

Appendix A. Public Involvement Materials

The following materials were used for public outreach during the Pedestrian Plan process.

City of Dunn Pedestrian Plan
Appendix A: Public Involvement Materials



City of Dunn Pedestrian Survey

Thank you for participating in the City of Dunn Pedestrian Survey! Dunn is currently preparing a Comprehensive Pedestrian Plan, and these survey results will be used by City Staff to help understand the needs of Dunn's residents. Your responses will also be used to identify important locations for new sidewalk or intersection improvements.

For more information about the Pedestrian Plan, contact Steven Neuschafer at (910) 230-3503 or by email at planning@dunn-nc.org, or contact Alison Carpenter at (919) 866-4422 or via email at acarpenter@louisberger.com.

Please note that your participation in this survey is completely voluntary. Please feel free to leave blank any questions you feel uncomfortable answering. When you are finished, you may mail this survey to the address on the back, or deliver it to City Hall when you pay your utility bills. Thank you for your time!

General Information

ZIP Code: _____

Sex: M F

Age:

- Under 20 40-49 70-79
 20-29 50-59 80 and over
 30-39 60-69

On a scale of 1 to 9, where 1 is never and 9 is very frequently, how often do you walk to:

Work	1 2 3 4 5 6 7 8 9
A school	1 2 3 4 5 6 7 8 9
Church	1 2 3 4 5 6 7 8 9
The grocery store	1 2 3 4 5 6 7 8 9
The library	1 2 3 4 5 6 7 8 9
A park or recreation center	1 2 3 4 5 6 7 8 9
A restaurant	1 2 3 4 5 6 7 8 9
Shopping	1 2 3 4 5 6 7 8 9
The post office	1 2 3 4 5 6 7 8 9
A movie or similar entertainment	1 2 3 4 5 6 7 8 9
A friend's house or to visit family	1 2 3 4 5 6 7 8 9
Other: _____	1 2 3 4 5 6 7 8 9

On a scale of 1 to 9, where 1 is never and 9 is seven days a week, how often do you walk...

For exercise or recreation	1 2 3 4 5 6 7 8 9
For transportation (to go to work, school, shopping, etc.)	1 2 3 4 5 6 7 8 9
To walk the dog	1 2 3 4 5 6 7 8 9
Other: _____	1 2 3 4 5 6 7 8 9

On a scale of 1 to 9, where 1 is very uncomfortable and 9 is very comfortable, how comfortable do you feel walking...

In your neighborhood?	1 2 3 4 5 6 7 8 9
In downtown Dunn?	1 2 3 4 5 6 7 8 9
In the area near your work?	1 2 3 4 5 6 7 8 9
On the Dunn-Erwin trail?	1 2 3 4 5 6 7 8 9
Crossing the street at intersections?	1 2 3 4 5 6 7 8 9

On a scale of 1 to 9, where 1 is not at all and 9 is very much, if you could, how much would you like to walk to...

Work	1 2 3 4 5 6 7 8 9
School	1 2 3 4 5 6 7 8 9
Church	1 2 3 4 5 6 7 8 9
The grocery store	1 2 3 4 5 6 7 8 9
The library	1 2 3 4 5 6 7 8 9
A park or recreation center	1 2 3 4 5 6 7 8 9
Shopping	1 2 3 4 5 6 7 8 9
The post office	1 2 3 4 5 6 7 8 9
A movie or similar entertainment	1 2 3 4 5 6 7 8 9
A friend's house or to visit family	1 2 3 4 5 6 7 8 9
Other: _____	1 2 3 4 5 6 7 8 9

On a scale of 1 to 9, where 1 is never and 9 very likely, how likely are you to choose not to walk somewhere because...

There isn't continuous sidewalk to that destination.	1 2 3 4 5 6 7 8 9
Traffic makes it unsafe and unpleasant (speeding cars, cars don't yield when you need to cross the street, it is smelly and noisy, etc.).	1 2 3 4 5 6 7 8 9
It is too far.	1 2 3 4 5 6 7 8 9
I have a health condition.	1 2 3 4 5 6 7 8 9
The neighborhood is dangerous.	1 2 3 4 5 6 7 8 9
I have a lot to carry (ie: kids, equipment, groceries) and need my car to haul all of the stuff.	1 2 3 4 5 6 7 8 9
I have to run many errands in many different locations and it would take too long to walk.	1 2 3 4 5 6 7 8 9
The weather is bad (too hot, too cold, too wet, etc.).	1 2 3 4 5 6 7 8 9
I don't like walking.	1 2 3 4 5 6 7 8 9
Other: _____	1 2 3 4 5 6 7 8 9

Given that funds are limited, would you prefer that Dunn invest in sidewalks along existing roads or greenways along natural areas (i.e. the shoreline)?

- Sidewalks along existing roads
- Greenways along natural areas

Please tell us the roads where you would like to see sidewalks:

Road Name	Starting Point	Ending Point
(example) Meadowlark Rd.	Vann Ln.	Fairground Rd.

Please tell us the roads or greenways where there is sidewalk that needs repair or is obstructed:

Road Name, Start, End	
(example) Vance St. between Ellis Ave. and King St.	Cracked pavement from tree roots. Dangerous for wheelchairs & strollers.

Please tell us about any intersections where you would like to see improvements for pedestrians. Improvements could include adding a crosswalk, new pedestrian signals, pedestrian warning signs, curb ramps, or audible pedestrian signals.

Intersecting Roads	Problem	Improvement
(example) Cumberland St and Washington Ave.	Have to wait a long time to cross the street.	Please provide a pedestrian signal.

Please provide us with any additional comments you may have:

Additional Optional Information:

Name: _____

Address: _____

For more information about the Pedestrian Plan, please drop-in at the upcoming **Open House**, Tuesday, April 29 @ 6:30-8:30pm
Dunn Community Bldg (205 Jackson Rd)

Thank you for taking the City of Dunn Pedestrian Survey! You can return this survey to City Hall when you pay your utility bill, or mail it to the following address:

Dunn Pedestrian Plan Survey
C/O Alison Carpenter
The Louis Berger Group, Inc.
1001 Wade Ave, Ste 400
Raleigh, NC 27605
acarpenter@louisberger.com

City of Dunn Pedestrian Plan Open House



What: The City of Dunn is working on a Pedestrian Plan and needs your input. The Plan is a guide to help Dunn in becoming a more pedestrian-friendly community. **Please drop-in to the April 29 open house any time between 6:30 - 8:30 pm to speak with City representatives about the project.**

Where:
Dunn Community Building
Tart Park
205 Jackson Rd.

When: Tuesday, April 29
Drop in from 6:30 – 8:30 pm

Why: To make sure your voice is heard!



For more information, visit:
<http://dunnpedplan.pbwiki.com>

Contact: Steven Neuschafer
City of Dunn Planning Director
910-230-3503 (t) | sneuschafer@dunn-nc.org

**Thank you for
your time and
participation!**

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**Thank you for
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the Dunn PEDESTRIAN Plan 2008

Why a Pedestrian Plan?

The City of Dunn, like many communities across the state, recognizes the importance of a bicycle- and pedestrian-friendly community in attracting residents, visitors and businesses. Beyond better and safer pedestrian access to destinations, a more walkable community can have economic, environmental, and health benefits for residents.

Preliminary Project Recommendations

- Improve the maintenance level for existing sidewalks.
- Identify key sidewalk linkages like those shown in the Plan map (see back) to target for construction using City or NCDOT funding, or other mechanisms.
- Provide pedestrian-scale lighting, street trees and landscaping, alleyway improvements and other enhancements to the downtown walking environment.
- Improve pedestrian crossings of the railroad.
- Create pocket parks that provide refuge along a system of walking trails and sidewalks throughout the City.
- Create better connections to existing parks and schools from downtown and local residential areas.
- Provide crosswalks and walk signals at all signalized intersections throughout Dunn, as routine accommodation.
- Provide a set of pedestrian improvements at the busy Broad Street and Cumberland Street intersection, including crosswalks and walk signals.
- Consider developing a pedestrian focus area at East Denim Drive/Erwin Road and Powell Avenue to target the new residential development taking place at this location.
- Review potential connections from the Dunn-Erwin Rail-Trail to local schools, recreation centers, parks, downtown and other pedestrian generators.

How do I provide input?

There are several avenues – a survey is available in both paper copy and online. Paper copies can be picked up at the Open House or at Dunn City Hall. The online version can be accessed by visiting the Dunn Pedestrian Plan webpage: <http://dunnpedplan.pbwiki.com> and you will find a link to the survey from there.

