

## Chapter 4. Engineering: Facilities Data

The Winston-Salem Urban Area MPO's current pedestrian system is made up of sidewalks, greenways and trails. In order to understand the entire network, it is important to understand the major roads in the MPO, sidewalk location and condition, schools and land uses. The following section describes the existing pedestrian system and its related facilities.

### 4.1 System Overview

#### Major Roads

The MPO's major north-south corridor is US 52. University Parkway also serves as a major north-south link between Winston-Salem and Rural Hall. The MPO's major east-west corridors include I-40, Business40/US 421, US 311, and US 158.

#### Data Collection

When developing any plan, the first thing needed is reliable data. Prior to 2004, the MPO has never had data that reflected the entire existing sidewalk system. In June of 2004, staff members with the City of Winston-Salem Department of Transportation began collecting data on the existing sidewalk system. Data was collected by using a Global Positioning System (GPS) and walking all sidewalks within the Winston-Salem Urban Area. Staff collected data on location, condition, material type, and width of all sidewalks. They also collected data on sidewalk obstructions (utility poles, fire hydrants, signal boxes, news paper boxes and overgrown vegetation). During this process staff located all handicap ramps and WSTA bus stops along existing sidewalks.

**Table 4a**

Municipality	Length (Miles)
Winston-Salem	425.4
Kernersville	47.7
Clemmons	12.3
Lewisville	4.2
Rural Hall	2.6
King	1.5
Bethania	1.0
Walkertown	0.6
Sidewalks outside of a Municipality	13.5
<b>Total</b>	<b>508.8</b>

The first round of data collection was completed in early fall of 2005. Round two of data collection was completed spring of 2007. The data assisted in the development of a large map of the MPO showing the location of the existing sidewalk system. From this map staff can determine where in the system there are gaps or deficient sidewalk. The map can identify areas of need but each “gap” must be field checked to verify if a sidewalk can be constructed. There are situations where there may be a gap showing on the system map, but sidewalks cannot be constructed in that location due to steep slopes, no right-of-way, etc.

### **Miles of Sidewalk**

During the data collection process not only are the location of the sidewalks recorded but the length of the sidewalk segments are also recorded. Table 4a shows the miles of sidewalk located in each municipality. Winston-Salem, being the largest city in the MPO, has the most miles of sidewalk while Walkertown, which just recently adopted their sidewalk ordinance, has the fewest miles of sidewalk. Within the MPO there were a total of 508.8 miles of sidewalk constructed as of spring 2007.

The City of Winston-Salem has approximately 1148 miles of road compared to the approximately 425 miles of sidewalk, which means that the City of Winston-Salem has a ratio of .36:1 of sidewalk to roads. In an ideal city, one might imagine that the ratio of miles of sidewalk to miles of roadway should be 2:1. This would be a scenario in which all city roads have sidewalk on both sides. However, this ratio might not always be possible, or even necessary. Even in an ideal city, some roads are limited access, such as I-40 and Business 40 in Winston-Salem. At the same time, some low trafficked neighborhood roads may not need a sidewalk at all, or may not need it on both sides of the road.

### **Sidewalk Width**



Figure 13: Stone Sidewalk

Data collection also consisted of recording the width of sidewalks. Sidewalk width changes constantly throughout the MPO. The range of sidewalk width is from 2 feet up to as much as 20 feet. Wider widths of sidewalks were usually located in the downtown or city centers of the municipalities. The most common width is 5 feet and is currently the standard when constructing sidewalks. The MPO has approximately 300 miles of sidewalk with a width of 5 feet. Many areas around the United States have started to use a standard width of at least 6 feet, especially if the sidewalk is to be constructed right up against the curb of a street. The new street standards recently implemented in Winston-Salem call for a 6 foot sidewalk if constructed to the back of curb and gutter; otherwise, it is a 5 foot width sidewalk.



Figure 14: Brick Sidewalk

### **Sidewalk Material Type**

Staff also recorded the material used in the construction of all sidewalks. The majority of sidewalks are constructed using concrete but they also can be constructed out of asphalt, brick, gravel, and stone. Many of the sidewalks constructed in the Old Salem area and Bethania are made from larger pieces of stone. Brick pavers are also a common construction material to use for sidewalks.

