

Franklin Parking Analysis

Report Prepared for:

The Town of Franklin, North Carolina



Report prepared by:



525 N. Main Street

Waynesville, NC 28786

OVERVIEW

Area of Study

In November, 2013, the Town of Franklin approached J.M. Teague Engineering with a request to analyze and make recommendations concerning the town's on-street parking along Main Street.

The area studied runs along Franklin's Main Street from Patton Avenue west to Harrison Avenue. This area makes up most of Historic Downtown Franklin and contains a dense collection of shops, restaurants, parks, and offices. The area has a large amount of pedestrian activity, encourage by the dense collection of shops.

While the study largely focuses on parking along Main Street, other factors were also examined. Any alteration in parking can alter how people and cars interact with the built environment and these alterations should be taken with care in order to best suit the context and help the residents and businesses that make Downtown Franklin a place to do business, relax, or shop.

This report assesses the current parking situation in Downtown Franklin and puts forth a recommendation to address many of its shortcomings, helping to make Downtown Franklin a safer, more inviting, more vibrant destination for visitors and residents.

Special thanks for this project go to the many helpful business owners and employees in the project area who provided input and welcomed us into their downtown.



PARKING ASSESSMENT

Current Conditions

1.1 Parking

Currently Main Street has a mix of front-angled parking and parallel parking. The majority of parking spots are currently made up of front-angled parking.

The front-angled parking, as currently configured, is unusual— although not unheard of. Parking stalls along Main Street are currently at a 30 degree angle. Traditionally, parking stalls have a 45 or 60 degree angle. The advantage of 30 degree front-angled parking is that it allows more parking spaces along a stretch of road as compared to parallel parking while not protruding as far into the travel lane as 45 or 60 degree angled parking.

The major disadvantage is that 30 degree angled parking requires more linear pavement space per parking space than parallel, 45, or 60 degree angled parking



spaces, which is an inefficient use of the limited space available on Main Street.

The town also has an ordinance that requires all on-street parking to be either parallel or angled at 45 or 60 degrees; current downtown parking is not in compliance with this ordinance.

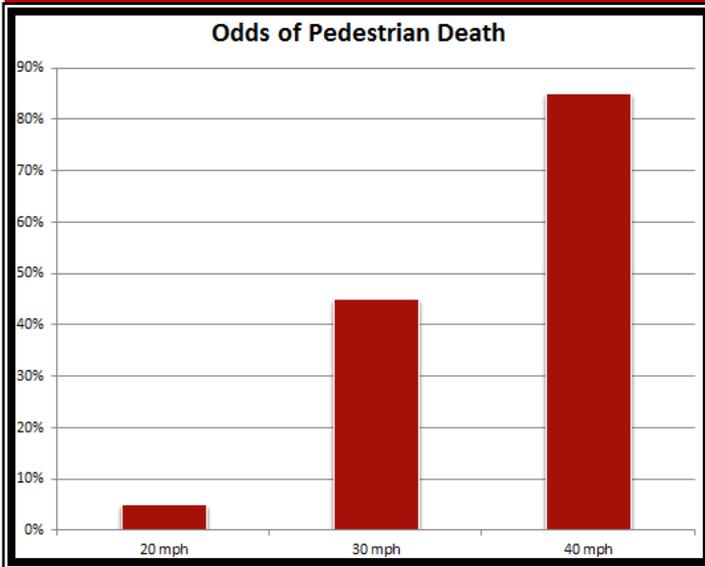
1.2 Traffic Speeds

The posted speed limit along the studied area is 20 miles per hour, as posted near the Town Hall. However, the stretch of Main Street approaching downtown has much higher speeds, and without sufficient traffic calming measures leading into downtown, some cars may not reduce their speed to within the speed limit.

Higher speeds in areas with on-street parking and pedestrians can lead to precarious interactions with both. Parked cars, especially cars backing out of an front-angled parking spot, have limited visibility of what's behind them and are usually forced to back out "blindly" into the travel lane. The faster cars are passing-by, the less safe the situation can be.

Higher vehicle speeds can also deter pedestrians and reduce pedestrian safety in the area. Pedestrians are likely to be less willing to cross a roadway with higher vehicle speeds and the likelihood of a pedestrian-automobile accident causing serious injury— or death- increases with the speed vehicles are traveling.

PARKING ASSESSMENT



1.3 Pedestrian Safety

Pedestrian safety in Downtown Franklin is essential to its success. Customers and visitors need to feel free to travel safely from one store to the next, from one end of the street to the next— wherever their eyes are attracted. Downtown Franklin does a great job of attracting attention to different places and stores, but the path to follow is not always the safest or most inviting.

Besides the safety-risks to pedestrians associated with higher vehicle speeds, the studied area also has a number of crosswalks with crossings of more than 45 feet. Distances of these lengths leave pedestrians in the travel lane for longer periods of time, and can be more taxing and precarious for people who have a harder time walking long distances people to relax and enjoy the downtown.

The sidewalks and pedestrian areas of downtown are otherwise well suited and welcoming to visitors and residents. Benches are placed frequently along the street, inviting visitors to relax and spend more time downtown. Attractive paintings and other streetscape improvements are also placed along Main Street, helping to further draw people into the downtown experience.

However, to fully take advantage of the downtown experience, pedestrian safety needs to be a focus moving forward. Vehicle speeds need to be reduced through traffic calming measures and the safety of crossings need to be improved.



One of downtown's crosswalks which stretches more than 45 feet from sidewalk to sidewalk.

PARKING ASSESSMENT

1.4 Bicycle Safety

Currently, the studied area is poorly suited for bicycles. There are no bicycle lanes or shared-lane markings (sharrows) on Main Street, and parking is poorly suited for interactions with cyclists.

One of the primary concerns is the interaction between front-angled parking and cyclists. As mentioned earlier, when backing out of a space, the driver has limited visibility, causing cyclists to either suddenly veer into the adjacent travel lane or be hit by drivers backing out. Parallel parking and reverse-angled parking allow greater visibility for drivers exiting their spots.