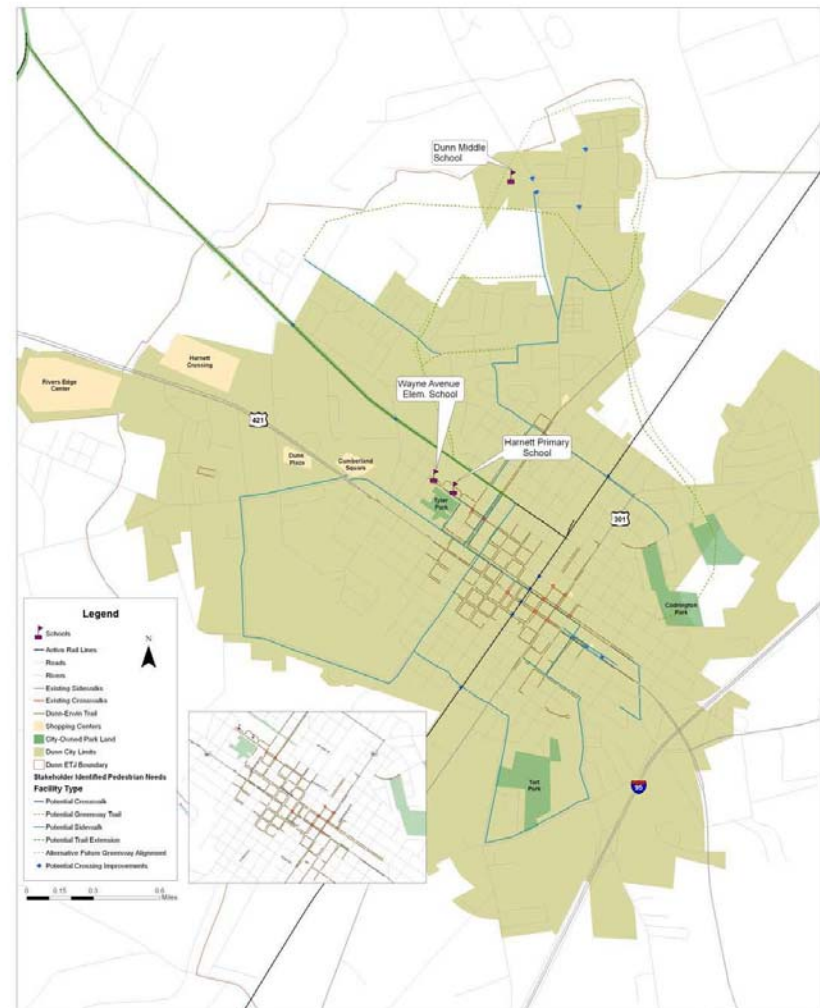
What is in the Pedestrian Plan?

The Pedestrian Plan will contain recommendations for projects, programs, and policies which will help make Dunn a more pedestrian-friendly community. Some preliminary project ideas have been recommended by the Steering Committee and are shown on the map (see back). The Plan will need your input and that of your neighbors to make additional recommendations that serve everyone.

When will the Plan be finished?

The Pedestrian Plan is estimated to be complete by December 2008. Public participation is critical to a successful Pedestrian Plan; therefore, the City will provide several opportunities for citizen comment during the process, including a series of public meetings and an online survey.

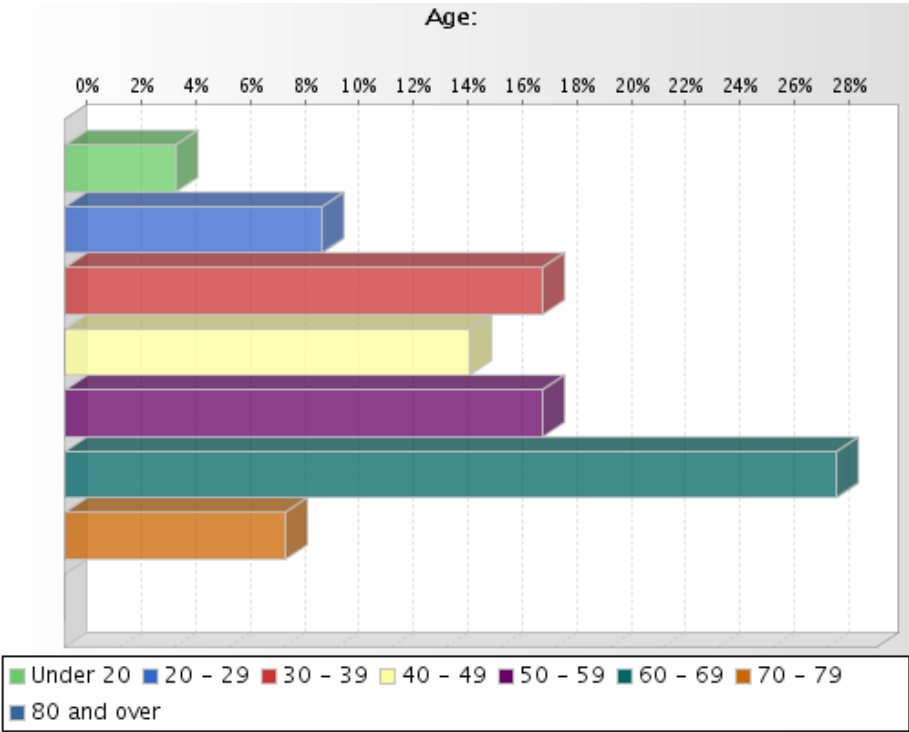
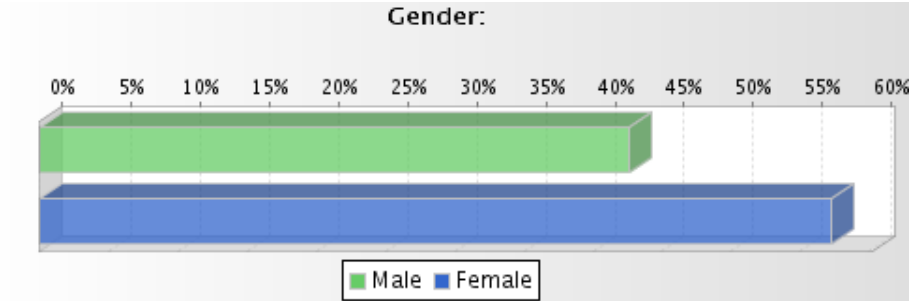
For More Information:
<http://dunnpedplan.pbwiki.com>
Contact:
Steven Neuschafer
City of Dunn Planning Director
910-230-3503
sneuschafer@dunn-nc.org



Thank you for your time and participation!

Appendix B. Survey Results

The survey for the Dunn Comprehensive Pedestrian Plan was used as a tool for collecting input on pedestrian needs throughout the City. Results of the survey were used to create project recommendations, and also influenced program and policy ideas. The results are tabulated below.



On a scale of 1 to 9 how often do you walk to:

	1 Never	2	3	4	5 (Neutral)	6	7	8	9 (Very Frequently)	Response total
work	78.6% (55)	4.3% (3)	0% (0)	0% (0)	5.7% (4)	4.3% (3)	1.4% (1)	1.4% (1)	4.3% (3)	70
a school	78.8% (52)	0% (0)	6.1% (4)	0% (0)	3% (2)	3% (2)	0% (0)	1.5% (1)	7.6% (5)	66
church	66.2% (47)	7% (5)	8.5% (6)	1.4% (1)	2.8% (2)	2.8% (2)	1.4% (1)	0% (0)	9.9% (7)	71
the grocery store	80.6% (58)	2.8% (2)	2.8% (2)	0% (0)	2.8% (2)	1.4% (1)	1.4% (1)	4.2% (3)	4.2% (3)	72
the library	76.1% (54)	2.8% (2)	2.8% (2)	1.4% (1)	5.6% (4)	1.4% (1)	1.4% (1)	4.2% (3)	4.2% (3)	71
a park or recreation center	65.8% (48)	4.1% (3)	4.1% (3)	0% (0)	5.5% (4)	4.1% (3)	4.1% (3)	6.8% (5)	5.5% (4)	73
a restaurant	70.4% (50)	8.5% (6)	5.6% (4)	0% (0)	2.8% (2)	4.2% (3)	2.8% (2)	2.8% (2)	2.8% (2)	71
shopping	69% (49)	5.6% (4)	2.8% (2)	4.2% (3)	1.4% (1)	5.6% (4)	2.8% (2)	4.2% (3)	4.2% (3)	71
the post office	82.6% (57)	2.9% (2)	1.4% (1)	1.4% (1)	1.4% (1)	1.4% (1)	4.3% (3)	2.9% (2)	1.4% (1)	69
a movie or similar entertainment	83.1% (59)	2.8% (2)	0% (0)	2.8% (2)	5.6% (4)	0% (0)	2.8% (2)	1.4% (1)	1.4% (1)	71
a friend's house or to visit family	21.6% (16)	8.1% (6)	5.4% (4)	8.1% (6)	14.9% (11)	8.1% (6)	8.1% (6)	5.4% (4)	20.3% (15)	74

On a scale of 1 to 9, where 1 is never and 9 is seven days a week, how often do you walk ...

	1 Never	2	3	4	5 (Neutral)	6	7	8	9 (Very Frequently)	Response total
For exercise or recreation	6.7% (5)	8% (6)	10.7% (8)	9.3% (7)	12% (9)	21.3% (16)	8% (6)	9.3% (7)	14.7% (11)	75
For transportation(to go to work, school, shopping, visiting, etc.)	64.2% (43)	9% (6)	6% (4)	3% (2)	4.5% (3)	3% (2)	3% (2)	1.5% (1)	6% (4)	67
To walk the dog	47.7% (31)	4.6% (3)	3.1% (2)	1.5% (1)	15.4% (10)	7.7% (5)	4.6% (3)	4.6% (3)	10.8% (7)	65

City of Dunn Pedestrian Plan

Appendix B: Survey Results

On a scale of 1 to 9 where 1 is very uncomfortable and 9 is very comfortable, how comfortable do you feel walking...