### **Sidewalk Obstructions**

Once a sidewalk is constructed, especially in a downtown area, there is always a competition for space. There are a number of things competing for that space such as utility poles, signal boxes, newspaper boxes, benches, trash cans, fire hydrants, public art, automobiles and vegetation. While locating the sidewalks in the MPO, staff also located obstructions in the sidewalk. An obstruction, for the purposes of this Plan, is defined as anything blocking the sidewalk in which a person who is disabled could not safely navigate and continue on to their destination. The determination was made by the staff members in the field while collecting data. In many cases the obstruction can be moved in one direction or the other and allow enough room to navigate the sidewalk safely. There are times, however, where things such as fire hydrants and

utility poles cannot be easily moved. These items are identified and the proper department contacted to try and resolve the problem. Many times people use the sidewalk as a place to park their cars. This is an enforcement issue and the police department should be notified in situations like these.

The most common obstruction noted in the data is overgrown vegetation. It is the responsibility of the property owner to keep grass, bushes and trees from growing over or obstructing the sidewalk. Many people are not aware that they are responsible.

Recommendation

- ❖ City codes and ordinances should be reviewed and updated regarding penalties for blocking pedestrian facilities.

**Sidewalk Condition**

Sidewalk condition in the MPO is evaluated by two conditions, uplifting and cracking. New sidewalks or sidewalk segments that contain no, or very minimal, signs of cracking or uplifting were rated as “good”. In the MPO there are 462 miles of sidewalk rated in “good” condition, which is 93 percent of the total sidewalks in the MPO.

Recommendation

- ❖ Because sidewalks are continually being constructed throughout the MPO, a system is needed to keep the data current.

**ADA Accessibility**

Americans with Disabilities Act defines accessibility as the presence of a curb ramp at both ends of the sidewalk segment. A non-compliant segment of sidewalk has either no curb ramps or a curb ramp at only one end.



Figure 15: Obstruction on Sidewalk



Figure 16: Broken Sidewalk

## Transit

The transit system and the pedestrian system are two pieces of the transportation network that are critically dependant on each other to function well. Many of the people who use transit are also the main users of the pedestrian system. Good sidewalks and safe street crossings are often needed for walking to and from transit stops and pedestrian amenities like benches and shade trees are useful for making the wait at a stop more pleasant. It is important to know where transit stops and routes are when identifying pedestrian needs so as to ensure that adequate facilities are present to support transit and make for a smooth exchange between the two systems.

### *Winston-Salem Transit Authority (WSTA)*

The City of Winston-Salem assumed the operation of the local fixed route bus system in 1968, naming it the Winston-Salem Transit Authority (WSTA). Fixed route buses serve all of the City's major destinations including universities, hospitals, schools, businesses and shopping centers. WSTA also operates the paratransit system (Trans-AID) in all of Forsyth County. In 1997, a new multi-modal Transportation Center was opened in downtown Winston-Salem.



Figure 17: Winston-Salem Transit Authority Bus

The fixed route system operates Monday through Friday from 5:30 A.M. to 7:00 P.M. for their daytime routes. Evening service is from 6:30 P.M. to midnight. WSTA operates buses on Saturday from 6:30 A.M. to 7:00 P.M. No service is provided on Sunday. As of January 2007, base fares are \$1.00 and transfers are free. All vehicles are wheelchair accessible and all buses are equipped with bike racks.

Trans-AID provides transportation services to the elderly and disabled Monday through Saturday. The majority of passengers are clients of human service agencies. Trans-AID is also the Americans with Disabilities Act (ADA) complementary paratransit service for WSTA's fixed route service.

*Piedmont Authority for Regional Transportation (PART)*

In June 1997 the North Carolina General Assembly passed Article 27, GS160A authorizing the formation of a Regional Transportation Authority in the Triad. This regional transportation authority was formed by the four largest cities, in the territorial jurisdiction, Winston-Salem, Burlington, High Point, and Greensboro. PART's services include shuttles, express buses, ridesharing and commuter rails.

Since fare systems, routes and other policy options are subject to change, people are encouraged to contact the transit service agencies directly before taking their first trip.

**Schools**

It is important to discuss the school system in the pedestrian plan because schools are a prime opportunity to promote walking, both for the students nearby and for the employees who work there. Across the nation, the Safe Routes to School Program (discussed in further detail in Chapter 8) is promoting walking to school for a variety of reasons, including the need to combat today's childhood obesity epidemic. In addition, schools are locations that are already the focal point of much car use and pedestrian activity.

The Winston-Salem/Forsyth County School system has a total of 67 schools: 40 elementary, 16 middle schools and 11 high schools. With 3,214 teachers, the school system averages approximately 47,000 students each year.



Figure 18: Carver High School, Winston Salem