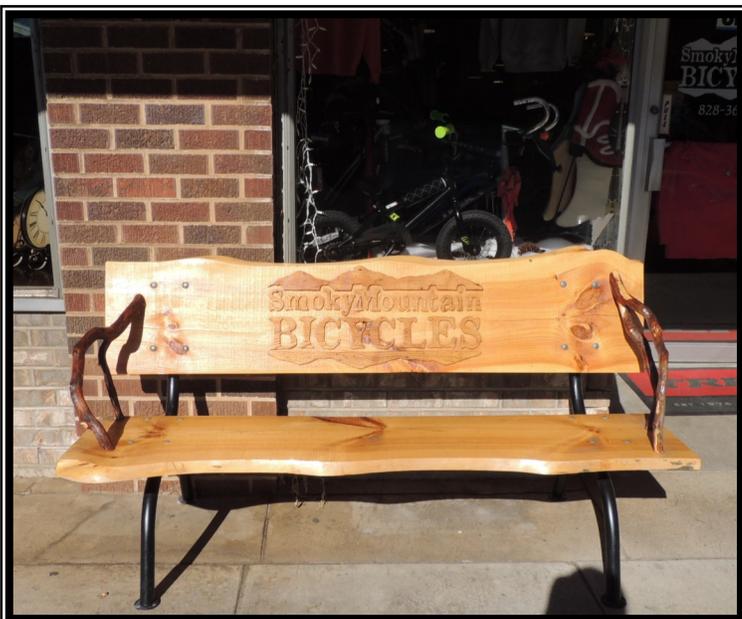
The other concern is that traffic speeds can be relatively high along the stretch of road, making Main Street unwelcoming to potential

cyclists and precarious for those who do use the route for the cycling.

The area should be more of a destination for cyclists. Not even a mile away is Franklin's beautiful greenway and the primary bicycle shop in town is located in the heart of downtown.

Currently, Main Street lacks any kind of bicycle facility— either a bike lane or shared-lane marking. Nearby are bicycle routes, which direct cyclists out of the town, but they begin on side streets and largely avoid the downtown area.

To improve cyclist safety in the downtown area, the town should make an effort to lower vehicle speeds— or better ensure that vehicles are following posted speed limits, install bicycle facilities, and reorient parking for better visibility.



PUBLIC COMMENT

During the course of this study, the JMTE team interviewed many of the business owners, employees, and customers. Many of the people interviewed made similar points about parking in Franklin and their predictions on how businesses would be affected by altering the parking.

Parallel Parking

Parallel parking drew nearly unanimous angst among those interviewed. Many feared that parallel parking would be too difficult for most customers— particularly among senior citizens— and lead to a decrease in business where it was placed as well as an increase in congestion as cars waited for people to park.

The few exceptions that were welcoming to parallel parking noted that many of their customers used off-street parking available near the First Baptist Church off of Iotla Street.

Amount of Parking

One of the fears related to parallel parking was that any alterations would result in a reduction in on-street parking and an adverse effect on business.

Vehicle Speeds

Most people asked about vehicle speeds through Main Street replied that the majority of cars travel at a safe speed, but some will occasionally travel closer to 40 mph.

One employee of a business felt that speeds were too restricted and automobiles should be allowed to go faster.

Pedestrian Safety

Related to vehicle speeds, many respondents said that they felt unsafe while walking at intersections either because of the speed of automobiles or behavior of drivers that made pedestrians feel ignored or threatened. Two store owners noted that they sometimes feel unsafe even when helping load a customer's car parked on Main Street.

Another business owner also observed pedestrians crossing in places without crosswalks.

Bicycle Facilities

The majority of people questioned had favorable views towards the installation of a bike lane or encouraging more cyclists to come downtown, so long as bike facilities would not reduce the number of parking spaces.

One business was very much in favor of the installation of a bike lane.

Reverse-Angled Parking

The majority of people questioned did not know much about reverse-angled parking, but after it was briefly explained, most had a favorable view towards it. The few adverse reactions felt that there was no need to change the parking in general.

RECOMMENDATIONS

JMTE's recommendation helps to make Main Street a more viable place for all road-users. The recommendation also adds more on-street parking to downtown and does so by bringing downtown's parking into compliance with the town's ordinances.

In formulating our recommendation, JMTE had the following goals, garnered from conversations with town officials, downtown merchants, and the principles of complete streets.



GOALS

1. Conserve or increase the amount of on-street parking available on Main Street
2. Improve pedestrian safety
3. Improve accessibility for people with disabilities
4. Provide a Complete Streets design to include all roadway users.

Goal #1: Conserve or Increase the Amount of On-Street Parking Available on Main Street

Our recommendation is to have on-street parking altered to have 45-degree front-angled parking on most of the south side of Main Street and parallel parking on the north side of Main Street. This would bring the total number of on-street parking places along the studied area from 77 to 84: an increase of 7 parking stalls.

45-degree parking allows more parking spaces to go into an allotted space of land and complies with Town Ordinance 45.

Parallel parking is recommended due to the lack of space caused by the 45-degree front-angle parking. 45-degree parking sticks out 15 feet from the curb.

Goal #2: Improve Pedestrian Safety

JMTE understands the importance of pedestrian safety to an area like Downtown Franklin, so to improve safety for pedestrians, JMTE recommends an approach to tackle two issues that affect pedestrian safety:

1. Reduce crossing distances and increase pedestrian visibility at intersections and crosswalks
2. Reduce vehicle speeds

RECOMMENDATIONS

Our recommendation to address each concern is through the installation of 12 bulb-outs along Main Street with 4 other bulb-outs located on Iotla Street. These bulb-outs will be strategically located at intersections and marked pedestrian crosswalks. The bulb-outs help pedestrians get a better view of on-coming traffic, rather than having to “peek” around parked cars, shorten crossing distances, and allow Franklin to install more trees or other landscaped planting to further beautify the area.

