



ON-STREET PARKING IMPACTS TECHNICAL MEMORANDUM

May 2013





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1 INTRODUCTION

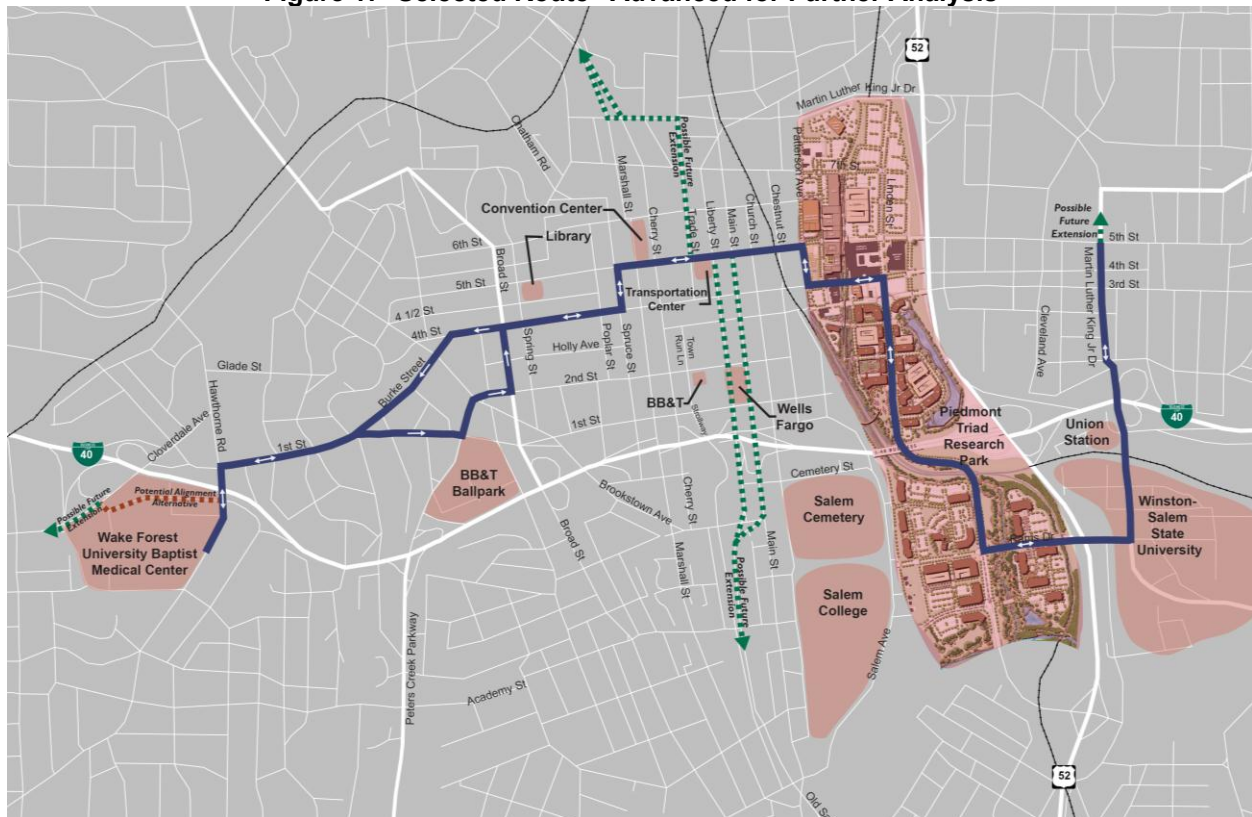
1.1 Project Background

Winston-Salem is conducting this Alternatives Analysis (AA) to further investigate opportunities for the implementation of an Urban Circulator in downtown, building upon the *Winston-Salem Streetcar Feasibility Study* (completed in 2006) and recommendations developed as part of the *Regional Transit Development Plan, Forsyth and Guilford Counties Transit Vision for 2025* (completed in 2010), the *2030 Legacy Comprehensive Plan Update* (2012) and *The Downtown Plan* (completed in 2007). This AA will develop and evaluate transit alternatives to best meet project goals and will establish a Locally Preferred Alternative (LPA) describing the preferred transit **route** and **technology**.

The Urban Circulator Study is conducting more detailed planning analyses for a potential circulator project to connect the city’s most active educational, medical and employment destinations to the central bus hub. The study area is focused on an approximately 4-mile corridor that extends west to east through downtown Winston-Salem and surrounding neighborhoods, from Wake Forest Baptist Medical Center through downtown, Piedmont Triad Research Park and Winston-Salem State University, to East Winston.

At this stage of the study process, a “selected route”, which is shown in the figure below, has been advanced for further analysis.

Figure 1: “Selected Route” Advanced for Further Analysis



1.2 Purpose of Document

In Winston-Salem, there are 800 metered on-street spaces, plus loading zones and unmetered on-street spaces. This memorandum summarizes the parking impacts that would occur with an Urban Circulator.