	1 (very uncomfortable)	2	3	4	5 (neutral)	6	7	8	9 (very comfortable)	Response total
in your neighborhood?	9.3% (7)	1.3% (1)	1.3% (1)	2.7% (2)	14.7% (11)	4% (3)	13.3% (10)	6.7% (5)	46.7% (35)	75
in downtown Dunn?	14.9% (11)	5.4% (4)	5.4% (4)	4.1% (3)	18.9% (14)	6.8% (5)	17.6% (13)	8.1% (6)	18.9% (14)	74
in the area near your work?	19.1% (13)	4.4% (3)	2.9% (2)	2.9% (2)	19.1% (13)	8.8% (6)	11.8% (8)	13.2% (9)	17.6% (12)	68
crossing the street at intersections in Dunn?	9.7% (7)	4.2% (3)	9.7% (7)	12.5% (9)	22.2% (16)	12.5% (9)	9.7% (7)	12.5% (9)	6.9% (5)	72

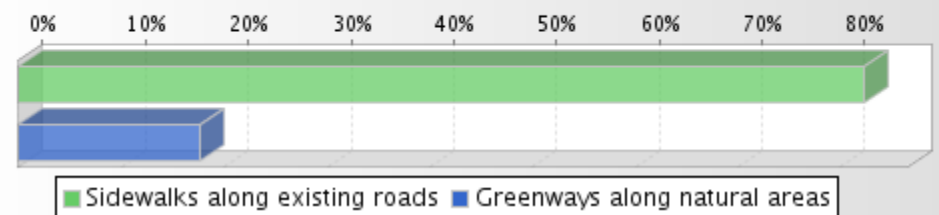
On a scale of 1 to 9 where 1 is not at all and 9 is very much, if you could, how much would you like to walk to...

	1 (Not at all)	2	3	4	5 (Neutral)	6	7	8	9 (Very Much)	10	Response total
work	50.7% (35)	1.4% (1)	1.4% (1)	1.4% (1)	13% (9)	13% (9)	2.9% (2)	4.3% (3)	10.1% (7)	1.4% (1)	69
school	61.5% (40)	3.1% (2)	1.5% (1)	1.5% (1)	18.5% (12)	3.1% (2)	0% (0)	4.6% (3)	6.2% (4)	0% (0)	65
church	43.8% (32)	4.1% (3)	1.4% (1)	5.5% (4)	11% (8)	4.1% (3)	4.1% (3)	6.8% (5)	16.4% (12)	2.7% (2)	73
grocery store	43.8% (32)	2.7% (2)	5.5% (4)	1.4% (1)	13.7% (10)	4.1% (3)	5.5% (4)	2.7% (2)	19.2% (14)	1.4% (1)	73
library	45.1% (32)	2.8% (2)	2.8% (2)	2.8% (2)	11.3% (8)	7% (5)	1.4% (1)	5.6% (4)	18.3% (13)	2.8% (2)	71
a park or recreation center	30.7% (23)	1.3% (1)	2.7% (2)	4% (3)	8% (6)	8% (6)	5.3% (4)	12% (9)	24% (18)	4% (3)	75
shopping	32.9% (23)	5.7% (4)	5.7% (4)	10% (7)	11.4% (8)	8.6% (6)	1.4% (1)	5.7% (4)	15.7% (11)	2.9% (2)	70
post office	55.6% (40)	1.4% (1)	1.4% (1)	2.8% (2)	9.7% (7)	6.9% (5)	2.8% (2)	4.2% (3)	13.9% (10)	1.4% (1)	72
movie or similar entertainment	48.6% (35)	4.2% (3)	0% (0)	4.2% (3)	11.1% (8)	9.7% (7)	2.8% (2)	1.4% (1)	13.9% (10)	4.2% (3)	72
friend's house or family	9.7% (7)	1.4% (1)	5.6% (4)	2.8% (2)	12.5% (9)	12.5% (9)	9.7% (7)	6.9% (5)	29.2% (21)	9.7% (7)	72

On a scale of 1 to 9 where 1 is never and 9 is very likely, how likely are you to choose not to walk somewhere because...

	1 (Never)	2	3	4	5 (Neutral)	6	7	8	9 (Very Frequently)	10	Response total
There isn't continuous sidewalk to that destination	14.5% (11)	10.5% (8)	2.6% (2)	5.3% (4)	14.5% (11)	9.2% (7)	10.5% (8)	6.6% (5)	23.7% (18)	2.6% (2)	76
Traffic makes it unsafe and unpleasant (speeding cars, cars don't yield when you need to cross the street, it is smelly and noisy, etc.)	10.1% (7)	8.7% (6)	5.8% (4)	1.4% (1)	14.5% (10)	10.1% (7)	10.1% (7)	8.7% (6)	26.1% (18)	4.3% (3)	69
It is too far.	10% (7)	8.6% (6)	1.4% (1)	5.7% (4)	14.3% (10)	5.7% (4)	5.7% (4)	10% (7)	31.4% (22)	7.1% (5)	70
I have a health condition.	49.3% (33)	6% (4)	9% (6)	1.5% (1)	13.4% (9)	1.5% (1)	4.5% (3)	3% (2)	11.9% (8)	0% (0)	67
The neighborhood is dangerous.	29.2% (21)	11.1% (8)	5.6% (4)	2.8% (2)	16.7% (12)	2.8% (2)	8.3% (6)	9.7% (7)	8.3% (6)	5.6% (4)	72
I have a lot to carry and need my car to haul all of my stuff.	12.9% (9)	10% (7)	4.3% (3)	7.1% (5)	24.3% (17)	5.7% (4)	5.7% (4)	10% (7)	15.7% (11)	4.3% (3)	70
I have to run many errands in many different locations and it would take too long to walk.	15.3% (11)	6.9% (5)	2.8% (2)	6.9% (5)	9.7% (7)	6.9% (5)	9.7% (7)	11.1% (8)	25% (18)	5.6% (4)	72
The weather is bad.	13.9% (10)	2.8% (2)	8.3% (6)	5.6% (4)	22.2% (16)	9.7% (7)	9.7% (7)	6.9% (5)	15.3% (11)	5.6% (4)	72
I don't like walking.	47% (31)	7.6% (5)	1.5% (1)	1.5% (1)	16.7% (11)	7.6% (5)	1.5% (1)	9.1% (6)	7.6% (5)	0% (0)	66

Given that funds are limited, would you prefer that Dunn invest in sidewalks along existing roads, or greenways along natural areas?



City of Dunn Pedestrian Plan

Appendix B: Survey Results

Please tell us the roads you would like to see sidewalks on:

- 2 All of W.Pearsall, W.Pope, etc. W.Divines ST.
- 5 Cumberland, Broad and Divine
- 6 Fairground and Meadowlark
- 7 With so many Hispanics who walk and more people without cars walking, I would like to see sidewalks along Cumberland and have the streets that are available to be continuous and fully repaired.
- 8 All major roads in Dunn.
- 10 Ashe Ave. Edgerton st.
- 13 421 with greenways
- 14 a downtown walking area = 1/4 or 1/2 mile walk starting and ceasing at the new public parking area. Great shade provided by buildings and storefronts to give people a good visual while walking
- 18 At Dunn Middle School Connecting Dunn-Erwin Trail to Downtown Dunn All of Downtown Dunn
- 19 I CAME FROM A CITY THAT HAD SIDEWALKS EVERYWHERE. IT WAS VERY UNUSUAL WHEN I CAME HERE AND REALIZED THAT SIDEWALKS WERE VERY SPARSE.
- 23 Broad Street Roads leading to Tart Park/Tyler Park (all recreational areas)
- 25 jonesboro road/ clinton ave ashe ave susant tart (to walk /ride bike) from downtown to the hospital
- 26 Cumberland street from Ellis Avenue to Walmart and Broad Street from Orange to Cumberland
- 29 Would like to see these repaired. I would like to see sidewalks on Divine & Pearsall Streets.
- 30 North Orange Ave (Continuous), West Divine St (Continuous)
- 31 Whole length of Cumberland Street, from I-95 to Plaza Intersection.
- 33 extend sidewalks to reach all the way down broad street to the intersection of broad and 421. finish sidewalks from surles st to barrington house down orange ave. Ashe Ave. (between Broad and Powell Ave.)- sidewalks should extend between ashe and 421 along Powell Ave. to make it convenient to walk to shopping center. Meadowlark Rd. to middle school
- 34 Cumberland from Food Lion at 421 s to Wal mart at 421n Broad from the beginning to Cumberland All of Divine Street All of Orange Ave All of Harnett Ave (all streets should have sidewalks)All of Erwin Road, All of Susan Tart Rd.
- 35 We need a sidewalk along Powell St. from Friendly Rd to Erwin Rd. and a blinking caution light at Ashe/Powell intersection and a cross walk at West Cumberland
- 36 Fairground Road especially and the Pondereosa area in general
- 37 better sidewalks leading to downtown and other shopping, also restaurants
- 38 \$20,000 isn't alot of money - Dunn is not a very attractive town as it looks now. My vote is for improving the looks of highly visible areas that make an impression , ie. Broad St, Ellis Ave, Cumberland. There are some side streets that need improvements, but aesthetics in this town is more important at this time.
- 42 Fairground Rd from Basin St to N Ellis/301 - need sidewalk and bike path
- 43 Old Fairground Rd from Ellis Ave to Holly Ave
- 46 Old Fairground Rd from 301S to Dunn Middle School Harnett St from Wayne Ave School to Ashe St Susan Tart Rd from McKay St to BJRMH
- 48 any improvements appreciated
- 53 Hwy 301 South, from 301N to Tart Park Ellis Avenue from Ellis to Friendly Rd
- 59 Cumberland St
- 65 Cumberland St. (421 South)
- 66 Fairground Rd from Beale St to Canal Dr