These bulbouts will also help to serve as a traffic calming device by bulging out to the perimeter of the traffic lane, acting like a “neckdown.” Lowering traffic speeds will help to make pedestrian activity along Main Street more inviting and less likely to result in a serious or fatal accident.



Goal #3: Improve Accessibility for People with Disabilities

With the large population of retired residents in the area, many of the people who visit Downtown Franklin are senior citizens, often with disabilities. Giving them safe and convenient access to the stores and events around Downtown Franklin is essential.

Our recommendation includes 7 handicapped parking stalls along Main Street which include direct access to a ramp to the sidewalk.

On-street parking is generally not considered “accessible” for people with disabilities, but our option allows the best possible accessibility, considering.

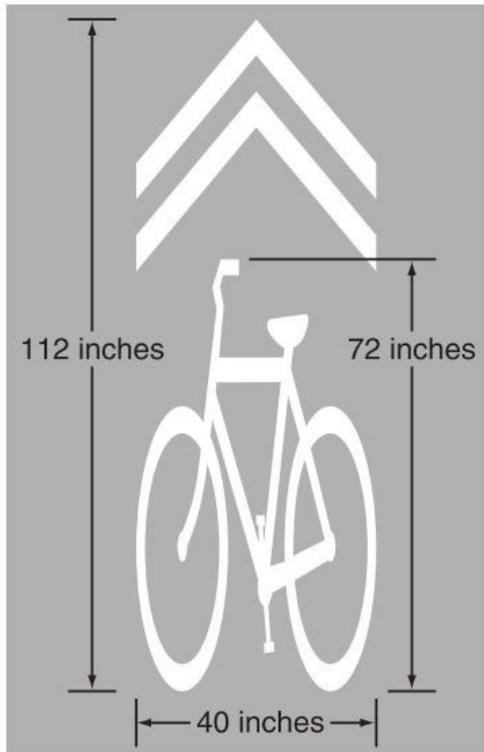
Goal #4: Provide a Complete Streets Design to Include All Roadway Users

JMTE’s recommendation helps to promote the philosophy of complete streets, by taking into consideration all users of the road (automobile, pedestrian, and bicycle.)

One of the key enhancements recommended to Main Street is the installation of Shared-Lane Markings (sharrows.) Sharrows help to improve bicyclist safety by guiding them away from the doors of parked cars, make automobile-users aware of a possible bicyclist’s presence, and give a predictable location as to where the bicyclist will be.

RECOMMENDATIONS

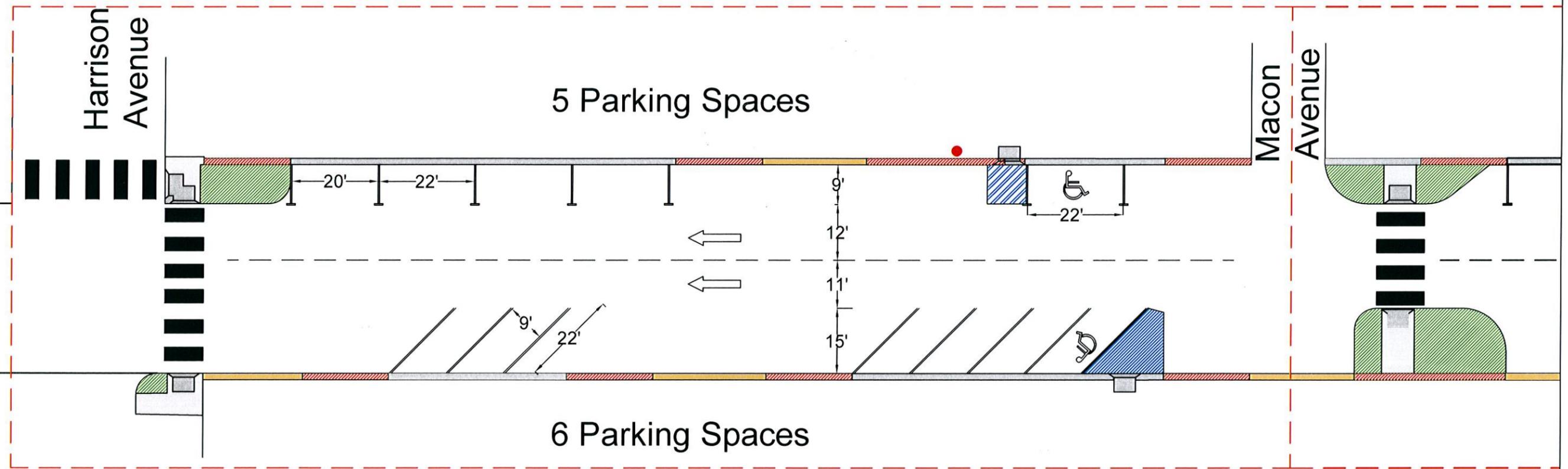
Figure 9C-9. Shared Lane Marking



Sharrows are designed for lower-speed roadways where automobile speeds do not exceed 35 mph. Downtown Main Street currently has a 20 mph speed limit, which will be better followed with bulb-outs installed as traffic calming devices.

The installation of sharrows, along with the already mentioned elements to promote pedestrian safety, help to put this recommendation in-line with complete streets philosophies.