A streetcar is being considered as the “build” alternative. Streetcars are rail vehicles that operate on local streets in mixed traffic with automobiles. Fitting the rail alignment in to the existing right-of-way may be a challenge in a few spots due to the turning radius of a streetcar vehicle. A number of on-street parking spaces will need to be eliminated to accommodate the lane width needed for streetcar and to locate station stops. Where on-street parking is available, streetcar stops typically are accommodated by extending the sidewalk through the parking lane to the edge of the travel lane (a “bulb out”). Each streetcar stop is approximately 66’ long, which is the equivalent of about 3 parking spaces.

This memorandum summarizes the parking impacts specific to the streetcar “build” option; however, similar impacts would be experienced for a bus-based alternative that also uses enhanced station stops. These conceptual requirements will be confirmed in conjunction with the development of the preliminary engineering (PE) plans, and will be updated as appropriate.

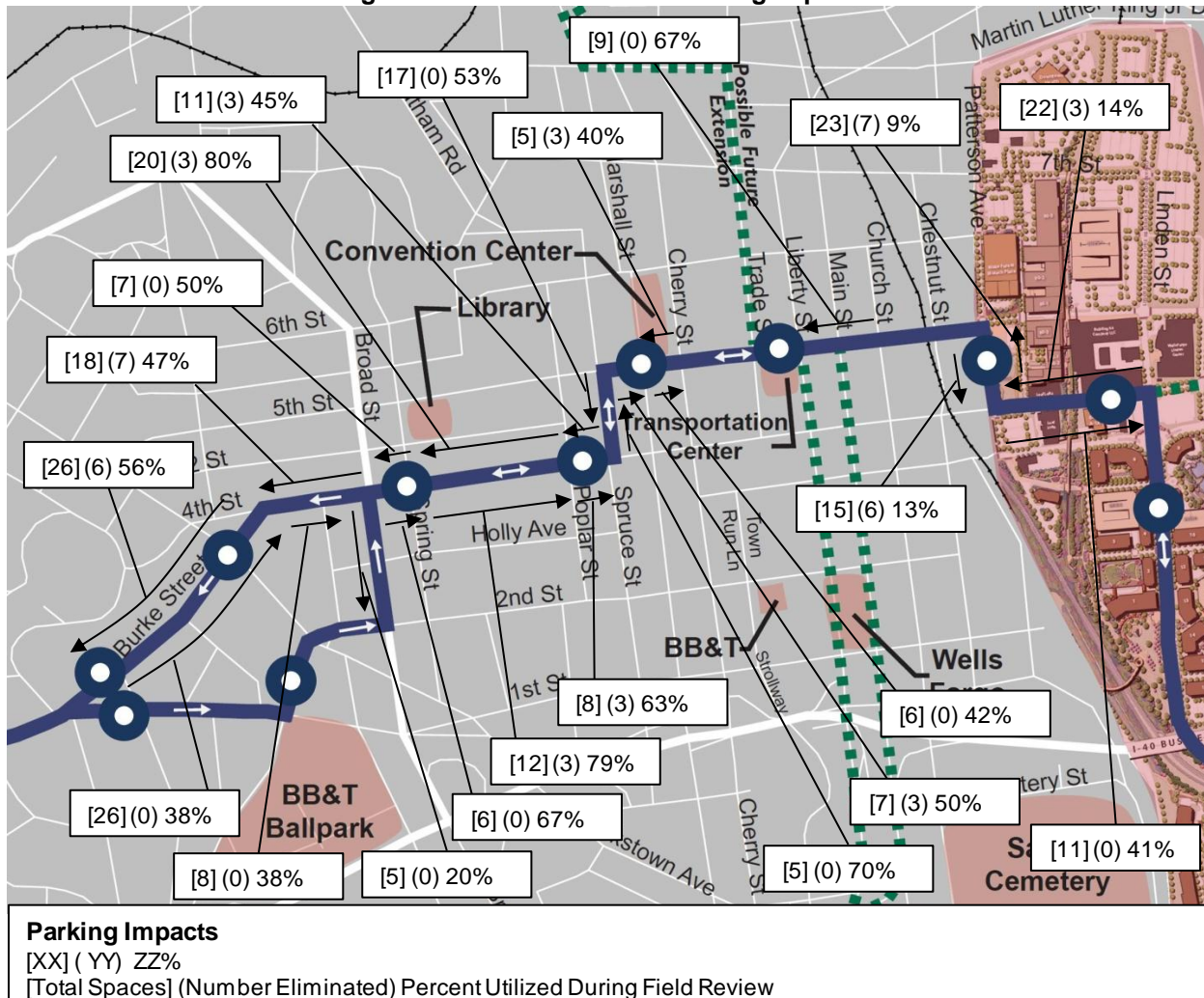
2 PARKING IMPACTS

A parking inventory was performed on June 25, 2012 and June 26, 2012. During the time of the field verification, the general route had been identified, but several design options were still being considered. On-street parking along all design options was inventoried to produce a comprehensive assessment. However, only the on-street parking impacts along the “selected” route (also identified on the following page) are discussed in this document.