- [67](#) Fairground Rd: Ponderosa to Ellis Ave Meadowlark Rd: Middle School to Ellis Ave
- [68](#) Meadowlark Rd: Dunn Middle School to Ellis Ave Fairground Rd: Ponderosa to Ellis Ave
- [69](#) Meadowlark Road: Dunn Middle School to Short Stop Store
- [70](#) Fairgrounds Rd: Meadowlark Rd to City Limits
- [71](#) Fairground Rd: Meadowlark to City limits
- [72](#) Meadowlark to Fairground Rd
- [74](#) Meadowlark Rd
- [75](#) Meadowlark Rd
- [76](#) Beasley Street: Meadowlark Rd to Fairground Rd

Please tell us the roads or greenways where there is sidewalk that needs repair or is obstructed:

- [2](#) 300 Pearsall sidewalk both sides lots of sidewalks downtown
- [5](#) N/A
- [6](#) Broad Street
- [7](#) I can't name any specifics but there are several with broken pavement and several that have trees overhanging. I don't know how blind people could travel in the town of Dunn.
- [8](#) All over Dunn.
- [10](#) If the town is doing their jobs properly. (police, public works, all city employees, they would see and turn this info to the dept for correction especially when they are traveling around town, either working or just joy riding, or on the way to church or on the way to shop.
- [14](#) na
- [16](#) US 421 & US 301
- [18](#) some sidewalks in Downtown Dunn are in bad shape
- [22](#) Ellis Ave
- [24](#) Pearsall st.
- [29](#) Most of the sidewalks downtown are in bad need of repair. Many on South King & South Layton need repair.
- [31](#) Repair the broken and dangerous sidewalk on north side of 300 block of West Broad Street.
- [33](#) Sidewalks along Ellis Ave need to be repaired.
- [34](#) Most existing sidewalks need repair
- [37](#) most of downtown and the older residential areas
- [38](#) Ellis Ave.
- [42](#) bad sidewalk in front of Daily Record office on Broad Street
- [46](#) Wilson Ave - no sidewalk past the Office Value block Martin Luther King Hwy - no sidewalk for most of the length beyond downtown
- [53](#) Chicken Farm Rd - cracked, bumpy pavement with dangerous curves
- [76](#) Ellis Ave between Vance St and Harnett St: cracked pavement

Please tell us about any intersections where you would like to see improvements for pedestrians:

- [2](#) Wilson and 421. Stop light too quick.
- [4](#) Would like to see walk/don't walk signs at busy intersections
- [5](#) Ellis and Cumberland & Ellis and Broad
- [7](#) More crossing places on Cumberland with walk lights. It's too dangerous to cross w/o lights. Dunn is a good retirement town but older and disabled people have difficult crossing streets and managing sidewalks the way they are. Little access for wheelchairs so many

City of Dunn Pedestrian Plan

Appendix B: Survey Results

- ride in the street.
- 8 All intersections along Cumberland Street
 - 10 421 hwy and commerce drive. dunn erwin rd. and st to hospital.
 - 13 421 and 301 (clinton ave)
 - 14 downtown dunn
 - 18 where Dunn-Erwin Trail crosses Ashe Avenue near city limits needs to be safer - all potential crossings on Hwy 421 need to be safer - it is a hazard crossing 421 anywhere now and there are a lot of pedestrian near misses near IGA
 - 23 Downtown Dunn, better marked crosswalks (pedestrian signs- Walk/Don't Walk)
 - 25 Walmart/Lowes. Impossible to walk across 421 right there, but many people shop at both
 - 28 Carlie C's on Cumberland Street
 - 29 Any intersection crossing Cumberland Street between Watauga and I-95. These are dangerous now for cars. Pedestrian traffic needs better crossings in this area.
 - 31 Wayne Ave. from Divine Street to Vance Street for the kids going to either of the two schools, especially the 300 and 400 blocks of Wayne Ave where the kids have to walk in the open street and cars going by them in the morning and afternoons. Also on George Street going to Dunn Middle School. There was an accident the very first day of school when a little girls was hit by a car because she had to walk in the street.
 - 32 Broad Street and the Railroad Tracks, Cumberland and Broad
 - 33 Ellis and Broad St.
 - 34 Cumberland -Orange,Broad -Orange,Cumberland-Watauga,Broad -Watauga,Cumberland -Washington
 - 35 The speed limit approaching Powell St. from the west side of Ashe needs to be 35mph and a blinking light or traffic light installed
 - 37 crossing 421---also would like to see well lighted walking areas to create more pedestrian travel to our downtown to help create night time use of this district
 - 38 Broad St and and Ellis Ave.
 - 39 traffic lights hold too long at Goodyear/KFC intersection and 301/421 intersection
 - 41 Powell & Ashe Ashe & Broad
 - 44 Dunn Erwin Rd at Funeral House - signal lights
 - 46 Wilson/Hwy 421 - dangerous; please provide ped signal 421/301 intersection - very dangerous crossing; needs crosswalks and ped signals McKay/421 - very dangerous; needs crosswalk and ped signal
 - 59 Jonesboro/ I-95 - dangerous
 - 71 Fairground Rd: traffic for school children (walking) is a problem and traffic is too fast on Beasley St
 - 76 Broad Street and Wilson Ave: have to wait a long time to cross the street - need pedestrian signal

Appendix C. Demographic Analysis

The following tables display U.S. Census demographic data for the year 2000 that is pertinent to the City of Dunn's Pedestrian Plan. All data was collected from the U.S. Census website, except where noted.

Population

	City of Dunn	North Carolina	United States
1990 Census Population	8,336	6,628,637	248,709,873
2000 Census Population	9,196	8,049,313	281,421,906
Percent Change	10%	21%	13%
2006 Census Population Estimate	9,972	N/A	N/A

Age

	City of Dunn	North Carolina	United States
Total Population	9,196	8,049,313	281,421,906
<i>Percent of Population:</i>			
14 and under	21.16	20.54	21.41
15 - 19	6.11	6.71	7.18
20 - 24	5.59	7.17	6.74
25 - 34	11.79	15.07	14.18
35 - 44	13.46	15.99	16.04
45 - 54	13.92	13.48	13.39
55 - 64	9.58	8.99	8.63
65 - 74	9.11	6.63	6.54
75 and up	9.26	5.41	5.9

Race

	City of Dunn	North Carolina	United States
Total Population	9,196	8,049,313	281,421,906
<i>Percent of Population</i>			
White Alone	54.5	72.1	75.1
Black Alone	41.2	21.6	12.3
American Indian	1.0	1.2	0.9
Asian	0.6	1.4	3.6
Two or More Races	1.3	1.3	2.4
Other	1.4	2.4	5.6

Educational Attainment

	City of Dunn	North Carolina	United States
Population 25 years and over	6,150	5,282,994	182,211,639
<i>Percent of Population</i>			
Less than 9th grade	651	7.83	7.55
9th to 12th grade, no diploma	1,116	14.03	12.05
High school graduate (includes equivalency)	1,808	28.45	28.63
Some college, no degree	1,168	20.45	21.05
Associate degree	371	6.78	6.32
Bachelor's degree	782	15.3	15.54

City of Dunn Pedestrian Plan
Appendix C: Demographic Analysis

Income and Poverty (in 1999)

		City of Dunn	North Carolina	United States
Median Household Income		\$28,550	\$39,184	\$41,994
Median Family Income		\$39,521	\$46,335	\$50,046

Total Population	9,196	8,049,313	281,421,906
<i>Percent of Population</i>			
Below Poverty Line	23.0	11.9	12
Percent of Children Under Age (5/6) Below Poverty Line	16.0	12.8	9.7
Percent of People Over Age 65 Below Poverty Line	13.8	31.5	33.6

Household Vehicle Availability

	City of Dunn	North Carolina	United States
<i>Percent of Housing Units</i>			
None	18.6	7.5	10.3
1	37.5	32.3	34.2
2	28.5	39.9	38.4
3 or more	11.3	20.3	17.1

Work Commute Mode

	City of Dunn	North Carolina	United States
Total Workers 16 years and over	3,461	3,837,773	128,279,228
<i>Percent of Workers 16 years and over</i>			
Car, truck, or van	93.1	93.4	87.9
Drove alone	79.9	79.4	75.7
Carpooled	13.2	14	12.2
- In 2-person carpool	9.0	10.4	9.4
- In 3-person carpool	1.2	2.1	1.7
- In 4-person carpool	1.7	0.8	0.6
- In 5- or 6-person carpool	0.3	0.4	0.3
- In 7-or-more-person carpool	1.0	0.2	0.2
Public transportation	0.2	0.9	4.7
Bus or trolley bus	0.2	0.7	2.5
Taxicab	0	0.1	0.2
Motorcycle	0	0.1	0.1
Bicycle	0	0.2	0.4
Walked	3.7	1.9	2.9
Other means	3.1	0.8	0.7