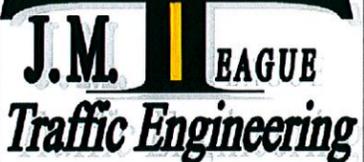
Parking Design for Main Street
 Franklin, North Carolina
 Harrison Avenue to Macon Avenue



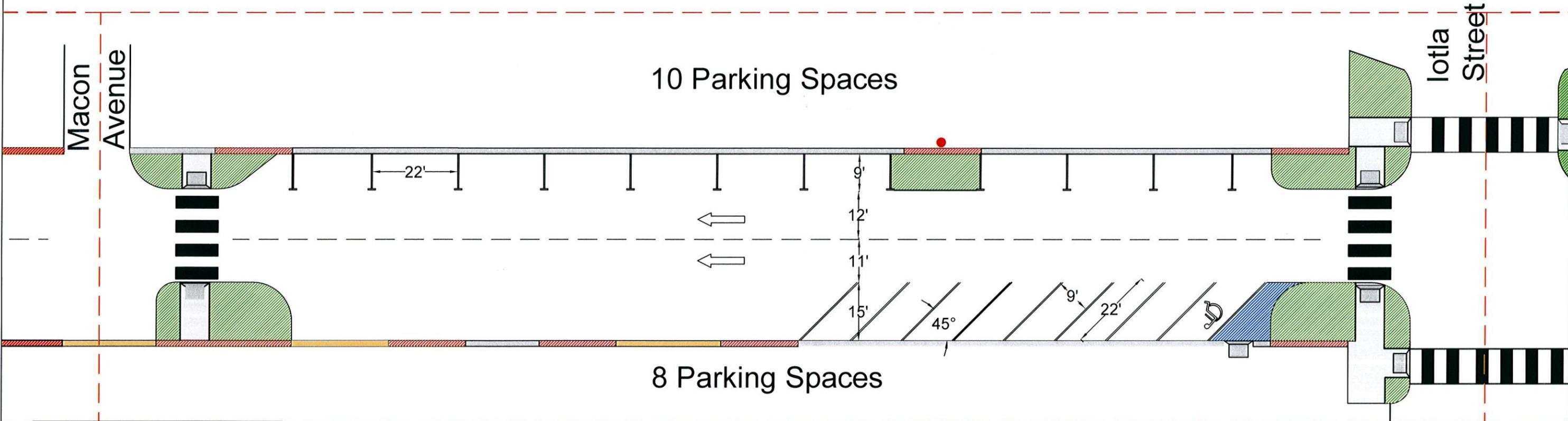
- Green space 
- Handicap Loading 
- Crosswalk 
- No Parking Zone 
- Driveway 
- Fire Hydrant 
- Handicap Parking 
- Curb Ramp 



Not to Scale

Main Street *Harrison Avenue to Macon Avenue* Franklin, NC	Drawn By: C.B. Stimson Date: 01/14/2014 Reviewed: J.M. Teague, P.E. CPM	 525 North Main Street • Waynesville, NC Phone: (828) 456-8383
	Conceptual Parking Design	
	Figure 1	

Parking Design for Main Street
 Franklin, North Carolina
 Macon Avenue to lotla Street



10 Parking Spaces

8 Parking Spaces

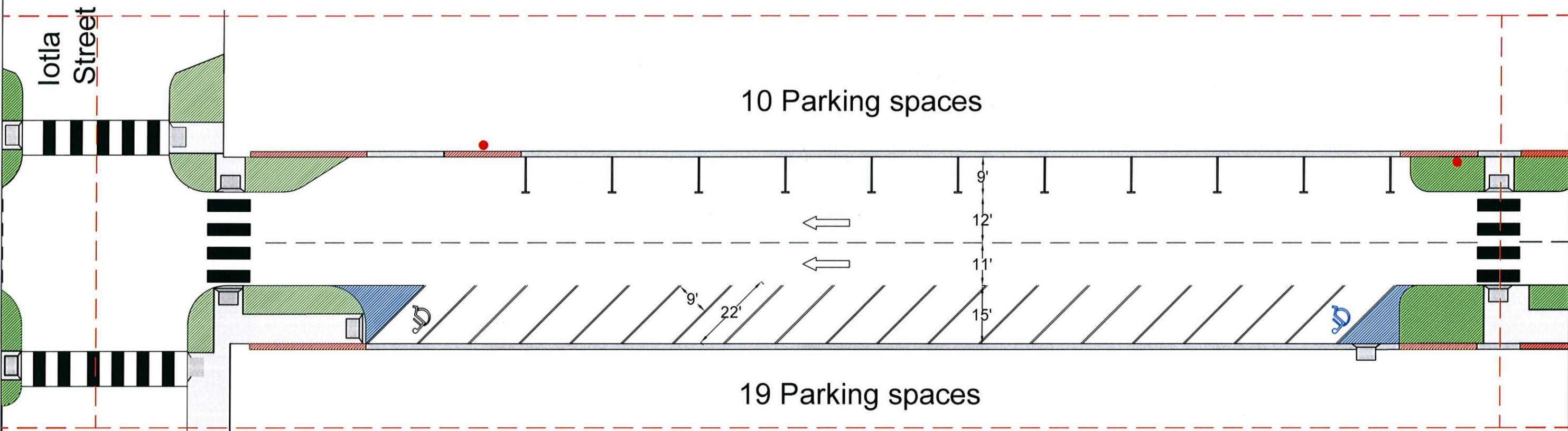
- Green space 
- Handicap Loading 
- Crosswalk 
- No Parking Zone 
- Driveway 
- Fire Hydrant 
- Handicap Parking 
- Curb Ramp 



Not to Scale

Main Street *Macon Avenue to lotla Street* Franklin, NC	Drawn By: C.B. Stimson Date: 01/14/2014 Reviewed: J.M. Teague, P.E. CPM	 525 North Main Street • Waynesville, NC Phone: (828) 456-8383
	Conceptual Parking Design	
	Figure 2	

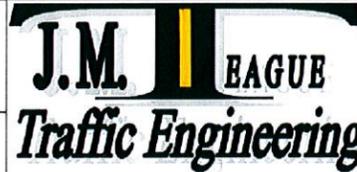
Parking Design for Main Street
 Franklin, North Carolina
 Iotla Street to Mid-block Crosswalk



