



**CITY OF URBANA, ILLINOIS
DEPARTMENT OF PUBLIC WORKS**

ENGINEERING

MEMORANDUM

TO: Mayor Prussing and Members of the City Council

**FROM: William R. Gray, Public Works Director
Jennifer J. Selby, Civil Engineer**

DATE: May 6, 2010

RE: Main Street Traffic Plan

Introduction

Urbana recognizes downtown as the heart of the City and therefore strives to maintain and improve it as a vibrant and attractive place to shop, work, and live. Maintaining a vibrant and innovative downtown is identified as a City Council and Mayor goal and is a prominent element of numerous City plans and programs.

In order to reach its full potential as a vibrant and attractive economic center, downtown must also be safe and accessible to all modes of transportation. Unfortunately, in recent years, the safety of the intersection of Main Street and Race Street has been raising increasing concerns. This intersection is consistently identified by the Champaign Urbana Urbanized Area Transportation Study as a critical crash intersection for the Champaign-Urbana area. It is a high crash frequency/high crash rate/moderate crash severity intersection with 38 crashes in the past five years. Increased pedestrian activity along Main Street has also raised concerns about the adequacy and safety of Main Street for shoppers, visitors, and workers.

In order to function best as a destination, people must be able to easily get to and move around the downtown. If arriving by car, ample and convenient parking must be available. This issue was addressed in the 2008 Downtown Parking Study. If arriving by foot, the area needs to provide a pedestrian-scaled environment. This issue was addressed in the 2002 Downtown Strategic Plan. If arriving by bicycle, a safe route and convenient parking must be provided. This issue was addressed in the 2008 Urbana Bicycle Master Plan.

The existing safety and roadway condition concerns and completion of these various planning studies have now culminated to a point where options need to be considered to address all of the concerns, as they pertain to traffic flow along Main Street. The purpose of this memo is to inform the Mayor and City Council of various options to be considered to improve safety for drivers, pedestrians, and bicyclists on Main Street between Cedar Street and Vine Street, based on the comments received over the past several years.

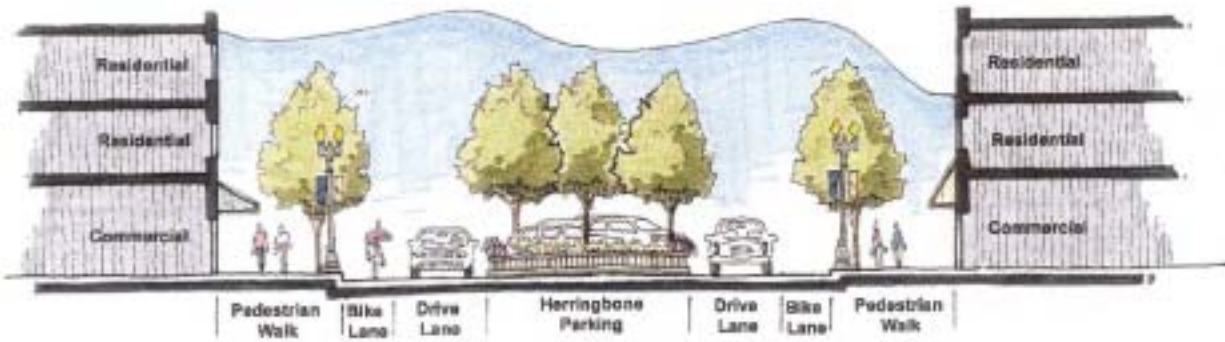
This memo summarizes various plans related to the downtown, provides a history of meetings with City staff and downtown merchants, and presents five cross-section options considered for the segment of Main Street between Cedar Street and Vine Street.

2002 Downtown Strategic Plan

The purpose of the Downtown Strategic Plan was to establish the framework for downtown, create a vision, develop strategies, and produce a final plan. A thirteen member Steering Committee, consisting of downtown property and business owners, was appointed to direct and oversee the work of city staff and the consultant, Camiros, Ltd. Some key points from the plan regarding traffic are summarized below:

- ... the pedestrian-oriented scale and physical character of Main Street should be enhanced...
- Every effort should be made to improve pedestrian safety and the built environment of downtown.
- Consideration should be given to the development of traffic calming measures on Main Street in order to create a better pedestrian environment.
- Bicycle access downtown needs to be improved.
- Downtown streets should be designed to be “bicycle friendly.”
- Pedestrian access should be a major design concern for downtown.
- Parking is a critical use for downtown.
- Input from the Town Hall meeting indicated that more parking could be useful north of Main Street between Race Street and Broadway...

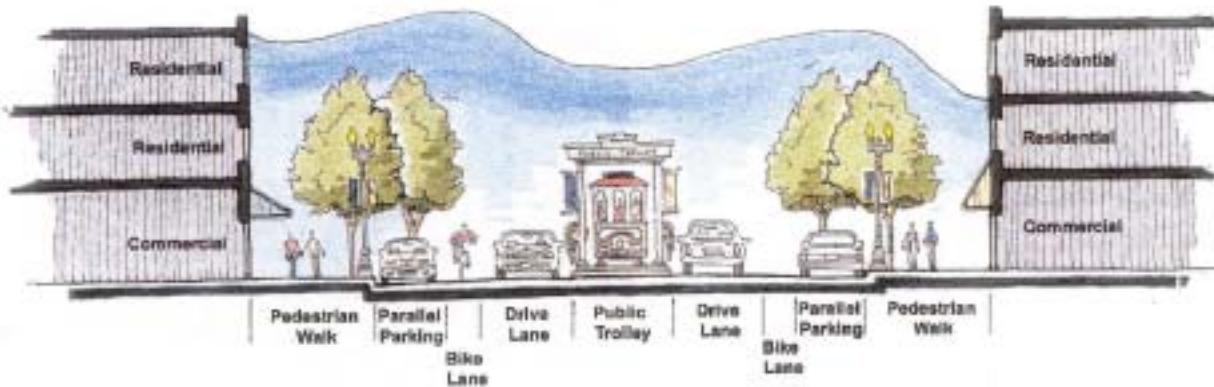
See Figure 19 from the 2002 Downtown Strategic Plan on the following page – note Broadway Avenue title is incorrect, depictions are actually for Main Street