City of Dunn Pedestrian Plan
Appendix C: Demographic Analysis

Work Commute Travel Time

	City of Dunn	North Carolina	United States
Workers who did not work at home	3,393	3,734,822	124,095,005
<i>Percentage of workers travel time</i>			
Less than 10 minutes	24.7	13.5	14.4
10 to 14 minutes	20.2	16.2	15
15 to 19 minutes	13.6	18	15.8
20 to 24 minutes	5.9	15.9	14.5
25 to 29 minutes	3.5	6	5.8
30 to 34 minutes	9.7	13.3	13.2
35 to 44 minutes	6.0	5.2	5.9
45 to 59 minutes	8.7	6.3	7.4
60 to 89 minutes	4.6	3.5	5.2
90 or more minutes	3.2	2.3	2.8
<hr/>			
Mean travel time to work (minutes)	24.2	24	25.5

Occupation Type			
	City of Dunn	North Carolina	United States
Employed civilian population 16 years and over	3,550	3,824,741	129,721,512
<i>Percentage of workers</i>			
Management, professional, and related occupations	27.5	31.2	33.6
Service occupations	17.1	13.5	14.9
Sales and office occupations	23.9	24.8	26.7
Farming, fishing and forestry occupations	0.6	0.8	0.7
Construction, extraction, and maintenance occupations	10.9	11	9.4
Production, transportation, and moving occupations	20.0	18.7	14.6

Demographic Analysis

It is important to examine a city's demographics before developing a pedestrian plan because demographic information provides valuable clues about citizen travel behavior and preferences. Characteristics such as age, income, vehicle ownership, and commute time can suggest a population's potential for walking as a mode of transportation. The following paragraphs provide a summary of the demographic analysis for the city of Dunn and explain the implications of the analysis for the recommendations made in the Dunn Pedestrian Plan. The complete demographic analysis can be found in Appendix 1.

According to 2000 U.S. Census data, the city of Dunn's population is racially balanced between Caucasian and African-Americans, and relatively low income with nearly one-quarter of the population below poverty-level. Age-distribution patterns in Dunn reflect an interesting pattern compared to state and national averages. Though there is a similar percentage of youth below 19 years of age in Dunn, the population of age group 20-44 is significantly less than state and national averages, while age groups 55+ are larger than state and national averages. This could indicate that younger workers are moving away to find job opportunities, or that Dunn is not attracting young workers (age 20-44).

The City's household vehicle availability statistics are congruent with the City's somewhat low income levels and high poverty rate; Dunn has a higher percentage of households with 0 or 1 car available and a lower percentage of households with 2 or more cars available than both the state and nation. Roughly 19 percent of Dunn households do not have access to a vehicle. Despite this, only 7 percent of all workers do not commute by automobile. It is also interesting to note that the City has no bicycle commuters, but 3.7 percent of commuters walk to work, which is significantly higher than the state and national percentages, respectively. The demographic analysis also reveals that Dunn has a higher percentage of work commuters who travel less than 14 minutes to work, as well as those who travel over 35 minutes to work, than both the state and national percentages. However, Dunn has a lower percentage of work commuters who travel between 14 and 34 minutes to work. The data indicates that most Dunn residents (over 58%) live within 14 minutes from work, suggesting that people who work in the city also live within the city, which means that increasing pedestrian commutes can be a realistic goal.

Overall, the results of the demographic analysis suggest that the City's population would be amenable to walking for transportation purposes. Based on the income levels, poverty rate, and household vehicle availability, commuting on foot seems to be a potentially practical option for many workers. Therefore, the Dunn Pedestrian Plan should make recommendations that focus on improving pedestrian facilities to encourage people to travel to work by foot, as well as make recommendations to promote walking for recreational or non-work trip purposes. In addition to the environmental and air quality benefits of increased walking and decreased automobile use, the effects of adopting these pedestrian improvements will also ease vehicle traffic congestion while potentially improving the overall health and wellness of the residents of Dunn.

Appendix D. Google Sketch-Up Graphics

The following materials graphics were included in Section 4 of the Pedestrian Plan and illustrate potential pedestrian crossing treatments for Dunn.

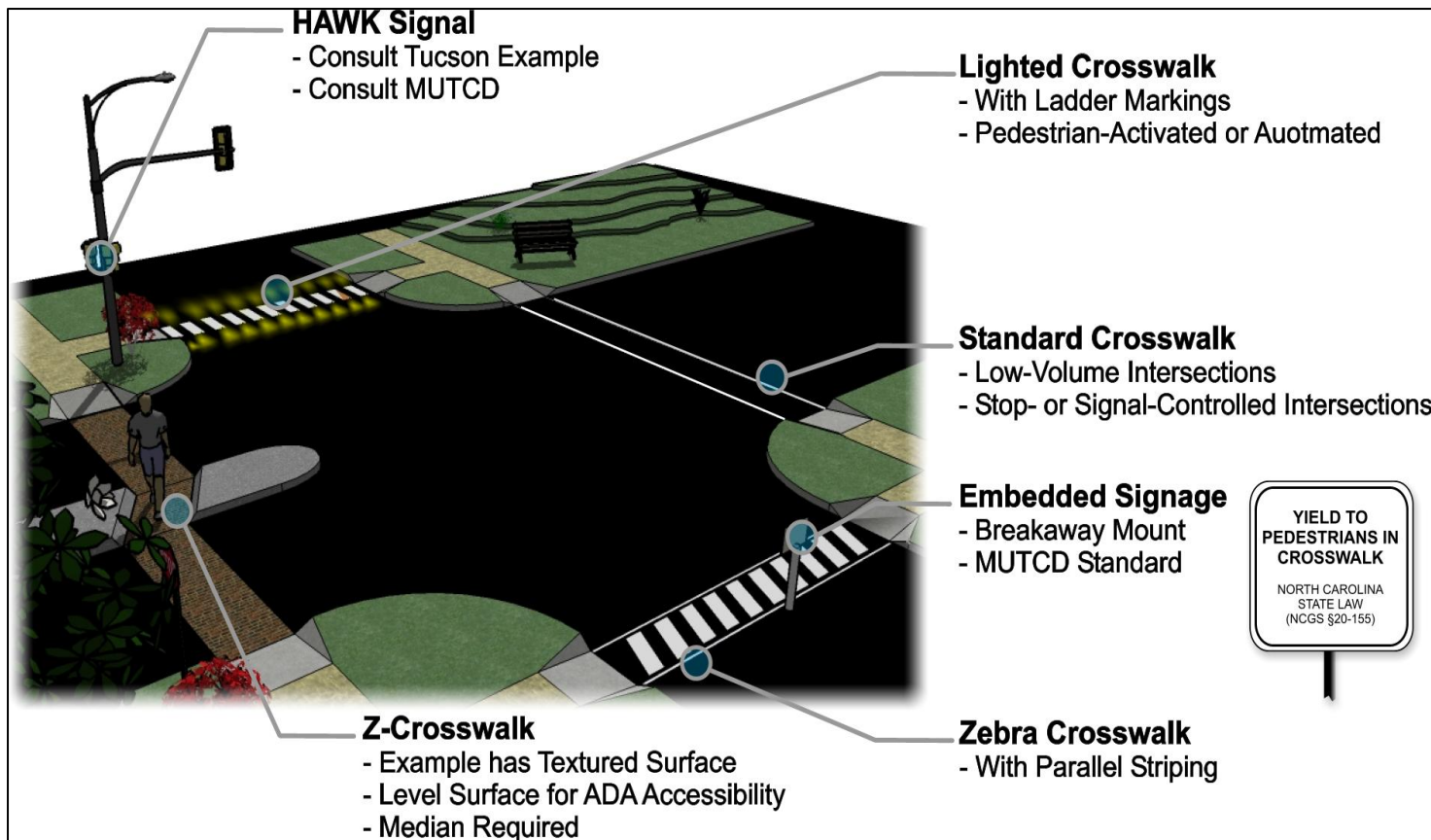


Figure 4-10. A diagram of various crossing treatments Dunn might consider to improve pedestrian accessibility and safety crossing the street.