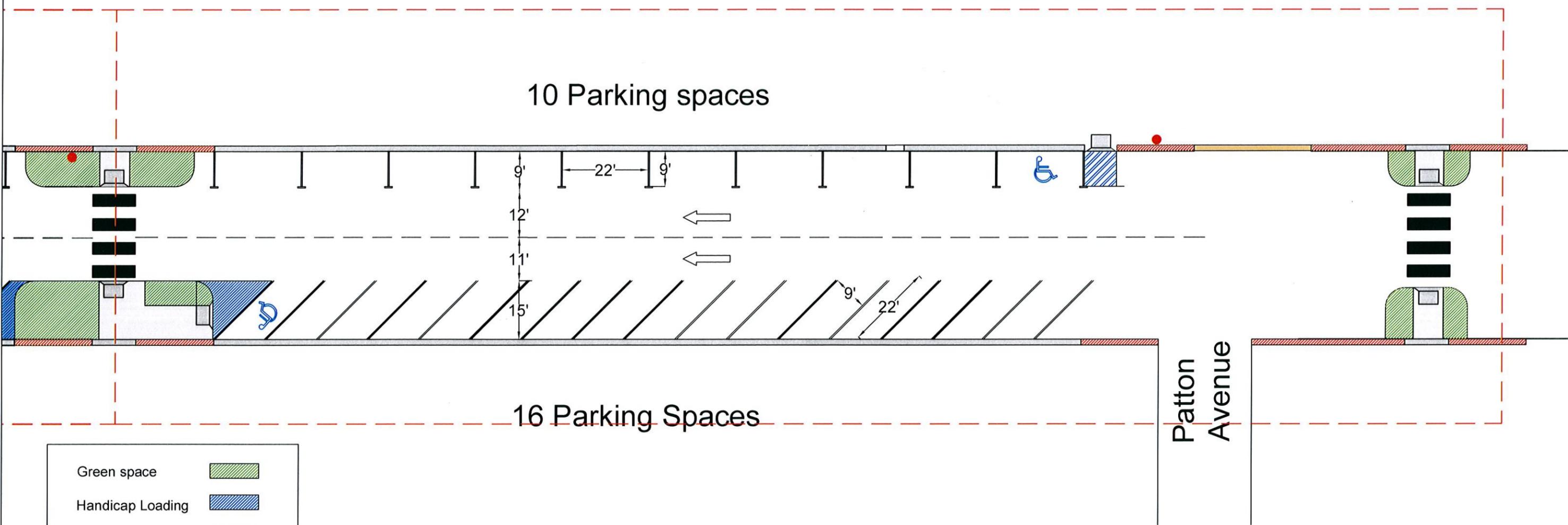
- Green space 
- Handicap Loading 
- Crosswalk 
- No Parking Zone 
- Driveway 
- Fire Hydrant 
- Handicap Parking 
- Curb Ramp 



Not to Scale

Main Street *Iotla Street to Mid-block Crosswalk* Franklin, NC	Drawn By: C.B. Stimson Date: 01/14/2014 Reviewed: J.M. Teague, P.E. CPM	 525 North Main Street • Waynesville, NC Phone: (828) 456-8383
	Conceptual Parking Design	
	Figure 3	

Parking Design for Main Street
 Franklin, North Carolina
 Mid-block Crosswalk to Patton Avenue



10 Parking spaces

16 Parking Spaces

Patton Avenue

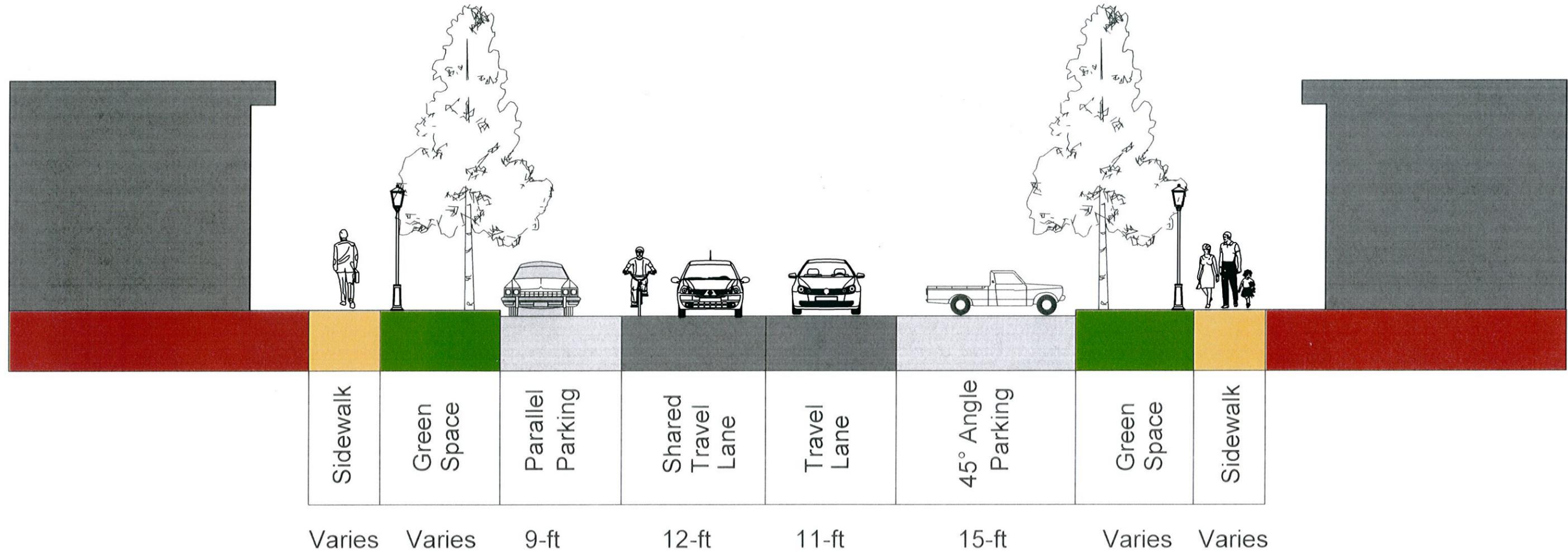
- Green space
- Handicap Loading
- Crosswalk
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- Driveway
- Fire Hydrant
- Handicap Parking
- Curb Ramp



