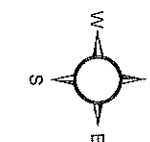


- Spot Recommendations
- ■ ■ New sidewalk
- ■ ■ New sidewalk (secondary)
- ▬ New trail connection
- ▬ New trail (secondary)
- ▬ Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 500 1,000 Feet

School Information:

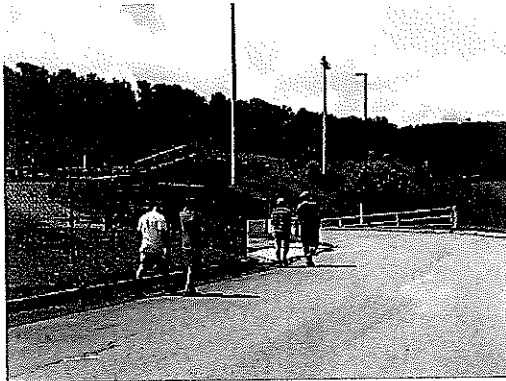
2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
985 (ES)	4%	56%	31%	60	12
1,902 (HS)	4%	100%	26%	40	23



There are 35 schools located in unincorporated Knox County. Hardin Valley Academy and Elementary rank 16th and 18th, respectively, in pedestrian improvement priority based on composite data.

Assessment:

These newer schools in the Hardin Valley community already enjoy a well-connected sidewalk network. Sidewalks exist on Hardin Valley Road, Steele Road, and even some of the main subdivision streets.

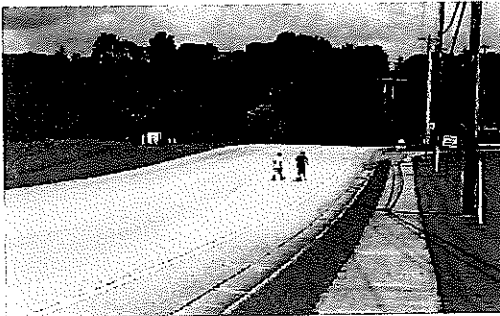


Connections at the rear of the campus could be extended to Steele Road to shorten the walk from neighborhoods northwest of the campus.

Sidewalks should be added on school property connecting to the buildings. Several street crossings should also be improved.

Recommendations:

- Construct on-site sidewalk connecting the HVES entrance to Steele Road.
- Install rectangular rapid flashing beacon with pushbuttons at crosswalk at the intersection of Steele Road and HVES/shopping center driveway.
- Construct a crossing island on north side of Food City access intersection with Steele Road.
- Construct a trail connection from Hardin Valley Academy service drive to Steele Road.
- Construct on-site sidewalks connecting to Hardin Valley Road.
- Install rectangular rapid flashing beacon with pushbuttons at Hardin Valley Road intersections with three school accesses.
- Construct crossing islands on east side of school accesses intersections with Hardin Valley Road.
- Install marked crosswalk at the intersection of Hardin valley Road and Brooke Willow Boulevard.
- Install marked crosswalk at the intersection of Hardin Valley Road and Brighton Farms Boulevard.
- Develop a neighborhood route and encouragement plan for nearby neighborhhods like Brighton Farms, Elm Grove, and The Glen.



Several street crossings can be improved, like this one on Steele Road.

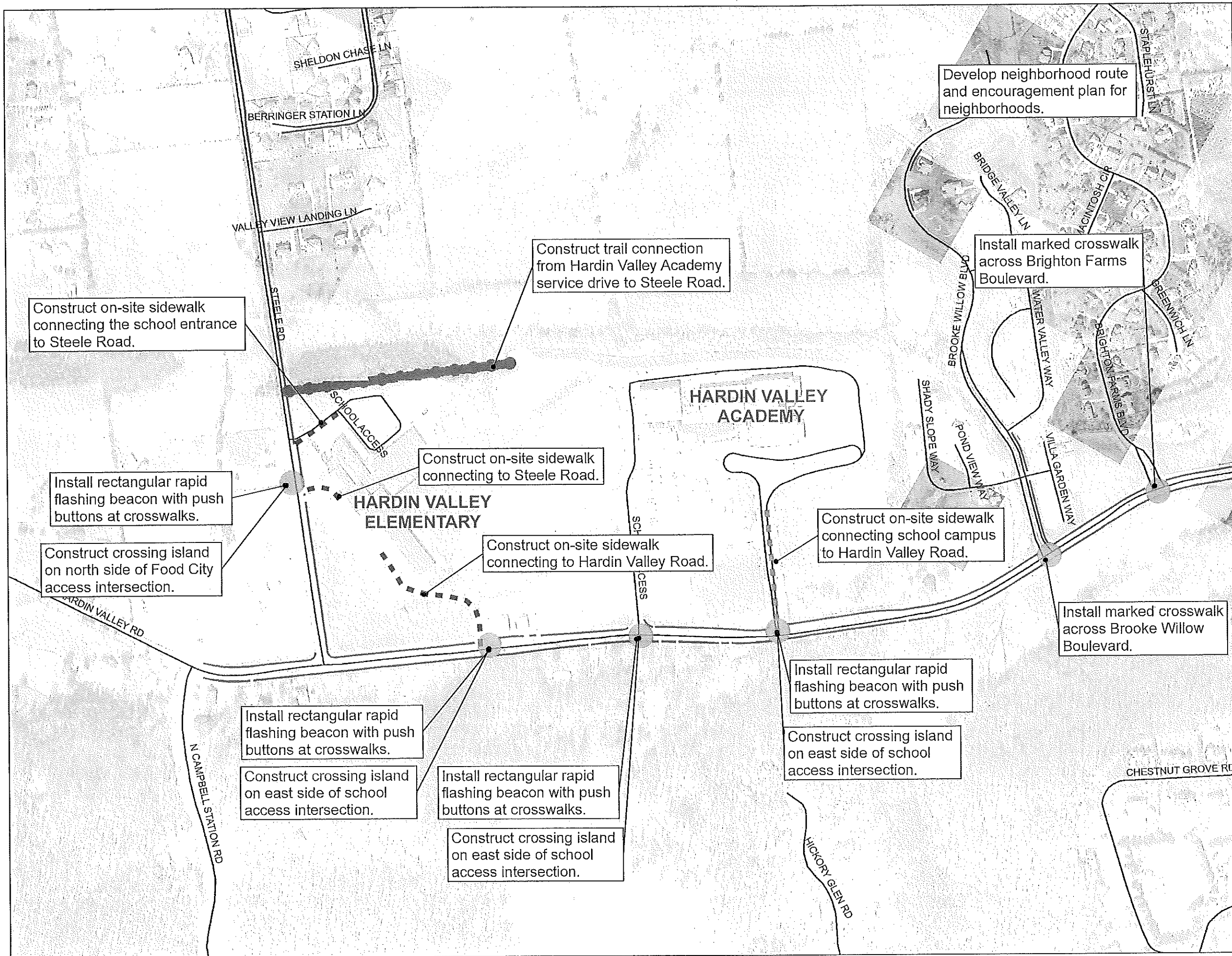


Pedestrian accommodations in the area are generally adequate, including here at the intersection of Steele Road and Hardin Valley Road.



Pedestrian Improvements Concept Plan

Hardin Valley Academy and Elementary School

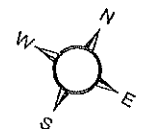


- Spot Recommendations
- ■ ■ New sidewalk
- ■ ■ New sidewalk (secondary)
- ■ ■ New trail connection
- ■ ■ New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 450 900 Feet

Pedestrian Improvements Concept Plan Supplemental Information

Karns High School
2710 Byington Solway Road



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
1,200	4%	-41%	39%	36	9

There are 35 schools located in unincorporated Knox County. Karns High ranks 35th in pedestrian improvement priority based on composite data.