A total of 267 on-street parking spaces are available along the “selected” route. Currently, there are no legal on-street parking spaces on Hawthorne St., 1st St., 2nd St., Research Park Blvd., Rams Dr. or Martin Luther King Blvd. Observations were performed during the morning and afternoon peak hours to determine the number of occupied spaces. During the morning peak hour, 41% of all spaces were utilized and during the evening peak hour, 47% of all spaces were utilized; however, utilization varies along the route.

To accommodate the “selected” route, 45 on-street parking spaces are projected to be eliminated, representing a loss of roughly 17% of the on-street parking spaces in the study corridor. The graphic on the following page summarizes the overall on-street parking impacts. The subsequent sections detail the specific impacts to each street.

Figure 2: Overall On-Street Parking Impacts



The following legend is used for the “parking regulations and notes” column in the following tables illustrating parking impacts by street.

LEGEND
PM = Parallel Metered
PF = Parallel Free
AF = Angled Free
LZ = Loading Zone
CL = Commercial License Only 6:00am-11:30am; 30min 11:30am-6:00pm
Highlighted segment = stop proposed for segment

There are no legal on-street parking spaces on Hawthorne St., 1st St., 2nd St., Rams Dr. or Martin Luther King Blvd. The number and utilization of on-street parking spaces along Research Park Blvd. is currently unavailable due to on-going construction of the roadway. Therefore, these three streets are not included in the street-by-street description of impacts.

2.1 Burke Street

Much of the on-street parking along Burke St. would be maintained, with the exception of six spaces in the southwest-bound direction between 1st St. and Brookstown Ave. These six spaces would be eliminated for placement of two station stops on this street. The table below summarizes the parking inventory for Burke St.

Table 1: On-Street Parking Impacts on Burke St.

Segment	Traffic Direction	Parking Regulations and Notes	# of Spaces	Parking Utilization			Spaces Eliminated	
				AM	PM	%	#	%
1st St to Brookstown Ave	Northeast	PF 2hr 7am-6pm	26	5	15	38%	-	-
	Southwest	PF 2hr 7am-6pm	26	10	19	56%	6	23%
Total Spaces Eliminated							6	23%
Total Metered Spaces Eliminated							0	0%

2.2 Broad Street

Station stops are not planned for Broad St.; therefore, on-street parking would not be impacted on Broad St. The table below summarizes the parking inventory for Broad St.

Table 2: On-Street Parking Impacts on Broad St.

Segment	Traffic Direction	Parking Regulations and Notes	# of Spaces	Parking Utilization			Spaces Eliminated	
				AM	PM	%	#	%
2nd St to 4th St	South	PF 2hr 8am - 5pm	5	0	2	20%	-	-
Total Spaces Eliminated							0	0%
Total Metered Spaces Eliminated							0	0%

2.3 Spruce Street

Station stops are not planned for Spruce St.; therefore, on-street parking would not be impacted on Spruce St. The table below summarizes the parking inventory for Spruce St.

Table 3: On-Street Parking Impacts on Spruce St.

Segment	Traffic Direction	Parking Regulations and Notes	# of Spaces	Parking Utilization			Spaces Eliminated	
				AM	PM	%	#	%
4th St to 5th St	North	PF 30min CL	5	2	5	70%	-	-
	South	PM 2hr 7am-6pm	17	7	11	53%	-	-
Total Spaces Eliminated							0	0%
Total Metered Spaces Eliminated							0	0%

2.4 4th Street

A number of the on-street parking on 4th St. between Burke St. and Broad St. adjacent to the westbound travel lane (north side of the street), would be eliminated due the need to accommodate streetcar turning radius to make the left-turn onto Burke St. Between Broad St. and Spruce St., much of the on-street parking along 4th St. would be maintained, with the exception of twelve spaces. These spaces would be eliminated for placement of four station stops on this street. In the westbound direction between Patterson St. and Linden St., three spaces of a loading zone would be eliminated to accommodate a station stop. The table below summarizes the parking inventory for 4th St.

Table 4: On-Street Parking Impacts on 4th St.