Not to Scale

Main Street * Mid-block Crosswalk to Patton Avenue* Franklin, NC	Drawn By: C.B. Stimson Date: 01/14/2014 Reviewed: J.M. Teague, P.E. CPM	J.M. LEAGUE Traffic Engineering 525 North Main Street • Waynesville, NC Phone: (828) 456-8383
	Conceptual Parking Design	
	Figure 4	

Parking Design for Main Street
Franklin, North Carolina
Cross Section



Not to Scale

<p>"Complete Streets" Design Main Street Franklin, NC</p>	<p>Drawn By: C.B. Stimson Date: 01/14/2014 Reviewed: J.M. Teague, P.E. CPM</p>	 <p>525 North Main Street • Waynesville, NC Phone: (828) 456-8383</p>
	<p>Cross Section</p>	
	<p>Figure 5</p>	

ROUGH COST ESTIMATE

	Quantity	Cost per Unit	Total
Bulbouts	16	\$10,150	\$162,400
Crosswalks	9	\$1,000	\$9,000
Sharrows	5	\$310	\$1,550
Total Cost			\$172,950

ENHANCEMENTS

Parking

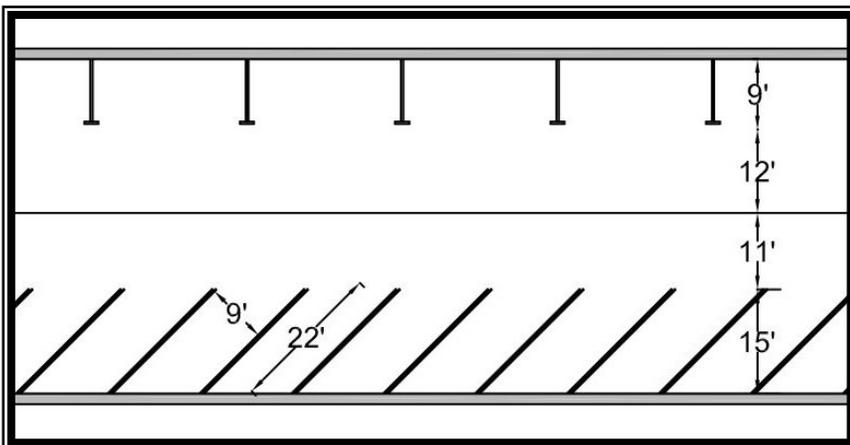
Current



Problems

- ◆ Inefficient use of land
- ◆ Does not conform to Town Ordinances
- ◆ Sometimes unsafe with bikes⁸

Recommendation



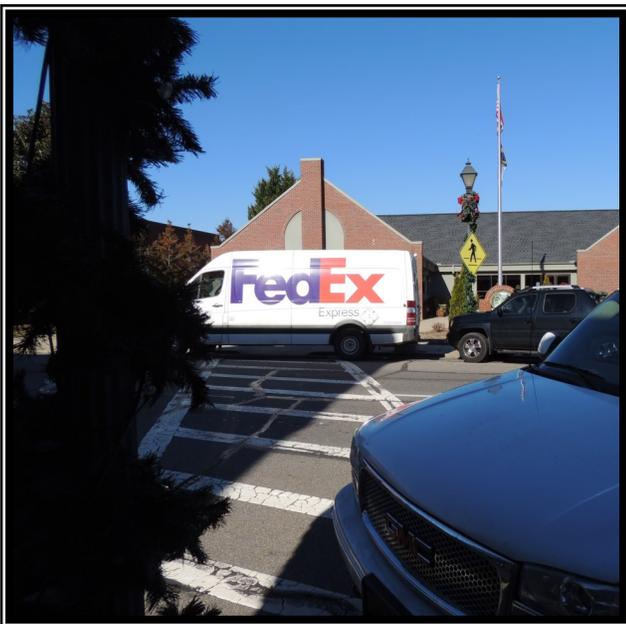
Adjustments

- ◆ Allows more parking than currently available
- ◆ Conforms to Town Ordinances
- ◆ Parallel parking is generally safer with bikes

ENHANCEMENTS

Pedestrian Safety

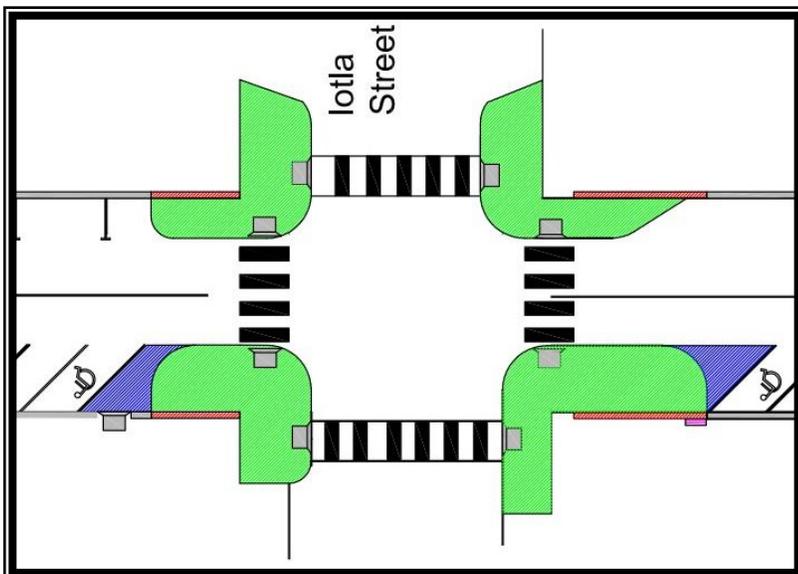
Current



Problems

- ◆ Long crossings at crosswalks 8
- ◆ Crosswalks are often encroached by parked vehicles 8
- ◆ Traffic speeds are sometimes unsafe