Assessment:

Karns High has the second lowest potential walk share as a portion of its student body. Under ideal conditions, only 9 walk trips would be generated out of the PRZ area. This is due to its location in a predominately industrial area, adjacent to the Westbridge Business Park. Approximately one mile away are the Highgate subdivision and the Forest Ridge condominiums which have the potential of producing walk trips. The next closest concentration of students is the Wexford Downs subdivision. Connecting this neighborhood may be possible by means of an off-road trail along the TVA easement to the northwest of the campus. Such a trail would have the added benefit of connecting the rugby park and the sportspark.



Sidewalks along Crosslane Road and a short segment of Ball Camp Byington Road would connect the Forest Ridge condominiums.

Recommendations:

- Construct a trail connection within Oak Ridge Highway Right-of-Way.
- Construct a trail connection within TVA easement to connect Oak Ridge Highway, parks, and KHS.
- Construct sidewalk along Byington Solway Road from Crosslane Road to School Access (primary).
- Construct sidewalk along Crosslane Road from Tinley Drive to Byington Solway Road (primary).
- Install marked crosswalk at the intersection of Ball Camp Byington Road and Smokey Ridge Way.
- Install marked crosswalk at the intersection of Byington Solway Road and School Access.
- Construct on-site sidewalks connecting to Byington Solway Road.



Pedestrian facilities along a segment of Oak Ridge Highway would be required to accommodate trips from the north.



Following the TVA easement would provide a connection onto the KHS campus.



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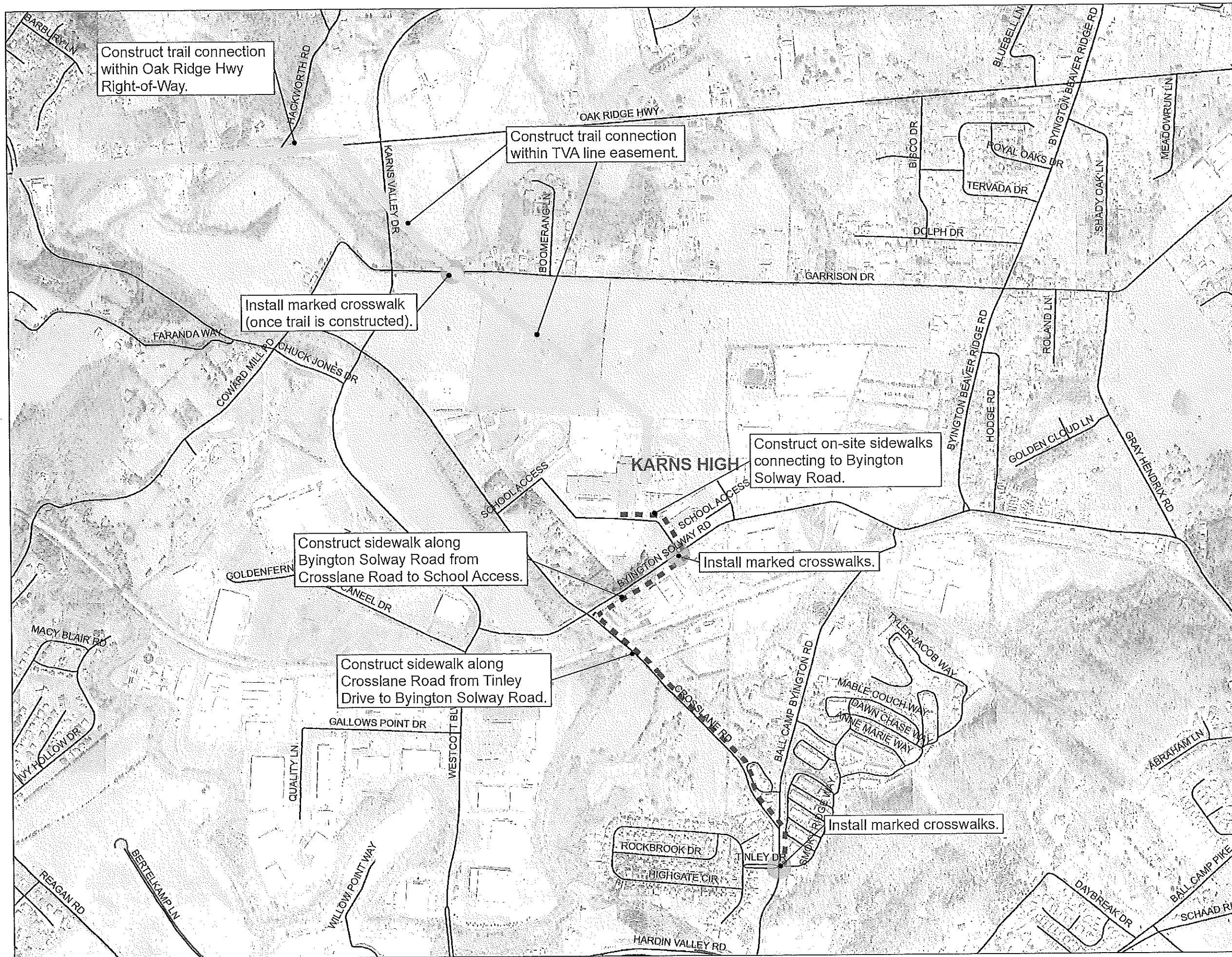


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Pedestrian Improvements Concept Plan

Karns High School

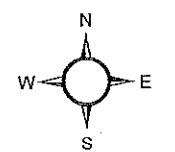


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 800 1,600 Feet

Pedestrian Improvements Concept Plan Supplemental Information

Mt. Olive Elementary School 2507 Maryville Pike



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
257	12%	-123%	59%	42	10

There are 35 schools located in unincorporated Knox County. Mt. Olive Elementary ranks 29th in pedestrian improvement priority based on composite data.

Assessment:

Bound by topography and a railroad track, access of any kind to the Mt. Olive community is challenging and no pedestrian accommodations exist in the area. Access from newer subdivisions west of the site would be from Maloney Road. Sidewalk construction along Maloney Road is limited by steep sideslopes and a narrow one-lane bridge under the railroad near the school. Other residences exist on the east side of Maryville Pike. A shortcut route through the Mt. Olive Baptist Church campus could facilitate these trips. More importantly, it appears that students cross Maryville Pike at arrival and dismissal periods. Special treatment of this crossing should be implemented.



Pedestrian access to Mt. Olive from the west is limited by narrow railroad bridges on Maloney Road (top) and Maryville Pike (above) and a lack of sidewalks.

Recommendations:

- Explore the possibility of constructing an off-road trail connecting Maloney Road to Waldave Lane through new development.
- Construct sidewalk along Maryville Pike from Waldave Lane to school access (secondary).
- Install marked crosswalk, pedestrian signs, and rectangular rapid flashing beacons with push buttons at the intersection of Maryville Pike and School Access.
- Request permission from the church to establish a pedestrian route and signage through its property.
- Install pedestrian warning signs along Mount Olive Road.



Appearing to be an important crossing at arrival and dismissal, this location on Maryville Pike should have upgraded pedestrian warnings.