Herringbone Parking Option



Planted Median Option



Public Trolley Option

FIGURE 19:

BROADWAY AVENUE SPECIAL TREATMENT

DOWNTOWN STRATEGIC PLAN Urbana, Illinois

CAMIROS

Planning, Design, Economic Development, Landscape Architecture
111 South Park Street, Chicago, IL 60607 Phone: 312.753.1011

2005 Comprehensive Plan

The 2005 Comprehensive Plan was completed and adopted in the Spring of 2005. The Comprehensive Plan provides goals and objectives by which land use, neighborhood preservation, economic development, transportation, social, environmental and quality of life decisions are made within the City and within 1-1/2 miles of the City limits. The following goals and objectives are related to downtown and traffic:

- Goal 22.0* Increase the vitality of downtown Urbana as identified in the Downtown Strategic Plan and Annual Action Plan.

- Goal 41.0* Promote access to employment opportunities for all Urbana residents.
Objective 41.3 Provide pedestrian and bicycle connections to employment centers.

- Goal 44.0* Provide for the safe, efficient, and cost-effective movement of people and goods within, through, and around the City.
Objective 44.2 Reduce the number and severity of pedestrian, bicycle, and vehicular crashes.

- Goal 46.0* Improve access to transportation modes for Urbana residents.
Objective 46.1 Work to improve pedestrian, bicycle, and transit access throughout Urbana.

- Goal 47.0* Create a multi-modal transportation system.
Objective 47.7 Promote bicycle/pedestrian access to major activity centers.

- Goal 49.0* Avoid development patterns that can potentially create an over-dependency on the automobile.
Objective 49.1 Promote alternatives to automobile travel, through provision of sidewalks, pedestrian access, bicycle pathways, and high quality transit service.

Urbana Bicycle Master Plan

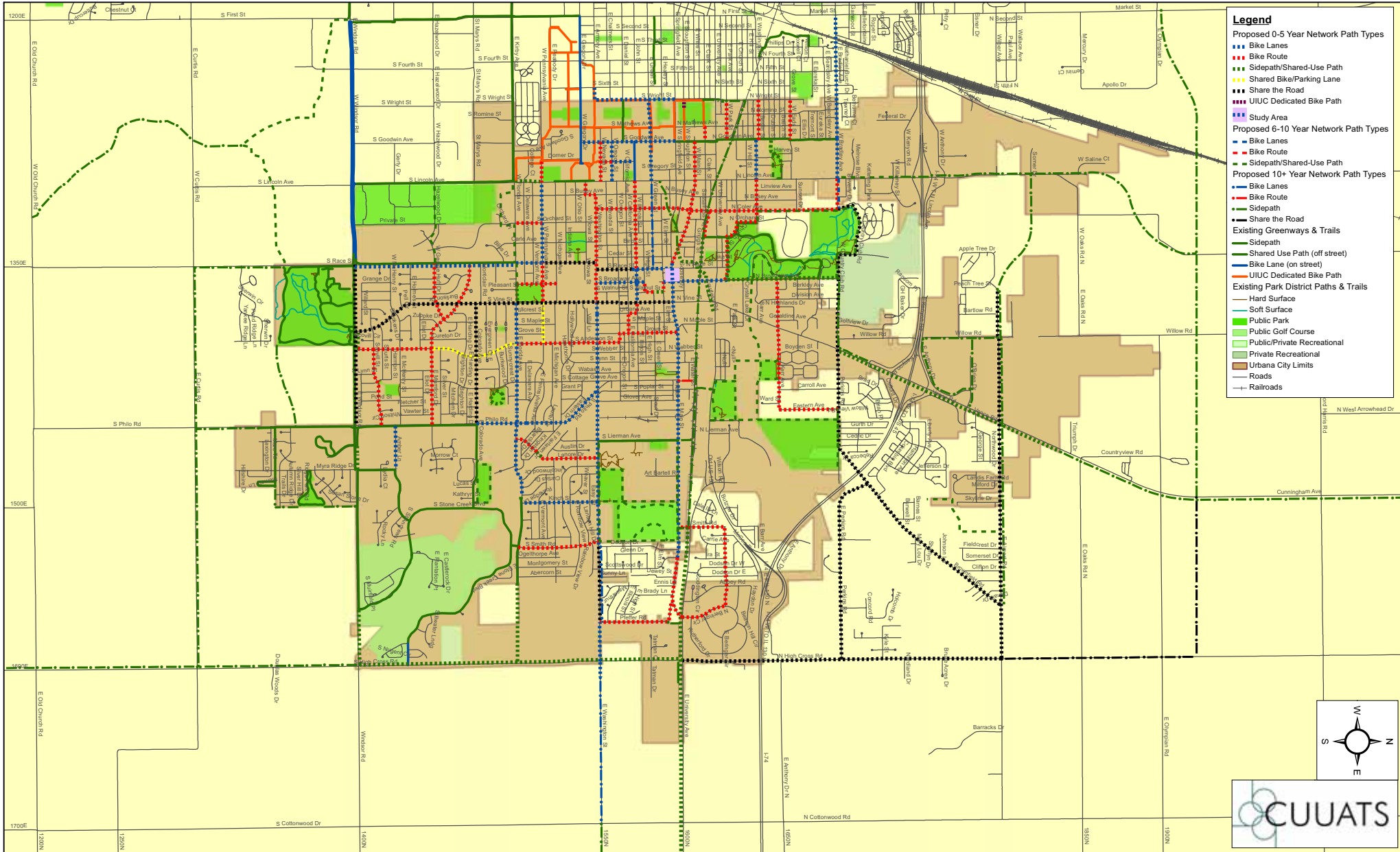
The City Council adopted the Urbana Bicycle Master Plan as an official element of the 2005 Urbana Comprehensive Plan in April of 2008. Prepared by the Champaign County Regional Planning Commission, the award-winning Bicycle Master Plan defines a bicycle network that, when implemented, will provide a safe, efficient, and practical travel option for all residents in and visitors to the city. The Plan was guided by a steering committee of community stakeholders and also involved an extensive public involvement component. Some key points from the plan regarding traffic are summarized below:

- The Main Street corridor was the second most requested corridor for bicycle facilities in the City at the first public meeting.
- Desirable destinations by bicycle mentioned at the first public meeting included Downtown Urbana, Market at the Square, Lincoln Square and the Urbana Free Library.
- Main Street meets all of the characteristics identified in the plan as a good location for bicycle facilities including: continuous; direct; serves destinations; highly requested by the public; sufficient width; good crossings at busy roads; not a brick street; and not many stops or turns.
- The Bicycle Master Plan proposed bike lanes on Main Street from Cedar Street to Scottswood Drive.
- These bike lanes are only one segment of a bicycle system on Main Street that runs from Lincoln Avenue at the west end to University Avenue at the east end.
- The Bicycle Master Plan recognized that the Downtown Parking Study was not yet complete and therefore the segment of Main Street from Race Street to Broadway Avenue was designated as a study area.
- Main Street was ranked in the top 5 of the top 10 projects the public wanted to see completed in the 5 year timeframe
- Main Street was ranked in the top 2 of the top 5 bicycle projects the public wanted to see completed by area.

See Figure 8.1 – Recommended Bicycle Network as well as pages 8-37 through 8-40 – Main Street Corridor Bicycle Network Recommendations from the Urbana Bicycle Master Plan on the following pages.

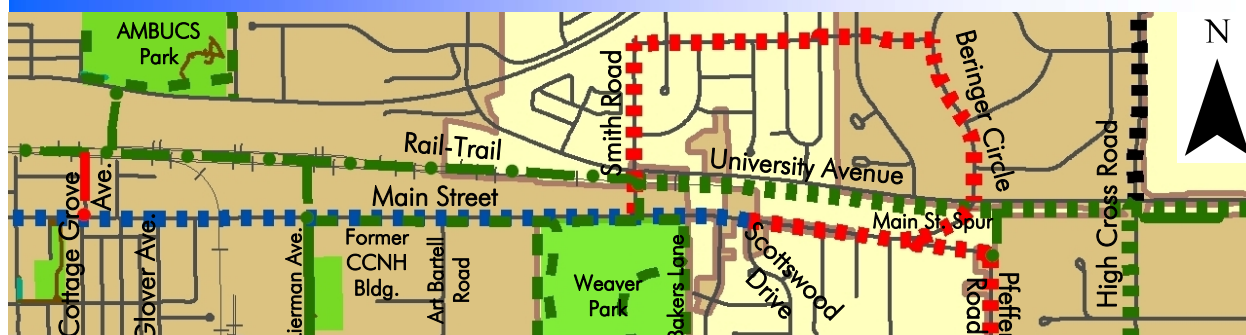


Figure 8.1: Recommended Bicycle Network





8.1.34 Main Street Corridor



Main Street Spur

- See Beringer Circle (Section 8.1.4) for continuation of bicycle facilities north of University Avenue (US 150).
- See Section 8.5.3 for recommendations on improving crossing safety at University Avenue (US 150).
- University Avenue-Main Street: Bike Route.
 - Destinations: Beringer Circle (EB), Main Street (WB)

Main Street

- Pfeffer Road-Scottswood Drive: Bike Route. Coordinate with the County.
 - Destinations: Pfeffer Road (EB), Rail-Trail (EB), Weaver Park (WB)
- Scottswood Drive to the former Champaign County Nursing Home building: Bike Lanes. Remove semi-raised median upon road reconstruction. Road Diet will create 2 travel lanes and a continuous center turn lane.
 - Destinations: Weaver Park (EB & WB), Smith Road (EB & WB)