Recommendation



Adjustments

- ◆ 6 curb extensions for shorter crossings at crosswalks
- ◆ Curb extensions will help to calm traffic and lower vehicle speeds
- ◆ Curb extensions allow opportunities for green space

ENHANCEMENTS

Handicapped Accessibility

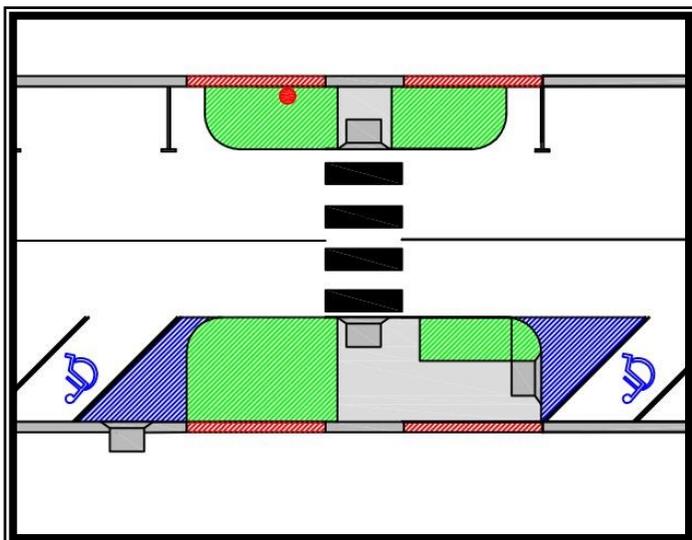
Current



Problems

- ◆ Long crossings at crosswalks
- ◆ Relatively few handicapped spaces

Recommendation



Adjustments

- ◆ 6 new curb extensions to enable shorter crossings at crosswalks
- ◆ 7 handicapped accessible spots

ENHANCEMENTS

Bicycle Safety

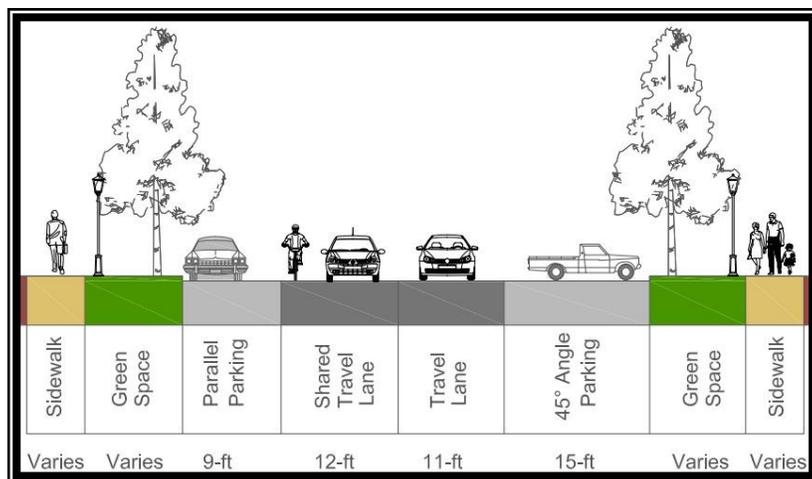
Current



Problems

- ◆ Lack of facilities
- ◆ Unsafe automobile speeds
- ◆ Lack of bicycle network near the bicycle store

Recommendation



Adjustments

- ◆ Installation of Shared-Lane Markings through downtown
- ◆ 6 curb extensions for traffic calming
- ◆ Parallel parking on right side for safer interactions between bikes/parked cars

FURTHER RECOMMENDATIONS

Parking Time Limits

One aspect of Franklin’s parking observed by JMTE was the low turnover. Several cars were parked on the street for several hours—at least—and several shop-owners complained that people often parked in one spot for extended periods without any intention of shopping. During our interviews we found that several employees admitted to parking in front of the stores in which they were working.

The easiest way to deal with this problem, and to make Main Street’s on-street parking more efficient, is to require and enforce time limits on parking. This could be done either through the installation of signs or meters, to be enforced by the Town of Franklin. If the town decides to move forward with installing meters, it is recommended the town undergo further planning through Downtown Parking Demand Study.



FURTHER RECOMMENDATIONS

Bike Network Connectivity

The Town of Franklin has a very attractive, relatively flat greenway along the Little Tennessee River. The greenway is increasingly popular and helps to increase Franklin's attractiveness to potential residents.

One of the complaints heard several times while interviewing people along Main Street was that the Greenway did not go to any destinations and that people did not want to "drive somewhere to be able to bike."

It is our recommendation that some time in the near future, the Town of Franklin study the feasibility of connecting the greenway to downtown. This will help promote some of the safety features of this plan as well as helping to make Franklin a healthier, more attractive place to live and visit.