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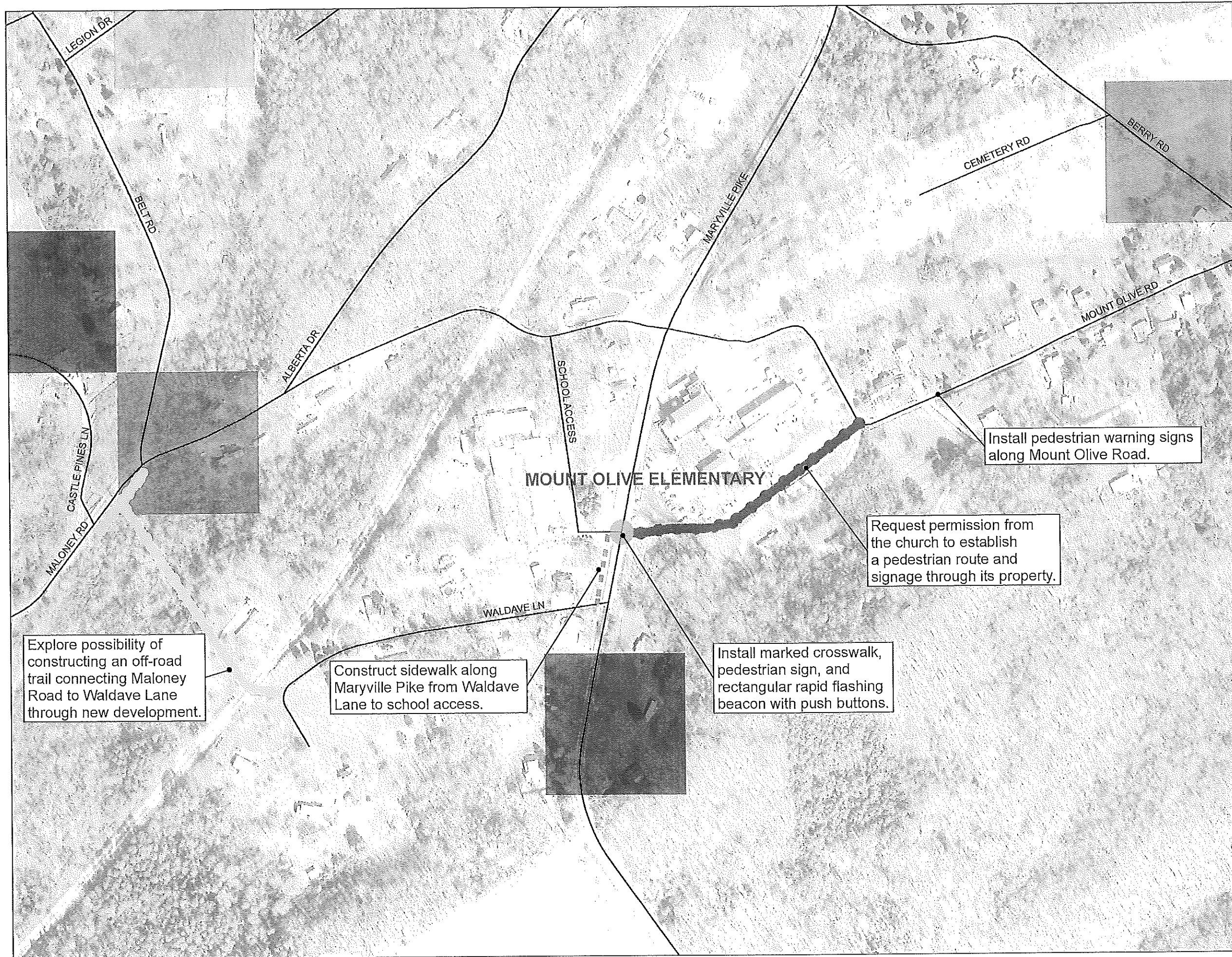


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Pedestrian Improvements Concept Plan

Mount Olive Elementary School

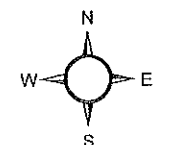


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

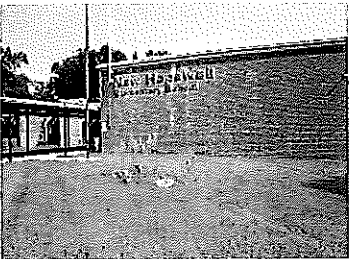
Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 250 500 Feet



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
248	15%	-16%	51%	36	14

There are 35 schools located in unincorporated Knox County. New Hopewell Elementary ranks 27th in pedestrian improvement priority based on composite data.

Assessment:

New Hopewell Elementary School is situated in a valley between two ridges in southeast Knox County. Both Gov. John Sevier Highway and Kimberlin Heights Road run through the valley and provide routes to the school, but sidewalks exist on neither. To provide for a safe walk-to-school option, sidewalk construction will be required on Kimberlin Heights Road. The recommended first segment for construction is from the school to Nichols Road. This 1,500 ft of sidewalk, along with some other signage improvements, could allow some student walk trips to be made.



No pedestrian accommodations exist along Kimberlin Heights Road. To realize any walk trips, sidewalk construction will be required.

Recommendations:

- Install pedestrian warning signs along Burnett Creek Road.
- Install pedestrian warning signs along Rollen Road.
- Construct sidewalk along Kimberlin Heights Road from Burnett Creek Road to School Access (primary).
- Construct sidewalk along Kimberlin Heights Road from Old French Road to School Access (secondary).
- Install pedestrian warning signs along Nichols Road.
- Construct on-site sidewalk connecting to Kimberlin Heights Road.
- Install pedestrian warning signs at the intersection of Gov. John Sevier Highway and Nichols Road.
- Construct sidewalk along Gov. John Sevier Highway from Austin Park Lane to Nichols Road (secondary).



While sidewalk construction is feasible, conditions along the edge of Kimberlin Heights Road at some locations like this culvert crossing make it more difficult.