Segment	Traffic Direction	Parking Regulations and Notes	# of Spaces	Parking Utilization			Spaces Eliminated	
				AM	PM	%	#	%
Burke St to Broad St	East	PM 1hr 8am-6pm	8	3	3	38%	-	-
	West	PM 1hr 8am-6pm	18	8	9	47%	7	39%
Broad St to Spring St	East	PM 1hr 7:30am - 4:30pm	6	6	2	67%	-	-
	West	PM 1hr 7:30am- 4:30pm	7	6	1	50%	-	-
Spring St to Poplar	East	PF 1hr 8am-6pm	3	3	0	50%	3	100%
		PM 2hr 7-6	9	8	8	89%	-	-
	West	PM 2hr 7am-6pm	20	18	14	80%	3	15%
Poplar St to Spruce St	East	PM 2hr 8am-6pm	5	2	4	60%	3	60%
		PF 30min LZ	6	1	3	33%	-	-
	West	PM 2hr 8am-6pm	8	3	7	63%	3	38%
Patterson Ave to Linden St	East	PF 2hr 8am-5pm	4	3	0	38%	-	-
		PF 2hr 8-6pm	7	2	4	43%	-	-
	West	PF 2hr 8am-5pm	4	1	0	13%	-	-
		PF 2hr 8am-6pm	10	4	1	25%	-	-
		PF 30min LZ	8	0	0	0%	3	38%
Total Spaces Eliminated							22	18%
Total Metered Spaces Eliminated							9	11%

2.5 5th Street

Much of the on-street parking along 5th St. would be maintained, with the exception of three spaces in the eastbound direction (south side of the street). These spaces would be eliminated for placement a station stops on this street. In the westbound direction (north side of the street), roughly one spaces of a loading zone would be eliminated to accommodate a station stop. The table below summarizes the parking inventory for 5th St.

Table 5: On-Street Parking Impacts on 5th St.

Segment	Traffic Direction	Parking Regulations and Notes	# of Spaces	Parking Utilization			Spaces Eliminated	
				AM	PM	%	#	%
Spruce St to Marshall St	East	PF 2hr 8am-6pm	7	5	2	50%	3	43%
Marshall St to Cherry St	East	PM 2hr 7am-6pm	4	2	2	50%	-	-
		PF 10min LZ	1	1	0	50%	-	-
		Police Parking	1	0	0	0%	-	-
	West	PF 30min LZ	5	0	4	40%	1	20%
Liberty St to Church St	West	PF 30min LZ	3	1	1	33%	-	-
		PF 2hr 8am-6pm	6	6	4	83%	-	-
Total Spaces Eliminated							4	8%
Total Metered Spaces Eliminated							0	0%

2.6 Patterson Street

Between 4th St. and 5th St., much of the on-street parking along Patterson St. would be maintained, with the exception of 13 spaces. These spaces would be eliminated for placement of two station stops on this street, one in the northbound direction (east side of the street) and one in the southbound direction (west side of the street). The table below summarizes the parking inventory for Patterson St.

Table 6: On-Street Parking Impacts on Patterson St.

Segment	Traffic Direction	Parking Regulations and Notes	# of Spaces	Parking Utilization			Spaces Eliminated	
				AM	PM	%	#	%
4th St to 5th St	North	AF 2hr 8am-5pm	23	2	2	9%	7	30%
	South	AF 2hr 8am-5pm	15	1	3	13%	6	40%
Total Spaces Eliminated							13	34%
Total Metered Spaces Eliminated							0	0%

3 IMPACTS OF ON-STREET PARKING REDUCTIONS

3.1 Parking Meter Revenue Impacts

There are 800 metered on-street spaces, plus loading zones and unmetered on-street spaces. Metered parking time limits range from 30 minutes to ten hours. Most meters allow one- to two-hour parking. Regular meters accept only quarters, according to the rates shown in the table below.

Table 7: Single Space Meter Rates

	Less than 1 hour	1 hour	2 hour
Cost	\$0.25	\$0.50	\$1.00

Of the 45 total on-street parking spaces that are projected to be eliminated with the implementation of the preferred streetcar route, it is estimated that nine of the spaces are metered. The parking meter revenue loss associated with the elimination of these metered spaces is estimated as approximately \$8,477 annually. This estimate is based on utilization rates as observed during the field review (assuming that midday utilization is the same as PM utilization). The calculations based on observed utilization rates are summarized in the following table.

Table 8: Potential Loss in Parking Revenue

Street	Segment	Traffic Direction	# of Spaces	Parking Utilization		# Spaces Eliminated	Projected Estimated Daily Revenue			
				AM %	PM %		AM	Midday	PM	Total
4th St	Spring St to Poplar	West	20	90%	70%	3	\$4.05	\$5.67	\$4.54	\$14.26
	Poplar St to Spruce St	East	5	40%	80%	3	\$1.80	\$2.88	\$1.73	\$6.41
		West	8	38%	88%	3	\$1.69	\$2.96	\$1.85	\$6.50
Loss in Daily Revenue									\$27.17	
Loss in Annual Revenue									\$8,477	

Notes: parking estimates based on enforcement Mon-Fri 8am to 5pm