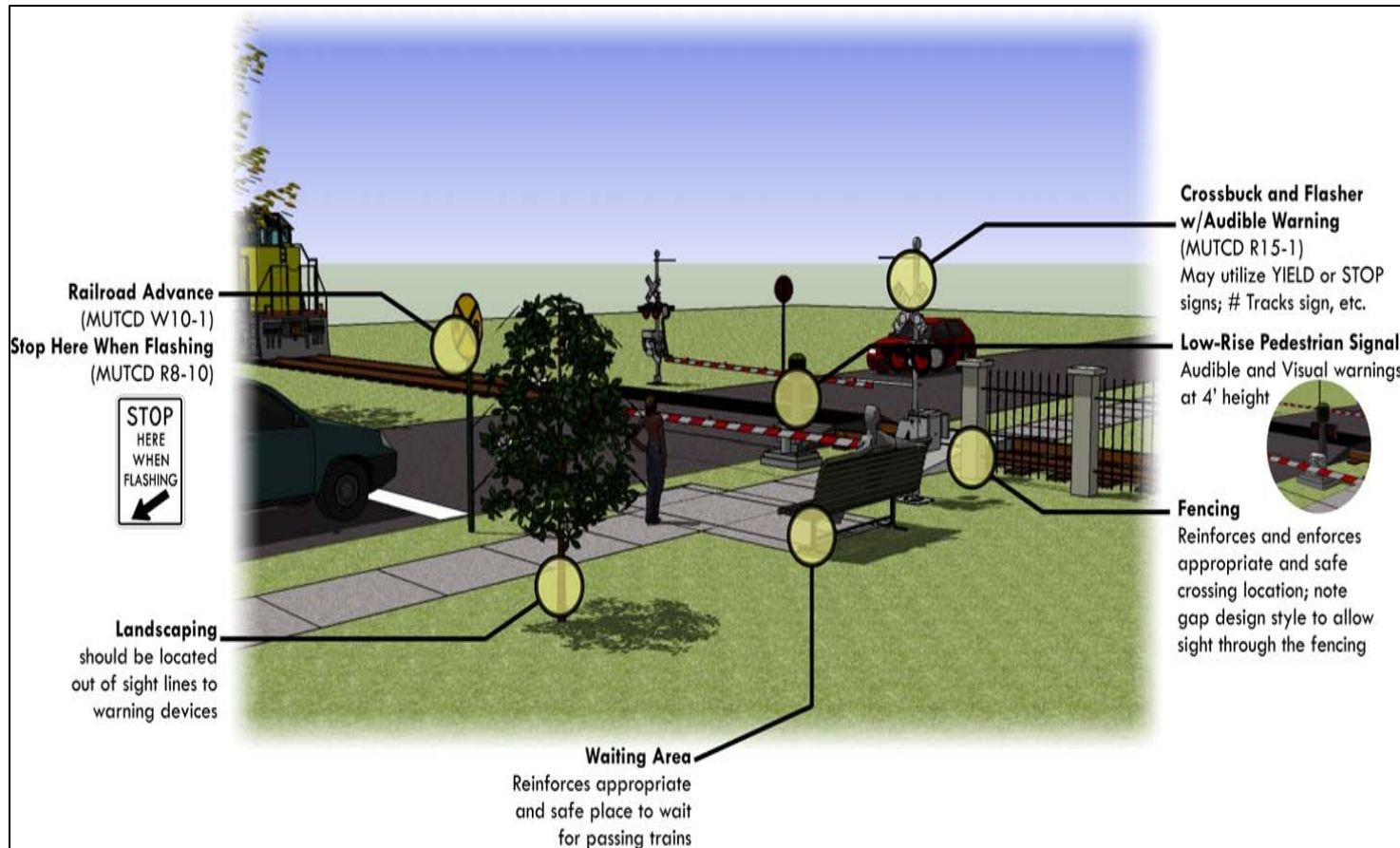


Figure 4-33. Typical Railroad Crossing Treatments.

Source: FRA *Compilation of Pedestrian Safety Devices in Use at Grade Crossings*; *Manual on Uniform Traffic Control Devices*; The Louis Berger Group, Inc

Appendix E: Sample Railroad Safety Evaluation

The Nevada DOT has developed an extensive checklist for analyzing bicycle and pedestrian impacts of rail crossings, including accessibility to disabled pedestrians (i.e. ADA compliance) and safety. The following pages include the full checklist developed by NVDOT.

APPENDIX A

STATE OF NEVADA DEPARTMENT OF TRANSPORTATION RAILROAD SAFETY DIAGNOSTIC REVIEW FORM PATHS WITHOUT MOTOR VEHICLES

TEAM MEMBER:	AGENCY:	REVIEW DATE:
CROSSING DATA		PATH DATA
DOT Number:	Location:	
Railroad Milepost:	Type of Path Use: <input type="checkbox"/> Shared <input type="checkbox"/> Bike <input type="checkbox"/> Pedestrian	
Track Class:	Bike/Trail Route/System	<input type="checkbox"/> Yes <input type="checkbox"/> No
Number of Trains: Passenger _____ Freight _____	Pedestrian AADT:	
	Bicycle AADT:	
	Bicycle Speed:	
	Other Crossing Users:	
	User Destinations:	
Injury	Path Owner:	
	Level of Service: (A – F)	
Principal Rail Line: <input type="checkbox"/> Yes <input type="checkbox"/> No		

TYPE OF EXISTING OR PROPOSED WARNING DEVICES

Automatic Gates: 2-Quad <input type="checkbox"/> 4-Quad <input type="checkbox"/> Median <input type="checkbox"/>	LOOK Signs:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	STOP Signs:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Bells: Gong <input type="checkbox"/> Electronic <input type="checkbox"/>	Emergency Notification	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Access Control Devices - List	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Multi Track Sign: 2-Track <input type="checkbox"/> 3-Track <input type="checkbox"/> 4-Track <input type="checkbox"/> 6-Track <input type="checkbox"/>	Lighting:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Swing Gates	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Pavement Markings: Stop Bars <input type="checkbox"/> RxR <input type="checkbox"/> Lane Lines <input type="checkbox"/> Dynamic Envelope <input type="checkbox"/> Other <input type="checkbox"/>			
List Other Devices & Condition of Devices:			

PATH SECTION

Development Type: Residential <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Open Space <input type="checkbox"/> Institutional <input type="checkbox"/>			
Are the advance warning signs in good condition?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Path width _____' Number of Travel Lanes _____	Is Path Wide Enough (shared = 10' + 2' edges)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there adequate capacity?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the path have a 2% cross slope?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the person's attention being diverted?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an adequate landing platform (10' clear+ decision/reaction on table+ tracks+ 15' between track)?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
If the approach is inadequate, can it be adjusted?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an adequate edge		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there adequate drainage? List drainage present: _____ Size: _____ Location: _____		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do culverts, drop inlets, etc. need to be adjusted?			
Utilities adjustment needed? Overhead Lines <input type="checkbox"/> Buried Lines <input type="checkbox"/> Gas Vent Riser <input type="checkbox"/>		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there adequate maintenance procedures, funds & RR agreements for path & crossing, including _____		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there informational signs for non-standard path conditions, such as grades?		<input type="checkbox"/> Yes	<input type="checkbox"/> No

RAILROAD SECTION

Is the track on a curve? Degree of curve: _____° Super elevation: _____" Cross level: _____%	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are active warning devices needed? Type of circuitry: AC-DC <input type="checkbox"/> CWT <input type="checkbox"/> MS <input type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there adequate warning time from the railroad signals? Need 2.8 seconds per foot to cross + warning.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can multiple tracks be removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are gates warranted? Standard <input type="checkbox"/> Barrier <input type="checkbox"/> Swing <input type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the track height need to be adjusted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the surface smooth?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is surface rehabilitation required to facilitate signal installation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

*Compilation of Pedestrian Devices In Use At Grade Crossings
January 2008*

ADA

Are there curb cuts at nearby intersections and a clear path present to curb cuts at nearby intersections?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are detectable warnings advised?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the path width adequate (36" is minimum)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there vertical obstructions (standard: none between 27" to 80" above ground or within path)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Slope of path transition (standard is 12:1 or less).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Landing platform (standard is level and 5' x 5' or more).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is surface smooth (standard: passable by a wheelchair, no broken or buckled asphalt, edges < ¼")?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Panel length (crossing surface panel needs to extend 1' behind back of path to be standard).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there flange gaps 2½", or less, or flange fillers?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can full flange fillers be used in low speed applications?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is grade 5% or less? If grade is over 5%, how long is grade? _____'	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If grade is 8% and 200', 10% and 30' or 12.5% and 10', are there rest areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there 43" handrails for grades over 5%?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is widening proposed? How wide? _____'. When? _____ Consider in project?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mitigation:		

AWARENESS OF XING

Overall awareness of railroad crossing, including visibility and effectiveness of possible signs, signals and markings.	<input type="checkbox"/> Acceptable	
Horizontal and vertical alignment considerations.	<input type="checkbox"/> Acceptable	
Pedestrian Sight Distance: Clearing sight distance of _____' from 17' from rail needed. North/East Side of Xing _____' South/West Side of Xing _____'	<input type="checkbox"/> Acceptable	
Bicycle Sight Distance 1: Distance where crossing can be identified. North/East Side of Xing _____ feet South/West Side of Xing _____ feet	<input type="checkbox"/> Acceptable	
Bicycle Sight Distance 2: Need _____' down tracks from _____' down path. North/East Side Looking East/North _____' West/South _____' South/West Side Looking East/North _____' West/South _____'	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement	
Bicycle Sight Distance 3: Distance down path to see _____' down tracks if #2 not acceptable. North/East Side Looking East/North _____' West/South _____' South/West Side Looking East/North _____' West/South _____'	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement	
Bicycle Sight Distance 4: Stopped 17' from rail, need _____' down tracks. North/East Side Looking East/North _____' West/South _____' South/West Side Looking East/North _____' West/South _____'	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement	
Nighttime visibility, including ambient lighting.	<input type="checkbox"/> Acceptable	
Skew of Xing: _____° Does skew limit perception?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there simultaneous train movements on multiple tracks? Can standing boxcars block the view?	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/>
Do Pedestrians and bicycles violate warning devices?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mitigation of inadequate perception: <input type="checkbox"/> Additional Signage <input type="checkbox"/> Luminaires & Where <input type="checkbox"/> Multiple Track Removal		

STOP AND YIELD SIGNS

THE FOLLOWING CONSIDERATIONS MUST BE MET IN EVERY CASE WHERE A STOP SIGN IS INSTALLED		
STOP or YIELD signs may be used by path authority if there are two or more TADT and xing is passive .	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are law enforcement & judiciary committed to enforcement equal to road intersections with STOP signs?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Would installation of STOP sign create a more dangerous situation than would exist with YIELD sign?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