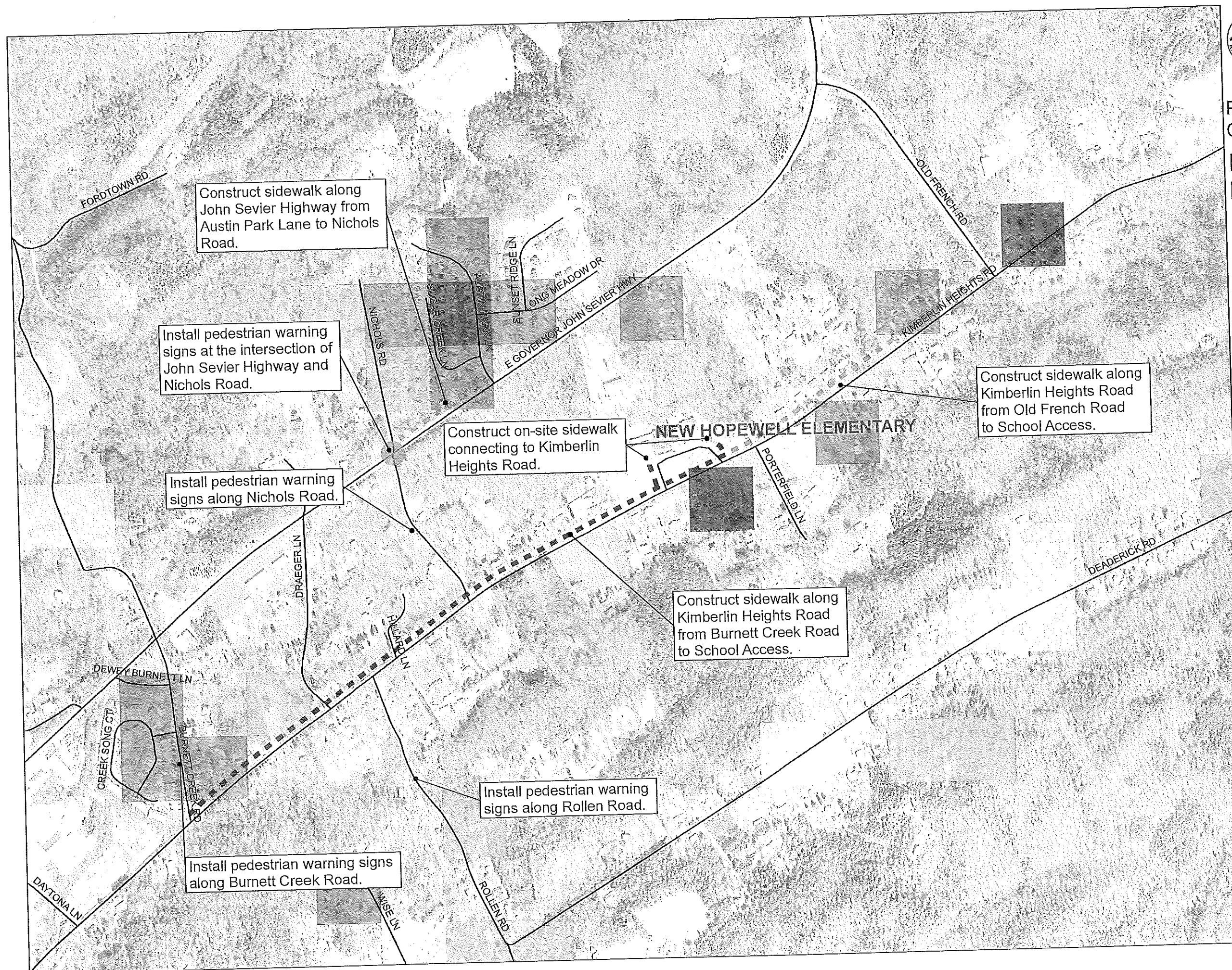


Walking trips may originate from neighborhoods north of John Sevier Highway, but more sidewalk construction along the highway would be required.



Pedestrian Improvements Concept Plan

New Hopewell Elementary School

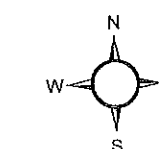


- Spot Recommendations
- ■ ■ New sidewalk
- ■ ■ New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 500 1,000 Feet

School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
1,159	6%	59%	58%	36	24



There are 35 schools located in unincorporated Knox County. South Doyle High ranks 23rd in pedestrian improvement priority based on composite data.

Assessment:

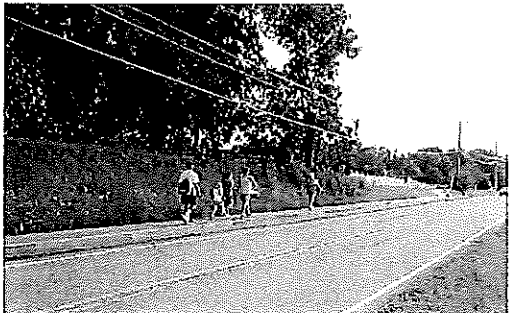
Located in a relatively high-growth area of Knox County, South Doyle's student PRZ population has grown significantly over the past 15 years. A sidewalk exists along the south side of Tipton Station Road which provides the opportunity for student trips and has proven to be a much loved community asset. Changes in the campus layout has meant that Tipton Station Road now bisects the high school with students crossing the road regularly. Pedestrian street crossing improvements and the extension of the Tipton Station Road sidewalk to the east should be the focus of enhancements at South Doyle.



This crossing in front of the high school is well marked and is generally respected by drivers in the area.

Recommendations:

- Construct curb ramps and add pedestrian signs at the intersection of Tipton Station Road and Saddlegate Road.
- Construct curb ramps and add pedestrian signs at the intersection of Tipton Station Road and Poplar Wood Trail.
- Install pedestrian signs at the crosswalks of internal crossing points within the campus.
- Connect the missing sidewalk segments along Tipton Station Road between Coatney Road and Water Tower Road.
- Construct a sidewalk connector and crosswalk at the school exit driveway.
- Construct sidewalk along Tipton Station Road from Water Tower Road to the school access (primary).
- Construct sidewalk along Tipton Station Road from the school access to Childress Glenn Lane (secondary).

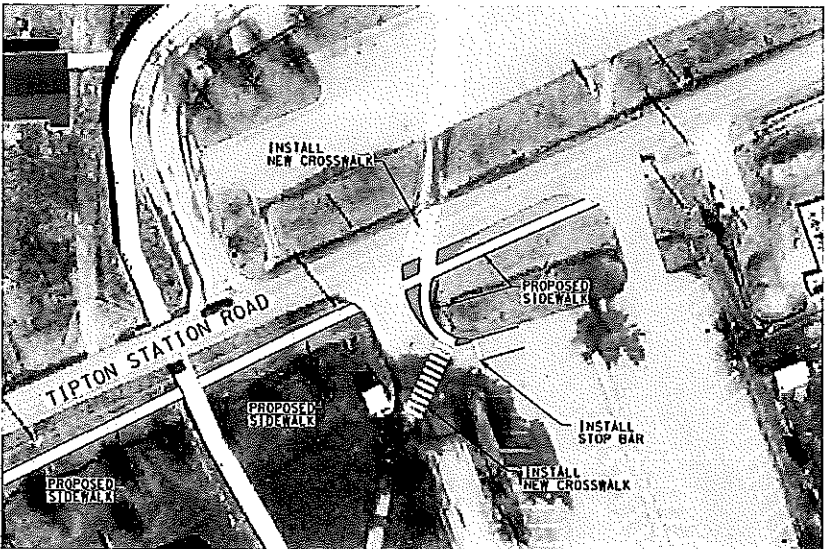


The Tipton Station Road sidewalk is considered a community asset for more than just school trips.

A sidewalk connector will clarify the pedestrian path and create a safer crossing across the parking lot on the south side of Tipton Station Road.