Figure 8.74:
Existing View: Main Street east of Art Bartell Road

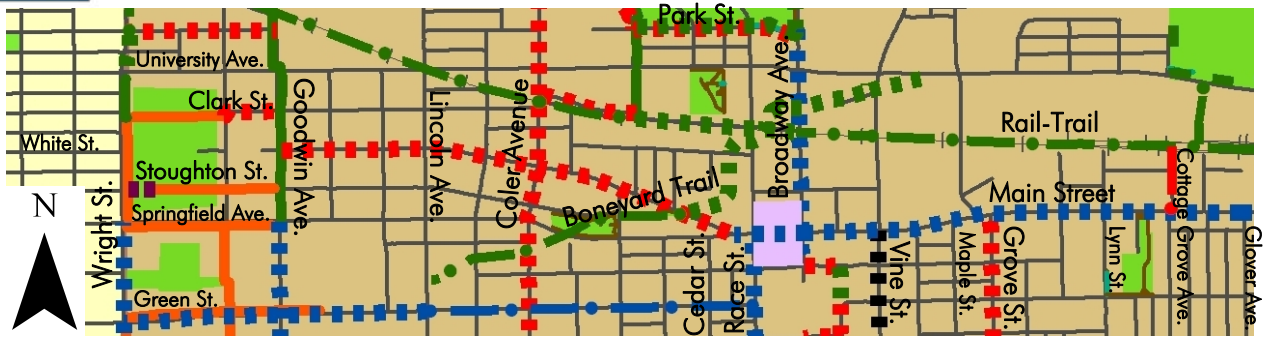


Figure 8.75:
Future View: Main Street east of Art Bartell Road

- Bakers Lane-Lierman Avenue: Sidepath on south side of the road. Widen sidewalk where it exists to an 8' shared-use path. See Section 8.1.10 (Champaign County East Campus Loop Path).
- Former Champaign County Nursing Home building to Glover Avenue: Bike Lanes.
 - Destinations: Weaver Park (EB), Lierman Avenue (EB & WB), Solo Cup Factory (EB & WB), Victory Park (WB), Downtown (WB)



Bicycle Network Recommendations



- Glover Avenue-Maple Street: Bike Lanes with parking on the south side of the street only. Keep right turn lane at Cottage Grove Avenue.
 - Destinations: Weaver Park (EB), Solo Cup Factory (EB), Victory Park (EB & WB), Grove Street (WB), Downtown (WB)

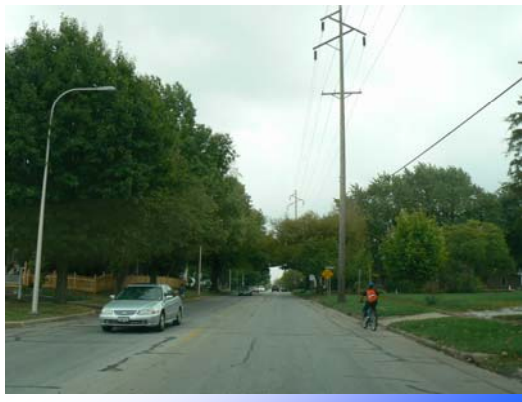


Figure 8.76:
Existing View: Main Street east of Lynn Street, approaching Cottage Grove Avenue

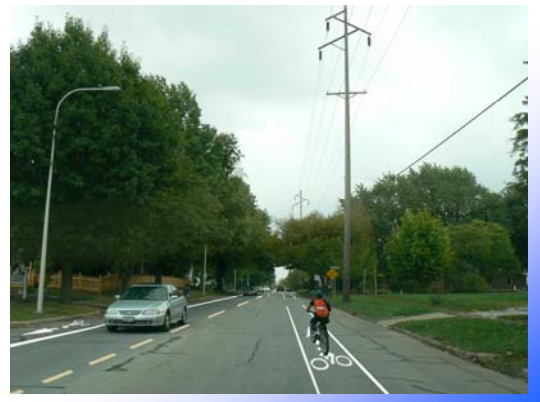


Figure 8.77:
Future View: Main Street east of Lynn Street, approaching Cottage Grove Avenue

- Maple Street-Vine Street: Bike Lanes. Road Diet will create 2 travel lanes and a continuous center turn lane. There is sufficient room to carry bike lanes through the intersection at Vine Street. Keep the westbound right turn lanes.
 - Destinations: Grove Street (EB), Victory Park (EB), Downtown (WB)

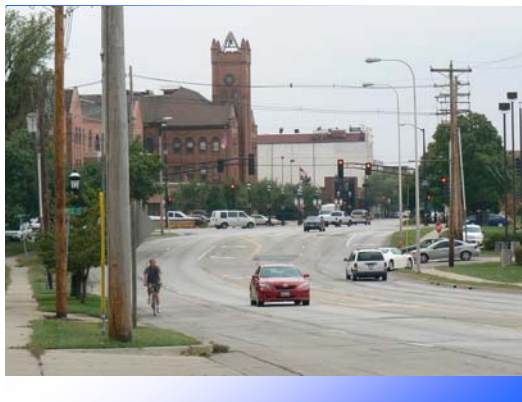


Figure 8.78:
Existing View: Main Street west of Grove Street, approaching Vine Street

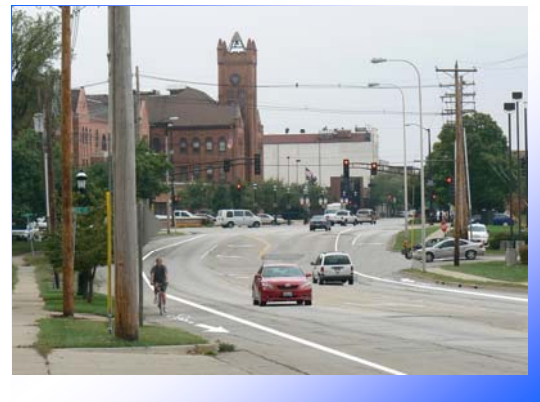


Figure 8.79:
Future View: Main Street west of Grove Street, approaching Vine Street