ANY OF THE FOLLOWING CONDITIONS INDICATE THAT A STOP SIGN MIGHT REDUCE RISK AT A CROSSING		
Maximum train speeds equal, or exceed, 30 mph.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Train movements are 10 or more per day, five or more days per week.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The rail line is regularly used to transport a significant quantity of hazardous materials.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The path crosses two or more tracks, particularly where both tracks are main tracks or one track is a passing siding that is frequently used.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The angle of approach to the crossing is skewed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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January 2008*

The line of sight from an approaching path user to an approaching train is restricted such that approaching path traffic is required to substantially reduce speed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
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THE FOLLOWING CONSIDERATIONS SHOULD BE WEIGHED AGAINST PLACING STOP SIGNS

There are active warning devices.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
STOP sign would cause queuing onto nearby road.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The path is other than secondary in character.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The path is a steep ascending grade to or through the crossing, sight distance in both directions is unrestricted in relation to maximum closing speed, and bicycles or wheelchairs use the crossing.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

REVIEW FOR AUTOMATIC GATES

ACTIVE DEVICES WITH AUTOMATIC GATES SHOULD BE CONSIDERED AT CROSSINGS WHENEVER AN ENGINEERING STUDY BY A DIAGNOSTIC TEAM DETERMINES ONE OR MORE OF THE FOLLOWING CONDITIONS EXISTS

If inadequate sight distance exists in one or more quadrants and ALL of the following are 'Yes':	<input type="checkbox"/> Yes	<input type="checkbox"/> No
a. Is it physically or economically unfeasible to correct the sight distance deficiency?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Is no acceptable alternate access available? If access exists, then close the crossing.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. On a life cycle cost basis, would the cost of providing acceptable alternate access or grade separation exceed the cost of installing active devices with gates?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the crossing in near schools, industries or commercial areas where there is higher than normal usage.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there multiple main or running tracks through the crossing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the expected accident frequency (EAF) for active devices without gates exceed 0.1?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there queuing across the tracks from a nearby intersection?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the diagnostic team have other reasons?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

OPTIONAL USE OF AUTOMATIC GATES

ACTIVE DEVICES WITH AUTOMATIC GATES SHOULD BE CONSIDERED AS AN OPTION WHEN THEY CAN BE JUSTIFIED ECONOMICALLY AND WHEN ONE OR MORE OF THE FOLLOWING CONDITIONS EXISTS

Do multiple tracks exist?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there 20 or more trains per day?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the posted path speed exceed 40 mph in urban areas, or exceed 55 mph in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the AADT exceed 2,000 in urban areas, or exceed 500 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there multiple lanes of traffic in the same direction of travel?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the product of the number of trains per day & AADT exceed 5000 urban, or 4000 rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has an engineering study indicated the absence of active devices would result in the path facility performing at a level of service below Level C?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the expected accident frequency (EAF) exceed 0.075?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is this a new project or are the current active devices being replaced?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the diagnostic team have other reasons?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

CANTILEVER FLASHING LIGHTS

Two or more lanes the same direction.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
High speed paths regardless of number of lanes.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Objects on the side of the path can obstruct the visibility of mast mounted flashing lights.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Horizontal or vertical curves or other topographical features obstruct the mast mounted flashing lights.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

*Compilation of Pedestrian Devices In Use At Grade Crossings
January 2008*

WARNING/BARRIER GATE SYSTEM

Crossing with high-speed trains.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing in quiet zones.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
As otherwise deemed necessary by the diagnostic review team.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

PEDESTRIAN TREATMENTS

Can devices be designed to avoid stranding pedestrians between sets of tracks?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can audible devices be added if determined necessary?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Would swing gates operate safely for disabled individuals?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are skirted gates or other warning devices needed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can crossing controls/delays be used near stations?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are added pedestrian signs needed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
List pedestrian signs needed:		
Notes:		

CLOSURE

CROSSING SHOULD BE CONSIDERED FOR CLOSURE WHEN ONE OR MORE OF THE FOLLOWING APPLY		
Does the crossing have nearby acceptable alternate bicycle and pedestrian access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
On a life cycle cost basis, would improvement exceed cost of providing acceptable alternate access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If an engineering study determined any of the following.		
a. FRA Class 1,2, or 3 track with daily train movements		
1. AADT less than 500 in urban areas, acceptable alternate access within ¼ mile, and the median trip length would not increase by more than ½ mile.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. AADT less than 50 in rural areas, acceptable alternate access within ½ mile, and the median trip length would not increase by more than 1½ miles.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. FRA Class 4 or 5 track with active rail traffic.		
1. AADT less than 1,000 in urban areas, acceptable alternate access within ¼ mile and the	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. AADT less than 100 in rural areas, acceptable alternate access within 1 mile, and the trip	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. FRA Class 6 or higher track with active rail traffic.		
AADT less than 250 in rural areas, acceptable alternate access within 1½ miles, and the median trip length would not increase by more than 4 miles.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does an engineering study determines the crossing should be closed because railroad operations will occupy or block the crossing for extended periods of time on a routine basis and it is not physically or economically feasible to grade separate or shift train operations to another location. Such locations would typically include the following areas:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
a. Rail yards		
b. Passing tracks primarily used for holding trains while waiting to meet or be passed by other trains		
c. Locations where train crews are routinely required to stop trains because of cross traffic on intersecting lines, or switch cars		
d. Switching leads at the ends of classification yards		
e. Where trains are required to "double" in or out of yards and terminals		
f. In the proximity of stations where long distance passenger trains are required to make extended stops to transfer baggage		
g. Locations where trains must stop or wait for crew changes		

GRADE SEPARATION

CROSSING SHOULD BE CONSIDERED FOR GRADE SEPARATION WHEN ONE OR MORE OF THE FOLLOWING APPLY		
Is the path designed to have full control access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the AADT exceed 100,000 in urban areas or 50,000 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the maximum authorized train speed over 110 mph?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an average of 150 or more trains per day or 300 million gross tons per year?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an average of 75 or more passenger trains per day in urban areas or 30 or more in rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing exposure (product of trains per day & AADT) exceeds 1,000,000 in urban, 250,000 rural.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The expected accident frequency (EAF) for active devices exceeds 0.5?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Path user delays exceed 40 vehicle hours per day?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

CROSSING SHOULD BE CONSIDERED FOR GRADE SEPARATION WHEN ONE OR MORE OF THE FOLLOWING APPLY AND THE LIFE CYCLE COSTS CAN BE FULLY ALLOCATED		
Is the path designed to have partial control access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the path posted speed exceed 55 mph?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the AADT exceed 50,000 in urban areas or 25,000 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the maximum authorized train speed over 100 mph?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an average of 75 or more trains per day or 150 million gross tons per year?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

*Compilation of Pedestrian Devices In Use At Grade Crossings
January 2008*

Is there an average of 50 or more passenger trains per day in urban areas or 12 or more in rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing exposure (product of trains per day & AADT) exceeds 500,000 in urban, 125,000 rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The expected accident frequency (EAF) for active devices exceeds 0.2?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Path user delays exceed 30 vehicle hours per day?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the engineering study indicate that the absence of a grade separation will result in the path facility	<input type="checkbox"/> Yes	<input type="checkbox"/> No

NEW CROSSINGS

PERMITTED AT EXISTING RAILROAD TRACKS AT-GRADE WHEN IT CAN BE DEMONSTRATED ALL FOLLOWING APPLY & NOT ON MAINLINES		
On public paths where there is a clear and compelling need (other than enhancing the value or development potential of the adjoining property).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Grade separation cannot be economically justified (benefit to cost ratio on a fully allocated cost basis is less than 1.0 & the crossing exposure exceeds 50,000 in urban areas & 25,000 in rural areas)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
There are no other viable alternatives.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

IF A CROSSING IS PERMITTED, THE FOLLOWING CONDITIONS SHOULD APPLY		
The crossing will be equipped with active devices with gates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The plans and specifications should be subject to the approval of the highway agency having jurisdiction over the path (if other than a State agency), the State DOT or other State agency vested with the authority to approve new crossings, and the operating railroad.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
All costs associated with the construction of the new crossing should be borne by the party or parties requesting the new crossing, including providing financially for the ongoing maintenance of the crossing surface and traffic control devices where no crossing closures are included in the project.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Whenever new public path-rail crossings are permitted, they should fully comply with all applicable provisions of the TWG proposed recommended practice, MUTCD, AASHTO, ITE and other standards.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Whenever a new path-rail crossing is constructed, consideration should be given to closing one or more adjacent crossings.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

RECOMMENDATION SUMMARY

<input type="checkbox"/> Closure	<input type="checkbox"/> Do Not Stop on Tracks Signs (for queuing) R8-8
	<input type="checkbox"/> LOOK Sign R15-8
<input type="checkbox"/> Crossing Relocation	<input type="checkbox"/> Bicycle Signs
	<input type="checkbox"/> Additional Signage
<input type="checkbox"/> Automatic Gates	<input type="checkbox"/> Pavement Markings (No thermoplastic)
	<input type="checkbox"/> Luminaires
<input type="checkbox"/> Cantilever Flashing Lights	<input type="checkbox"/> Crossing Surface Smoothness ¼ ", Width or Rehabilitation
	<input type="checkbox"/> Additional ADA
<input type="checkbox"/> Bells	<input type="checkbox"/> Zigzag Approaches
	<input type="checkbox"/> Storage Improvement for Queuing
<input type="checkbox"/> Active Second Train Coming Sign	<input type="checkbox"/> Approach & Landing Platform Modification
	<input type="checkbox"/> Detour Signage for Grades
<input type="checkbox"/> Barrier Gates or Skirted Gates	<input type="checkbox"/> Parking & Pedestrian Channelization
	<input type="checkbox"/> Railings
<input type="checkbox"/> Texturing – Detectable	<input type="checkbox"/> Utility & Culvert Adjustments
	<input type="checkbox"/> Path Surface or Edge
<input type="checkbox"/> Multi-Track Signs # Tracks	<input type="checkbox"/> Rest Areas on Grades
	<input type="checkbox"/> Fixed Object Removal
<input type="checkbox"/> STOP Sign R1-1	<input type="checkbox"/> Maintenance
	<input type="checkbox"/> Other –

Appendix F. Itemized Construction Cost Estimates

The following materials were used for public outreach during the Pedestrian Plan process.