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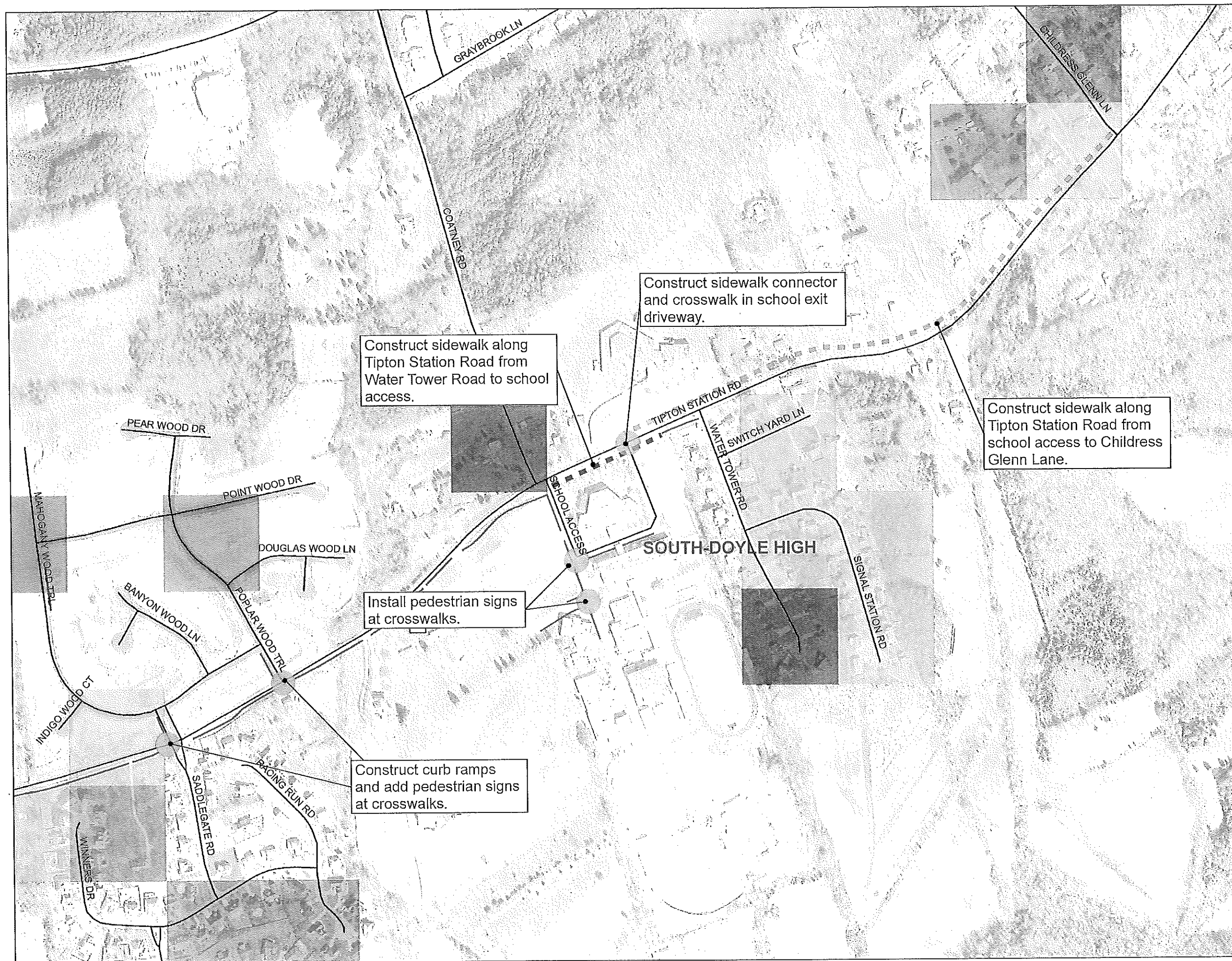




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Pedestrian Improvements Concept Plan

South Doyle High School

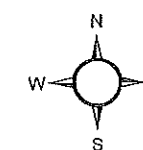


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 400 800 Feet

School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
653	1%	0%	47%	57	4



There are 35 schools located in unincorporated Knox County. Ritta Elementary ranks 25th in pedestrian improvement priority based on composite data.

Assessment:

Due to new development in the area, the school could attract a relatively high number of walk trips, though almost all would originate outside of the the PRZ. Located just outside of Ritta Elementary's PRZ is the Shannon Valley Farms neighborhood where a number of the school's students live. A trail which extends the abandoned Shannon Valley Drive could facilitate walking trips for these students. Any realized trips will require sidewalk construction along Washington Pike. If other farms develop in the area, pedestrian facilities should be constructed as part of those projects, especially along Washington Pike. An active Norfolk-Southern railroad line will mean that sidewalk construction could only be on the south side of Washington Pike in this area.



Houses on the back side of Shannon Valley Farms generate student trips, but the subdivision doesn't directly connect to Luttrell Road.

Recommendations:

- Explore the possibility of constructing a new trail connecting Horstall Drive at the drainage easement to Shannon Valley Drive (abandoned).
- Install pedestrian warning signs along Shannon Valley Drive and Luttrell Road.
- Construct sidewalk along Washington Pike from Luttrell Road to school access (once new trail is constructed).
- Construct on-site sidewalks connecting to Washington Pike.
- Construct sidewalk along Washington Pike from Old Washington Pike to school access (primary).
- Install pedestrian warning signs along Old Washington Pike.
- Continue to monitor development activity in this area and implement sidewalk construction along Washington Pike as appropriate.



Shannon Valley Drive (straight ahead in picture) provides a greenway-like facility which almost connects to the residential neighborhood.



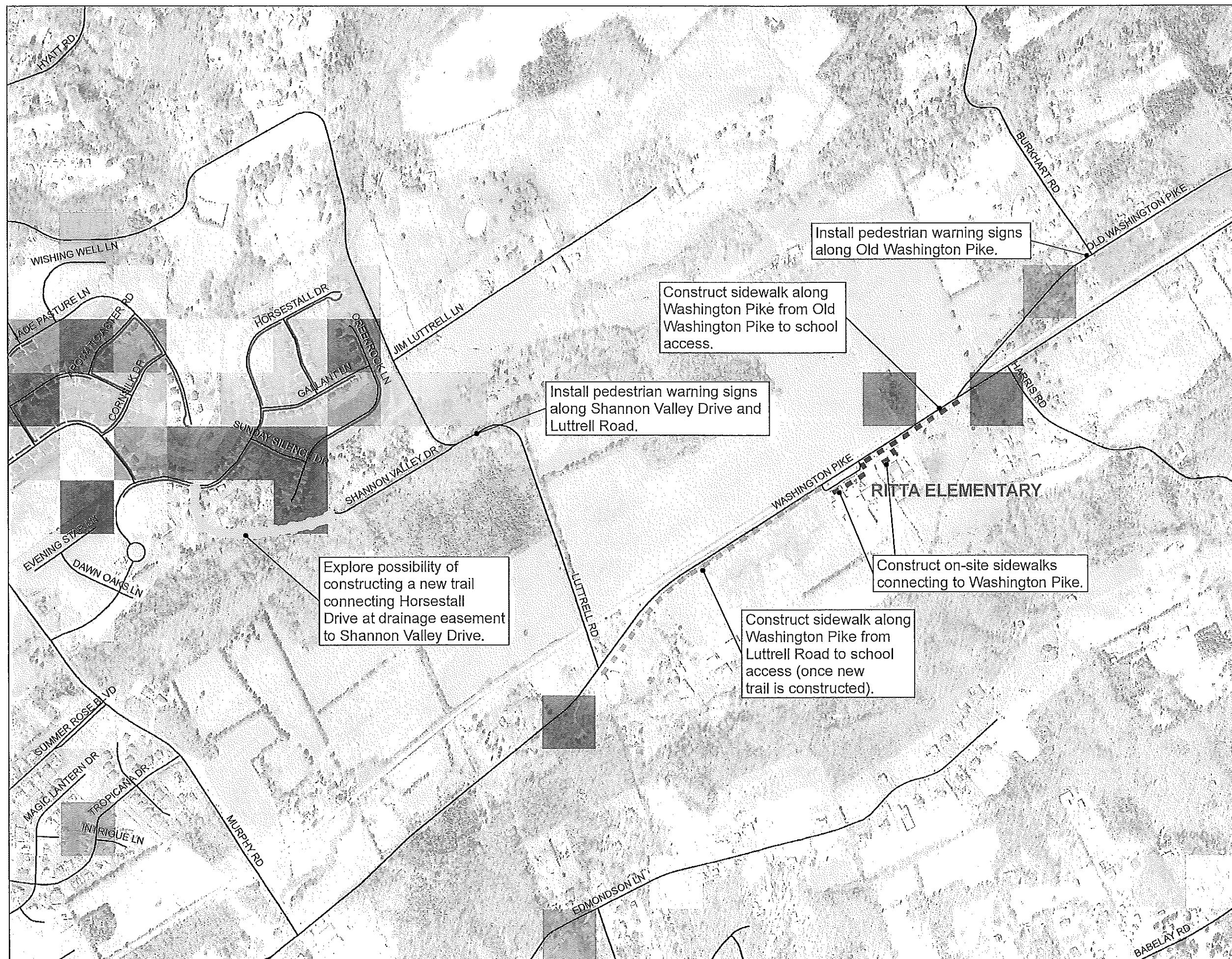
Sidewalk construction along the south side of Washington Pike would be required. The first segment could connect the school and adjacent businesses and extend to Old Washington Pike.