Bicycle Network Recommendations



- Vine Street-Broadway Avenue: Bike Lanes with parking on both sides of the street. Road Diet will create 2 travel lanes and a continuous center turn lane.
 - Destinations: Victory Park (EB), Champaign County Courthouse (EB & WB), Downtown (WB)
- Broadway Avenue-Race Street: Bike Lanes with parking on both sides of the street. Road Diet will create 2 travel lanes and left turn lanes at Broadway Avenue and Race Street. While this recommendation is based on the guidelines used to select the roadways to be part of the proposed bicycle network (Chapter 5), as well as public input, the recommendation may or may not be implemented depending on the results provided by a parking study currently being completed for Downtown Urbana. As a consequence, this area is shown on Figures 8.1 and 8.2 as a study area.
 - Destinations: Champaign County Courthouse (EB), Campus (WB)

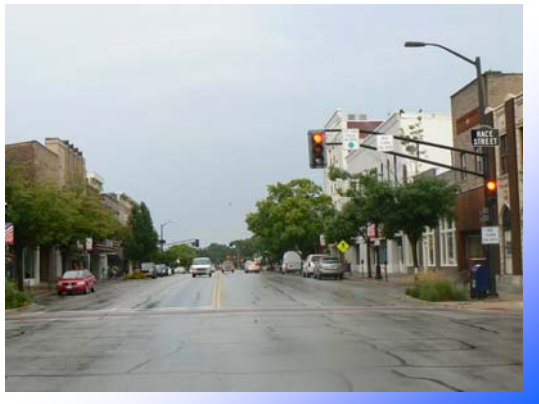


Figure 8.80:
Existing View: Main Street east of Race Street

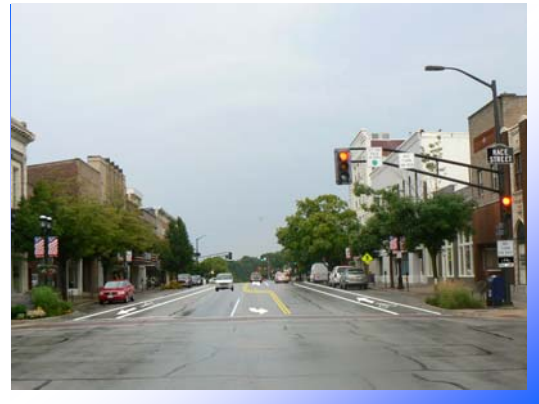


Figure 8.81:
Future View: Main Street east of Race Street

- Race Street-Cedar Street: Bike Lanes with parking on both sides of the street. Configuration to be determined.
 - Destinations: Downtown (EB), Champaign County Courthouse (EB), Campus (WB)
- Springfield Avenue-Cedar Street: Bike Route. See Section 8.5.1 for recommendations on improving crossing safety at Lincoln Avenue.
 - Destinations: Downtown (EB), Coler Avenue (EB & WB), Campus (WB), Goodwin Avenue (WB)

Main Street corridor through the University of Illinois Engineering Campus

Use the Goodwin Avenue sidepath to access either the Clark Street corridor to the north, or the Stoughton Street corridor to the south. On-road travel is one-way east only on Clark Street between Goodwin & Mathews Avenues. Use the existing Wright Street University bike path to continue west to Champaign. The Main Street corridor continues as White Street in Champaign, and the City of Champaign Transportation Master Plan designates that street as a Bike Route in its Bicycle Vision Plan, leading to Downtown Champaign.

Clark Street corridor

- Clark Street (Goodwin Avenue-Mathews Avenue): Bike Route. Travel is one-way east only.
 - Destinations: Goodwin Avenue (EB)
- Clark Street corridor (Mathews Avenue-Wright Street): Existing 8' concrete path through the Oval Allee, separate from pedestrian sidewalk.



Bicycle Network Recommendations

Stoughton Street corridor

- Stoughton Street (Goodwin Avenue to west terminus UI Nanotechnology Building): Existing 6'-8' contraflow University bike path in the north side of the road.
- Stoughton Street corridor (west terminus of Stoughton Street to UI Nanotechnology Building): Existing University bike path.
- Stoughton Street corridor (UI Nanotechnology Building to Wright Street): Stripe the University bike path through the parking lot to Wright Street. Coordinate with the University.



Figure 8.82:
Existing View: Stoughton Street bike path west of UI Nanotechnology Building, approaching Wright Street