Crossing Improvements	
Standard marked crosswalk (with two transverse lines)	\$100 per leg
High-visibility crosswalk (continental style)	\$300 per leg
Patterned concrete crosswalk	\$20,000 per leg
Curb Extension to tighten curb radii at intersections	\$5,000 to \$25,000 per corner
New traffic signal with countdown pedestrian signals	\$ 100,000 per intersection
Countdown pedestrian signal and crosswalk additions to existing signalized intersection	\$4,000 to \$6,400 per intersection
Audible pedestrian crossing cues added to existing pedestrian signal	\$2,400 per intersection (\$500 - \$800 per countdown signal)
“No Right on Red” signage	\$30 to \$150 per sign plus installation at \$150 per sign
Regulatory and Warning signage (e.g. Stop, Yield, or Pedestrian Crossing signs)	\$ 50 to \$150 per sign plus installation at \$150 per sign
In-Street Yield to Pedestrians Sign	\$250 per sign plus installation
Advanced “Ped Xing” warning and related pavement markings (e.g. advanced stop bar or yield marking)	\$600 each
Curb ramps with detectable warning strips	\$1,200 per ramp; \$300 per truncated dome panel
Median refuge island (low cost is monolithic concrete island without landscaping)	\$4,000 to \$30,000
Pre-cast concrete or rubber flangeway filler for railroad crossings	\$1,600 per pad (8ft x 8ft)
Pedestrian underpass or overpass (cost depends on site characteristics)	\$750,000 to \$4 million
Flashing beacon signal	\$3,300 each

Sidewalk Installation	
Sidewalk only (existing curb & gutter or shoulder section)	\$ 50 per linear foot
Concrete curb & gutter only	\$ 25 per linear foot
Pedestrian-level street lights (10 to 15 ft in height)	\$2,200 each
Tree Grates (4ft by 4ft)	\$1,200 each

Greenway Trail Construction	
10ft paved shared-use trail (construction only)	\$700,000 per mile
10ft unpaved crushed stone shared-use trail (construction only)	\$100,000 per mile
Trail markers (not including installation)	\$50 each
Information kiosks (not including installation)	\$1,200 each
Water fountain (assumes water is already available)	\$2,000 each
Bollards (not including installation)	\$600 each
Bench (not including installation)	\$800 to \$1,000 each
Trash Cans (not including installation)	\$800 to \$1,500 each

Sources: Pedestrian and Bicycle Information Center (www.walkinginfo.org)
 NCDOT Division of Pedestrian and Bicycle Transportation
 NCDOT Project Services Division, 2007 Bid Averages (<http://ncdot.gov/doh/preconstruct/ps/contracts/estimating2.html>)

**Appendix G. Harnett County Subdivision Ordinance, Article V,
Section 5.12.3: Sidewalk Requirements**

The Harnett County Subdivision Ordinance was recently amended to address minimum sidewalk requirements for all new subdivided developments. The City of Dunn should use these requirements as a baseline for immediate policy action and during future development of local Street Design Criteria.

generally recognized standards relating to the need for such areas. The Board recognizes, however, that due to the particular nature of a tract of land, or the particular type or configuration of development proposed, or other factors, the underlying objectives of this Section may be achieved even though the standards are not adhered to with mathematical precision. Therefore, the Planning board is authorized to permit minor deviations from these standards whenever it determines that (i) the objectives underlying these standards can be met without strict adherence to them and (ii) because of peculiarities in the developer's tract of land or the particular type or configuration of the development proposed, it would be unreasonable to require strict adherence to these standards.

2. Whenever the Planning Board authorizes some deviation from the standards set forth in open space requirement, the official record of action taken on the development application shall contain a detailed statement of the reasons for allowing the deviation.

5.12.3 SIDEWALKS

Sidewalks required by this section shall be designed and constructed in accordance with the following standards:

- A. The sidewalk shall be constructed of concrete material
- B. The subdivider shall bear the costs of the installation of the sidewalks required for all new or existing streets within the subdivision in accordance with specifications of the county. In lieu of requiring the installation prior to final plat approval the subdivider may enter into an agreement with the county in accordance with Article III, Section 3.7.2.
- C. Shoulders shall be sufficient to permit the adequate installation and maintenance of sidewalks and utilities, as well as provide sufficient clear zone distance as defined by NCDOT.
- D. The minimum thickness of a sidewalk shall be 4 inches. (Sidewalks shall have a uniform slope toward the roadway of $\frac{1}{4}$ inch per foot.) The utility strip between the sidewalk and the back of curb shall not be less than $\frac{1}{4}$ inch per foot nor greater than $\frac{1}{2}$ inch per foot toward the roadway.
- E. Where sidewalks and/or greenways intersect any section of curb and gutter, a wheelchair ramp shall be installed. In all other instances, the regulations of the American's with Disabilities Act must be adhered to.
- F. Grooved construction joints shall be cut to a depth equal to at least $\frac{1}{3}$ of the total slab thickness. The joint shall be no less than $\frac{1}{8}$ inch in width and cut at intervals equal to the width of the sidewalk. A $\frac{1}{2}$ -inch expansion joint filled with joint filler shall be placed between all rigid objects and placed no farther than 50 feet apart for sidewalks and curb and gutter, extending the full depth of the concrete with top of the filler $\frac{1}{2}$ inch below the finished surface.
- G. Maintenance of sidewalks will be the responsibility of the homeowners' association or comparable individual, or group that has responsibility for other common areas. Maintenance of sidewalks shall be addressed in the organizational papers and by-laws.
- H. Sidewalks shall be located within the dedicated, non-paved portion of the street right-of-way as follows unless otherwise noted:

STREET CLASSIFICATION	LOCATION	MINIMUM WIDTH	MINIMUM DISTANCE OFF BACK OF CURB
Major Thoroughfare	Both sides of street	5'	6.5'
Minor Thoroughfare	Both sides of street	5'	5.5'
Collector, Local or Cul-de-Sac Streets in any Non-residential or Multi-Family Development	Both sides of street	5'	3.5'
All streets in any Neo-Traditional Development	Both sides of street	5'	3.5'
Collector Street in any Residential Development	One side of street	4'	3.5'
Local Street or Cul-de-Sac Street in any residential Development	One side of street	4'	3.5'
Private Street	Same standard as above for comparable Public Street		

5.12.4 CURB AND GUTTER

All curb and gutter sections shall be concrete and meet Division of Highways Standards. All Neo-Traditional designed lots shall conform to North Carolina Department of Transportation Traditional Neighborhood Development Guidelines.

5.12.5 STREET TREES

- A. The subdivider or developer of developments of more than 6 residential lots or 6 dwelling units shall either plant or retain existing healthy trees so that there is for every 50 linear feet of street at least one deciduous street tree. Street trees shall be planted or retained along both sides of newly created public or private streets.
- B. Street trees shall be of species that is expected to attain a minimum height of 25 - 35 feet at maturity. Where required street trees are located under overhead utility lines, the species shall be of a type to reach a maximum of 20 to 25 feet. All street trees shall be at least 2 inches in caliper and a minimum of 6 feet at the time of planting.
- C. Street trees shall be planted in a linear arrangement parallel to the street no less than 5 feet and no more than 10 feet outside the right of way. Street trees shall be planted at least 8 feet from utility poles and 10 feet from electrical transformers.
- D. Plans for street tree planting and retention of existing trees shall be approved by the NCDOT for all streets proposed to be dedicated as public streets.
- E. In lieu of requiring the installation prior to final plat approval the subdivider may enter into an agreement with the county in accordance with Article III, Section 3.7.2.
- F. Street Tree requirements shall be waived on any Local Street or Cul-de-Sac Street in any residential Development

SECTION 5.13 HOMEOWNER ASSOCIATION (HOA)

- A. A copy of the recorded organizational papers and by-laws shall be submitted at the final plat review stage to the DRB for review and approval.
- B. The Homeowners' Association shall be established before the homes or units are sold.
- C. Membership shall be mandatory for each buyer, and any successive buyer. No property shall be removed from the HOA without approval from the County Commissioners.
- D. The developer or any subsequent developer shall manage the Homeowners' Association, which shall be responsible for all maintenance of the development, until sixty percent (60%) of all units to be sold are sold.