Pedestrian Improvements Concept Plan

Ritta Elementary School

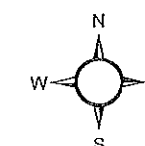


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

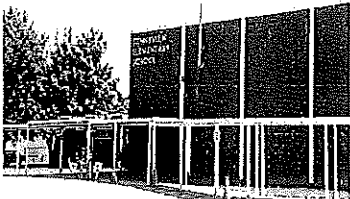
Production of Walk Trips

Fewer Trips Produced

More Trips Produced



0 625 1,250 Feet



School Information:

2013-14 Enrollment	% in PRZ	15-yr student population growth in PRZ	Economically disadvantaged	Total walk trips	Walk trips in PRZ
306	5%	-107%	66%	20	7

There are 35 schools located in unincorporated Knox County. Sunnyview Primary ranks 33rd in pedestrian improvement priority based on composite data.

Assessment:

Sunnyview Primary is a true neighborhood school, situated toward the back of the Bagwell Lane neighborhood, a quiet, no-outlet street. For the most part, student trips from streets around the school (Clowers Dr., Sunstrand Dr., Trace Ln., Acco Rd., and Lyke Rd.) can already happen with little improvement necessary. To encourage more walk trips, though, sidewalk along Bagwell Road would be desirable. The sidewalk can be extended to Elna Marie Drive to connect to existing sidewalk built as part of this residential development. Ultimately, sidewalk can be extended along Ruggles Ferry Pike.



Sidewalk on Bagwell Lane can help facilitate trips from the adjacent neighborhood.

Recommendations:

- Construct sidewalk along Bagwell Road from N. Ruggles Ferry Pike to Elna Marie Drive (primary).
- Construct sidewalk along N. Ruggles Ferry Pike from Branch Lane to Bagwell Road (secondary).
- Construct an off-road trail on school property connecting to Branch Lane.



New development north of the school already has sidewalks and can be connected along Bagwell Lane.

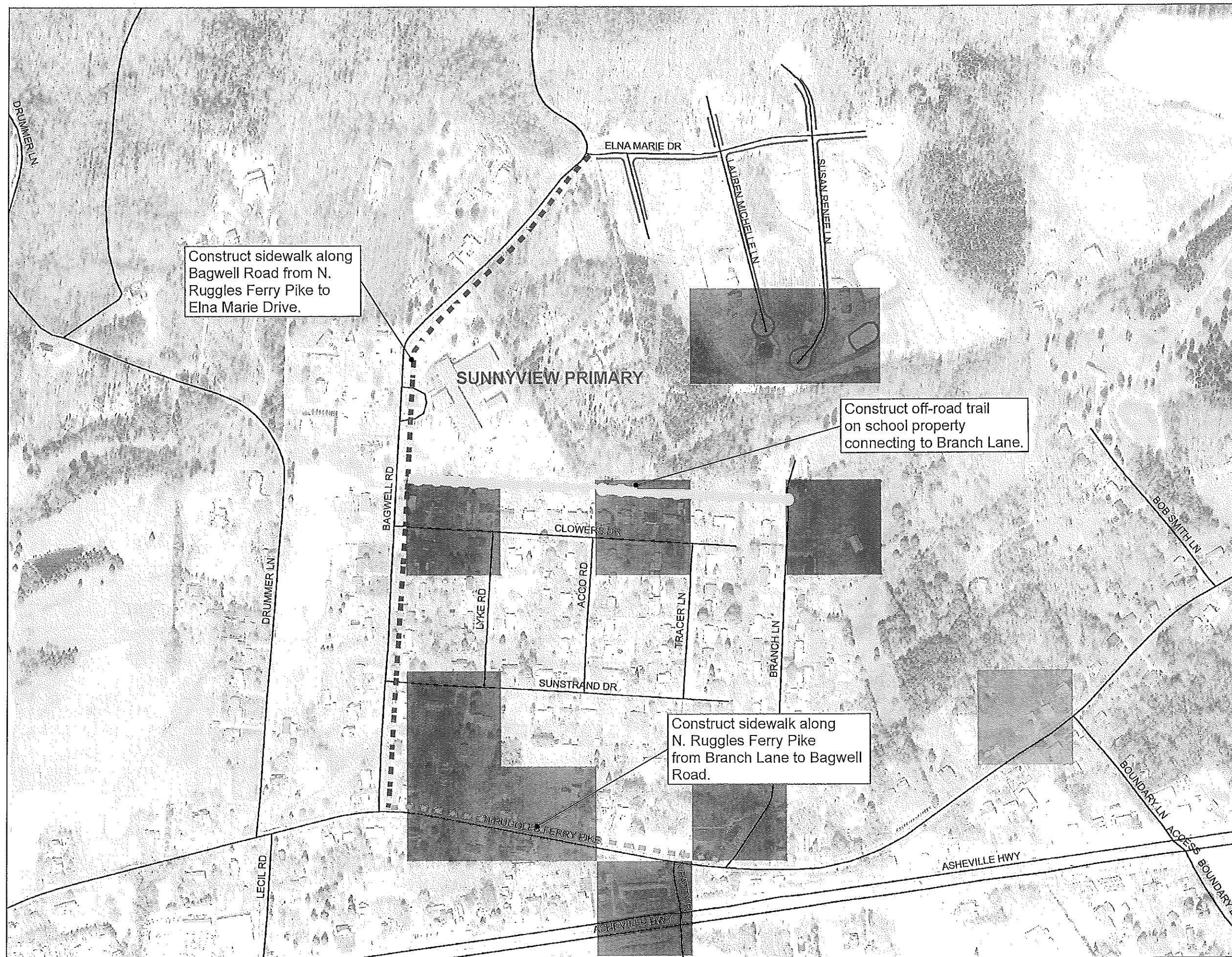


Improvements along Ruggles Ferry Pike are challenging and expected trips remain few. These improvements are secondary.