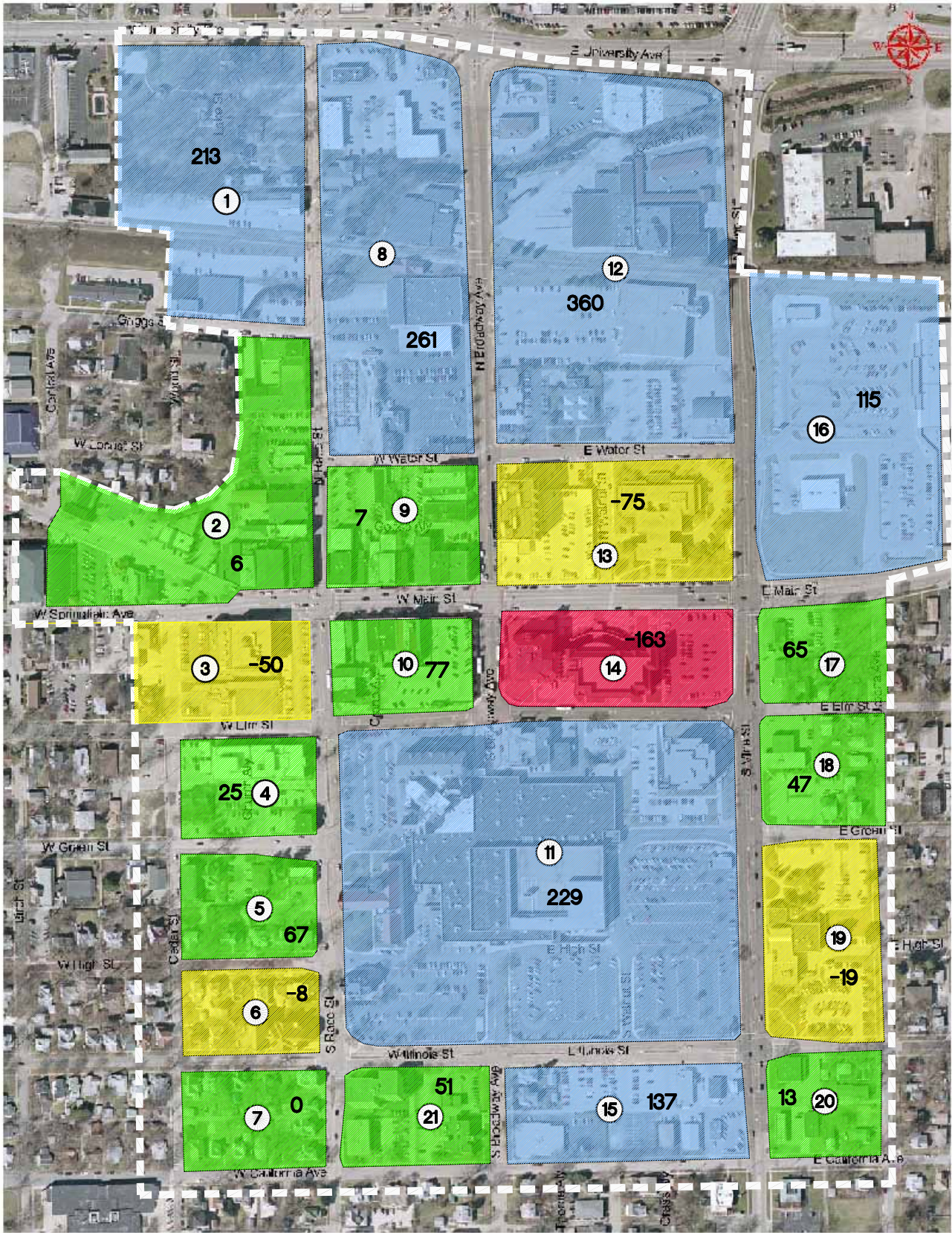
Figure 8.83:
Future View: Stoughton Street bike path west of UI Nanotechnology Building, approaching Wright Street

Downtown Parking Study

A Downtown Parking Study was initiated in 2008 to aid in examining how parking interrelated to other planning efforts for transportation and urban development/redevelopment, through quantitative assessment and stakeholder input. Specifically, parking adequacy, and operations were examined from a variety of aspects to address whether current parking satisfied demand, whether changes to the existing parking operation were needed to improve function, and what impact future development and re-development in the community would have on the parking supply. The study was completed by Rich and Associates and was overseen by Urbana City staff, with periodic assessment and input by a Steering Committee made up of stakeholders, staff, elected officials and business owners from the downtown area. The City Council accepted the parking study as complete in October of 2008. Some key points from the study are summarized below:

- There are a total of 4,569 parking spaces in the study area. 158 (or 3%) are on-street spaces and 4,411 (or 97%) are off-street spaces. 2,020 (or 44%) are public and 2,549 (or 56%) are private.
- Over half of the stakeholders interviewed felt that Downtown Urbana does not have enough parking.
- The parking field work, analysis, and supply and demand maps revealed that, for the most part, Downtown Urbana has adequate parking. However, there are areas that have shortfalls of parking.
- The surplus/deficit maps the block of Main Street between Race Street and Broadway Avenue show a surplus of available parking for the current conditions, 5 year projection, and 10 year projection.
- The recommended methods for addressing the short-term parking-needs outlined in the study are through measures such as:
 - Promoting bicycle activity downtown through installation of bike racks and participation in bike events.
 - Enhancing the pedestrian environment by: providing lighting, landscaping, murals, and window decorations; minimizing lots and large breaks between buildings; adding way-finding; and differentiating crosswalks.
 - Converting parallel parking to angled parking. The benefits of diagonal parking have been found in most instances to outweigh the potential problems.
 - Developing way-finding signage with consistent themes and colors for the signs.
 - Developing promotional materials to provide information relating to the parking system such as location, up-coming changes, regulations.
 - Changing some of the parking regulations and using enforcement techniques to create higher turnover of the on-street parking stalls.
- In the long-term, the study recommends considering building a second parking structure near Water Street between Race Street and Vine Street.