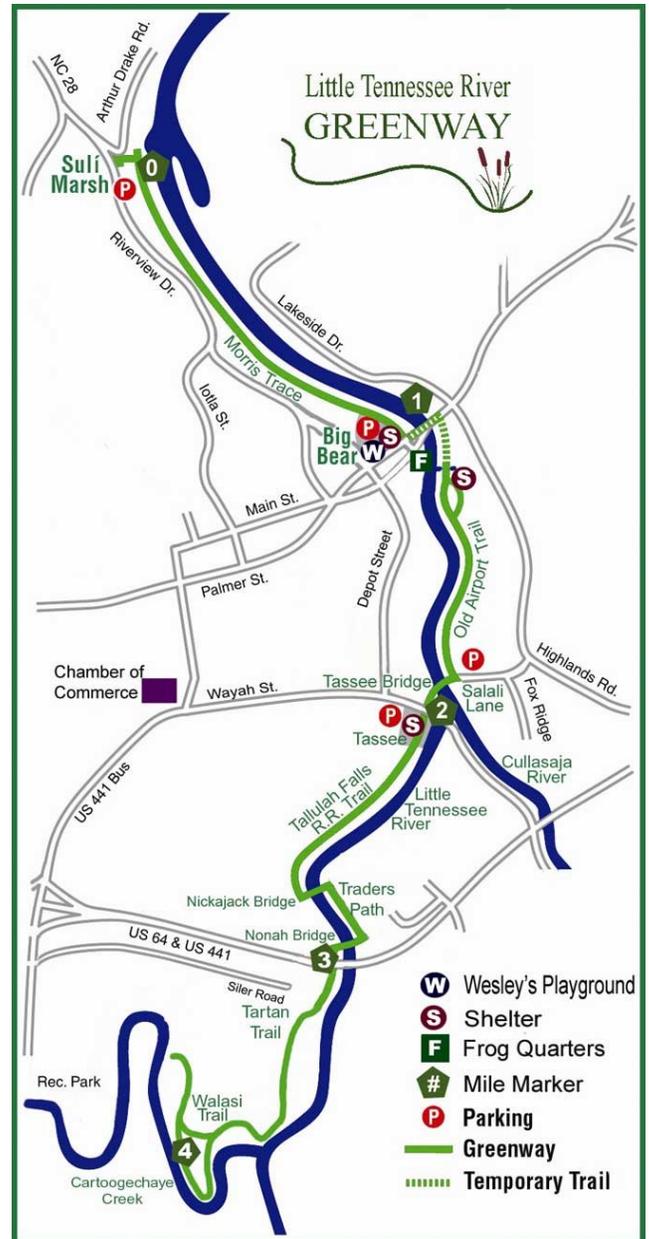
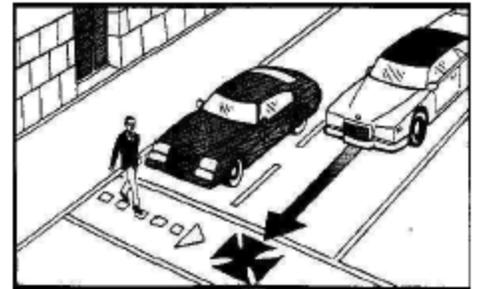


Image: Little Tennessee River Greenway

FURTHER RECOMMENDATIONS

Road Alterations

Main Street's current design, with two lanes traveling in one direction, should be altered at some point in the future to better accommodate bicyclists, pedestrians, and possible sidewalk expansions to better emphasize the downtown experience. A road with two lanes in one direction poses the chance of multi-threat collisions to pedestrians (see diagram below.) Many towns in recent decades have undergone projects to convert one-way roads to accommodate two-way traffic or reduce the number of lanes so there is only one lane traveling in one direction.



A multi-threat collision
Image: FHWA

Roadway improvements of this kind have been referenced in the Macon County Comprehensive Transportation Plan. The plan called for roadway alterations to be made on Main Street approaching and in downtown Franklin to better accommodate pedestrians, bicyclists, and automobiles.

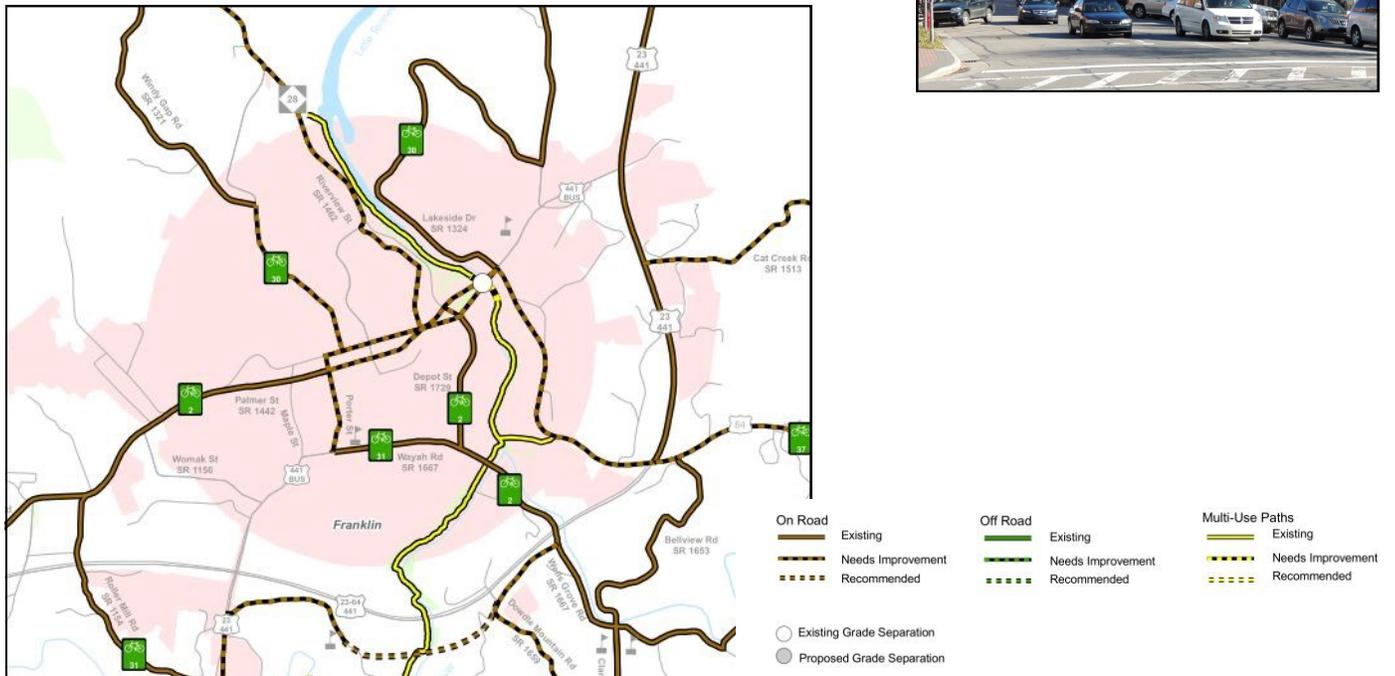


Image: Macon County Comprehensive Transportation Plan