Pedestrian Improvements
Concept Plan

**Sunny View
Primary School**

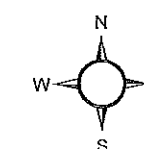


- Spot Recommendations
- New sidewalk
- New sidewalk (secondary)
- New trail connection
- New trail (secondary)
- Existing Sidewalks

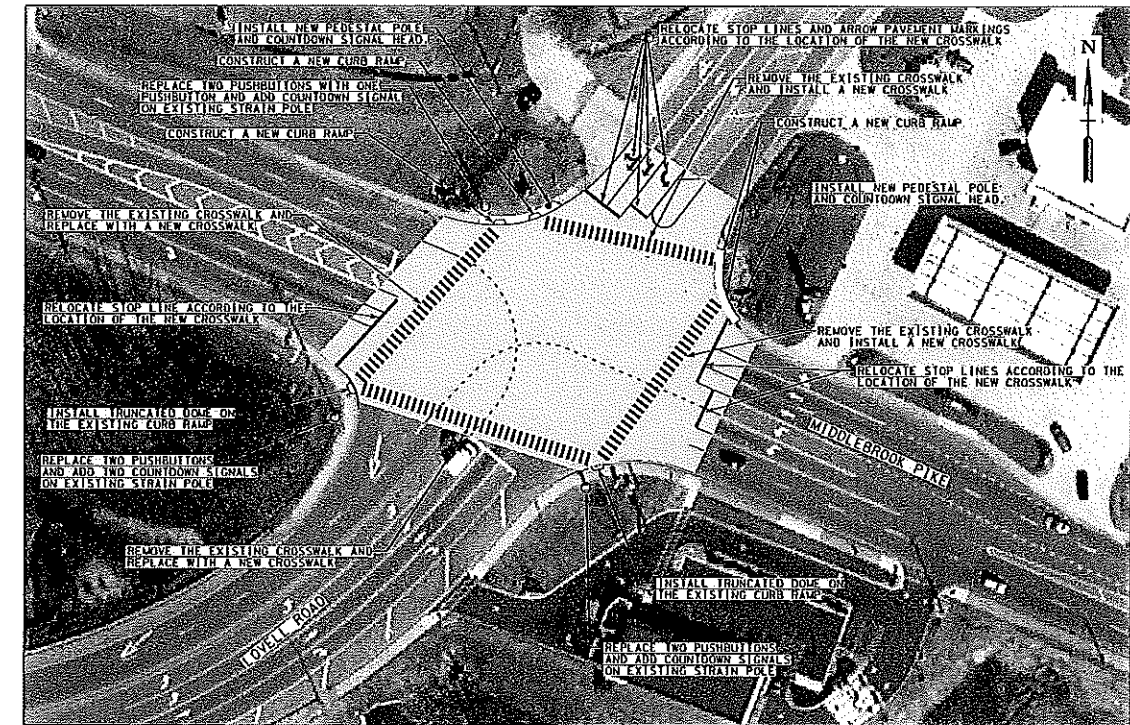
Production of Walk Trips

Fewer Trips Produced

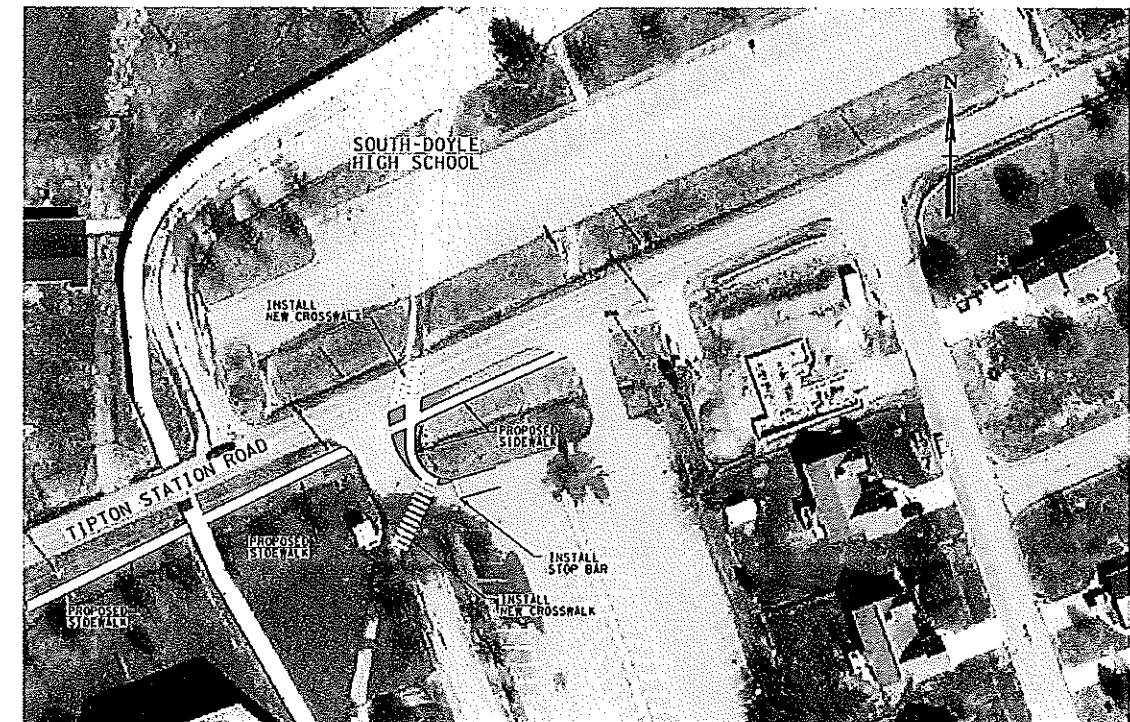
More Trips Produced



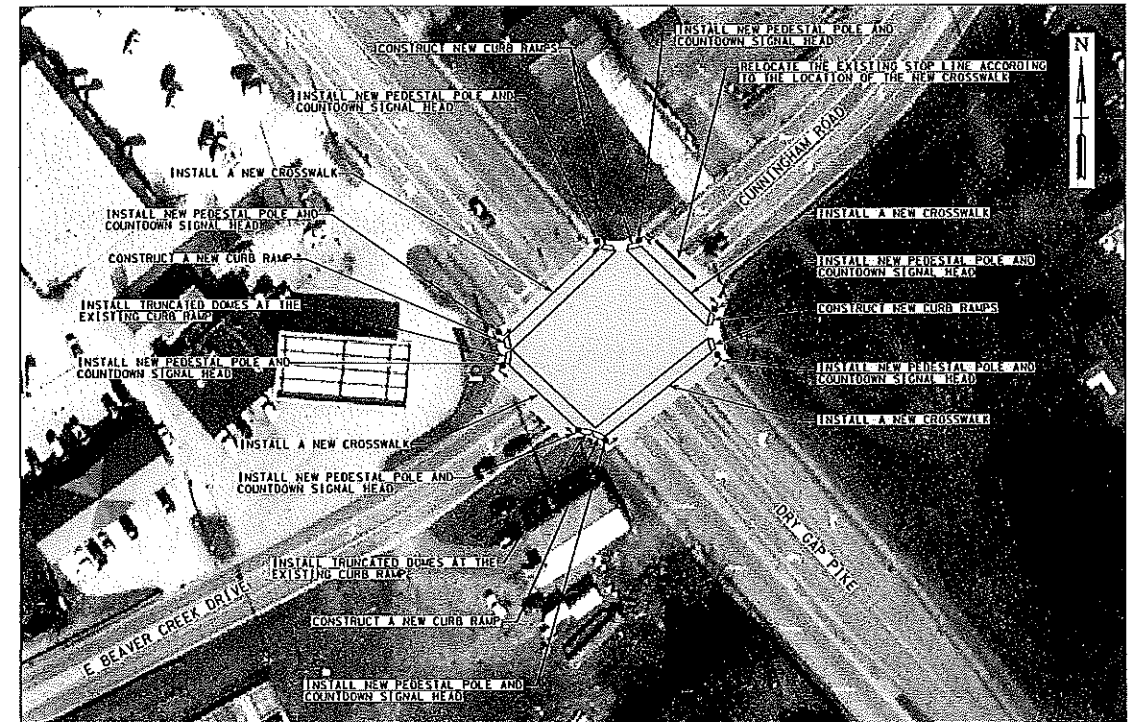
0 375 750 Feet



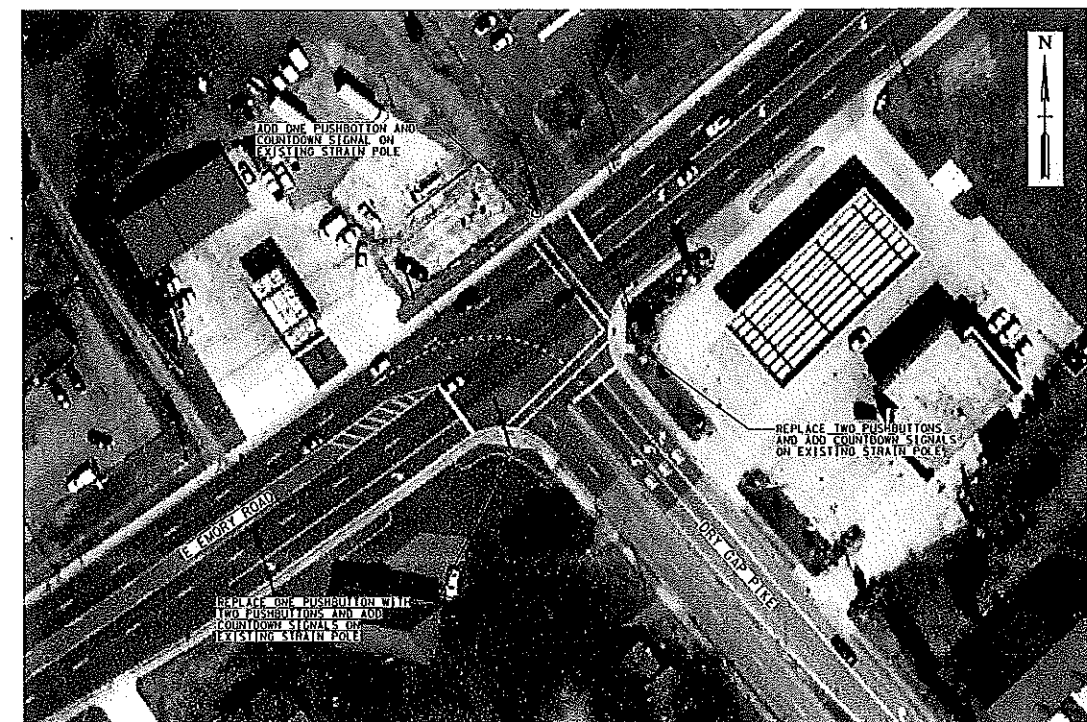
Lovell Road and Middlebrook Pike (Ball Camp Elementary)



Tipton Station Road and School Access (South Doyle High)



E. Beaver Creek Drive and Dry Gap Pike (Brickey McCloud Elementary)



E. Emory Road and Dry Gap Pike (Brickey McCloud Elementary)



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Pedestrian Improvements Concept Plan
Supplemental Information

Appendix

How Recommendations Were Developed:

The walk-to-school pedestrian improvement concepts were developed through a combination of GIS data analysis and site investigations. GIS data were used to determine the most likely walk trip origins and the field work focused on the determination of what improvements were needed to facilitate trips from these areas. The analysis focused on residential walk-to-school trips and improvements. Therefore, connections to other important pedestrian destinations near the schools (libraries, greenways, retail, etc) may not be identified. Ideally, all of these destinations can be connected with pedestrian infrastructure, though it may not be recommended as part of this analysis. Other aspects of the recommendations are as follows:

- Most recommendations are stand-alone improvements, though some are designed to work as a system. If phasing of a recommended improvement is required, early phases should provide improved, safe access to school without depending on later phases.
- Many improvements are low cost and easy to implement. Implementation of these might provide quick momentum, but should not preclude the construction of larger-scale pedestrian enhancements. Other improvements are notable because of the complexity of coordination and construction. More detailed study and/or areawide comprehensive pedestrian planning is advised to determine more closely the feasibility of these large projects.
- These recommendations are not comprehensive and should not preclude the development of other connections, alternative alignments, etc.

General Notes

Neighborhood Routing and Encouragement Plans

Many neighborhoods adjacent to schools are high pedestrian generators. Streets in these neighborhoods are often low traffic and speeds are low, making them ideal for walking trips with little need for improvement. The recommendation for a routing and encouragement plan is to identify neighborhood-specific strategies which are developed with input from local families. In larger neighborhoods, the plan could identify and sign actual pedestrian routes. Or, a plan could identify parent "drivers" and "stops" for a neighborhood walking school bus. Some neighborhoods are not yet ready for these coordination plans because infrastructure is not yet in place.

Intersection Improvements

In relatively rural areas, signalized intersections commonly do not have pedestrian accommodations. These intersections, though busy, need not be a barrier to walking activity. The introduction of pedestrian accommodations must be in compliance with ADA design regulations.

Coordination with Other Plans

Non-motorized travel systems are often implemented most effectively through comprehensive planning and development of other nearby improvements. A review of Knox County's subdivision requirements may be desirable to ensure that new development will include pedestrian infrastructure as appropriate, particularly around school areas. Other improvement efforts such as roadway, park, utility, and greenway improvements may be expanded to include these or other pedestrian improvement recommendations.



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Pedestrian Improvements Concept Plan
Supplemental Information

Cost Estimates

School	Improvements								Total Cost
	New Sidewalk Construction		Off-Road Trail Construction		Signal Improvements	Crossing Island Construction		Misc. Spot Signing/ Marking Improvements	
	Length	Unit Cost	Length	Unit Cost	Cost	Number	Unit Cost	Cost	
A.L. Lotts ES	390'	\$75 / l.f.	3,250'	\$33 / l.f.			\$35,000 / island		\$136,500
Ball Camp ES	5,570'		2,230'		\$65,000	1		\$20,000	\$611,340
Bonny Kate ES	4,600'							\$2,000	\$347,000
Brickey McCloud ES	3,700'				\$130,000	1		\$20,000	\$462,500
Carter ES, MS, & HS	13,900'		2,220'					\$500	\$1,116,260
Copper Ridge ES	1,080'							\$1,000	\$82,000
Corryton ES									
East Knox Co ES	3,560'		5,590'					\$500	\$451,970
Gap Creek ES	8,100'							\$1,000	\$608,500
Gibbs ES & HS	7,240'		4,650'						\$696,450
Hardin Valley ES & HS	1,850'		1,090'			4		\$1,000	\$315,720
Karns HS	4,890'		7,530'					\$1,500	\$616,740
Mt. Olive ES	200'		1,800'					\$20,000	\$94,400
New Hopewell ES	7,110'							\$1,500	\$534,750
Ritta ES	930'		1,320'					\$1,000	\$114,310
South Doyle HS	2,970'							\$18,000	\$240,750
Sunnyview Primary	4,450'		1,610'						\$386,880
All Locations	70,540'	\$5,290,500	31,290'	\$1,032,570	\$195,000	6	\$210,000	\$88,000	\$6,816,070

These cost estimates are based on average prices for similar construction and reflect generalized construction assumptions with no inclusion of site-specific conditions. Estimates do not include engineering, right-of-way acquisition, or utility relocation costs. Sidewalk costs are based on recent sidewalk construction on Beaver Ridge Road.

Standard excavation is included, but substantive earthwork and grading (as was found to exist in some locations) is not included. Sidewalk costs are based on standard 6' concrete sidewalks with curb and gutter, though additional drainage modifications are not included. Trail construction assumes a 12' asphalt path on gravel sub-base. Signal costs include construction of 4 curb ramps, 8 pushbuttons, 8 countdown signal heads, crosswalk markings, 4 pedestal poles, and re-wiring to add additional conductors for pedestrian signals.

Updated cost estimates should be developed as needed based on full design plans.