See Maps 6, 7 and 8 from the Downtown Parking Study on the following pages



**PARKING STUDY
FOR THE CITY OF
URBANA**

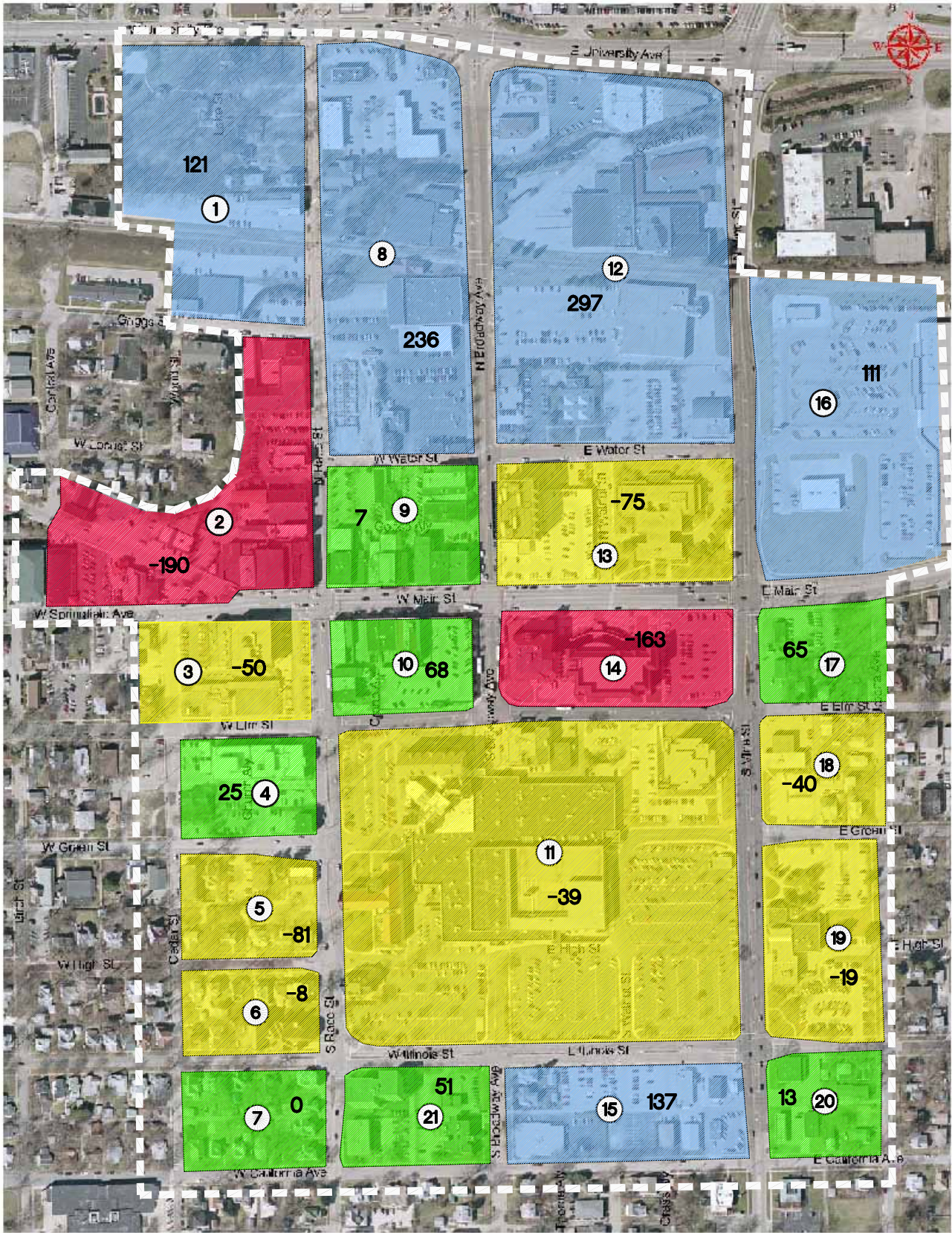
URBANA, ILLINOIS

**SURPLUS - DEFICIT
CURRENT**

KEY	
■	-100 +
■	-99 - -1
■	0 - 99
■	+100



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MAP 6 - PAGE 19



**PARKING STUDY
FOR THE CITY OF
URBANA**

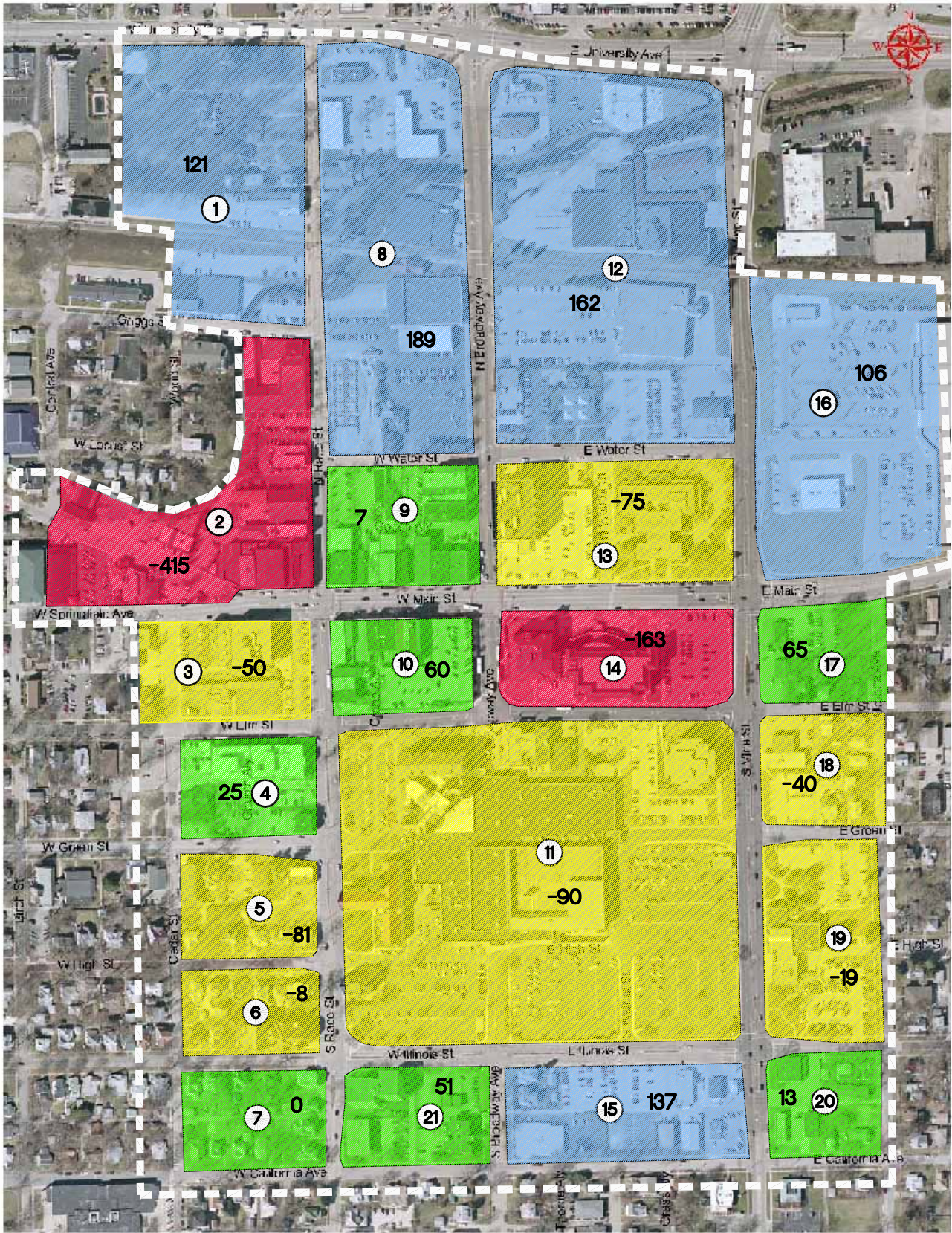
URBANA, ILLINOIS

**SURPLUS - DEFICIT
5 YEARS**

KEY	
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Yellow	-99 - -1
Green	0 - 99
Blue	+100



SCALE: NTS
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FILE:
DATE: 10-06-09
MAP 7 - PAGE 20



**PARKING STUDY
FOR THE CITY OF
URBANA**

URBANA, ILLINOIS

**SURPLUS - DEFICIT
10 YEARS**

KEY	
Red	-100 +
Yellow	-99 - -1
Green	0 - 99
Blue	+100



SCALE: NTS
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MAP 8 - PAGE 21

Angled Parking – Research

Since the completion of the Downtown Parking Study, and in response to downtown business owner's requests to identify ways to add more parking to the Main Street area, the City has been evaluating the possibility of adding angled parking downtown through research into best practices and design for angled parking. These efforts are summarized below:

Public Works engineering staff researched two Institute of Transportation Engineers journal articles regarding angled parking.¹ The conclusion of the first article was that when curb parking is allowed, parallel is substantially safer than angled. The second article stated that factors such as street classification, traffic volumes, speed limit, street width, and presence of transit should be considered to determine if a street is a good candidate for angled parking. This same article acknowledged the need to provide more convenient on-street parking for downtown businesses, listed the benefits of angled parking, and gave examples of successful parallel to angled parking conversions. From these articles, staff developed minimum standards for streets if angled parking will be allowed on that street, taking into account the street classification, traffic volumes, speed limit, street width, and presence of transit. A memo summarizing the research and listing the minimum standards was presented to the City Council at their Committee of the Whole meeting on January 23, 2009. A portion of that memo follows:

Based on the research performed, engineering staff believes that angled parking is a possibility on City Streets. However, we do not feel it is appropriate on all streets. Therefore, staff developed the following minimum standards for streets if angled parking will be allowed on that street:

- ✓ *ADT < 3,000*
- ✓ *25 mph posted speed limit*
- ✓ *Not a bus route*
- ✓ *Minimum street widths:*
 - *60' for 2 angled parking lanes (18' each) & 2 driving lanes (12' each)*
 - *50' for 1 angled parking lane (18'), 2 driving lanes (12' each) & 1 parallel parking lane (8')*
 - *42' for 1 angled parking lane (18') & 2 driving lanes (12' each)*
 - *32' for angled parking on one side of a one-way street (18' + 14')*

In Downtown Urbana, the only streets that meet these criteria are:

- *Walnut Street between Vine Street and Water Street*
- *Water Street between Vine Street and Broadway Avenue*

¹ Paul C. Box, "Angle Parking Issues Revisited, 2001", *Institute of Transportation Engineers. ITE Journal*, March 2002. John D Edwards, "Changing On-Street Parallel Parking to Angle Parking", *Institute of Transportation Engineers. ITE Journal*, February 2002.

Also in January of 2009, staff researched historical documents, specifically, a 1960 report prepared by Harland Bartholomew & Associates titled *A Major Street and Highway Plan for the Champaign-Urbana Urbana Area*. At that time, angled parking existed on Main Street between Cedar Street and Bennett Avenue. The report stated that the angled parking presented a “severe potential accident hazard to vehicular traffic” and suggested circulating traffic around Main Street. The study went on to say that if the traffic was not reduced on Main Street, it would be necessary to remove the angled parking. The angled parking was removed at some point after this report was released.

Angled Parking – Meetings

In recent months, the City has met with downtown merchants regarding the issue of providing angled parking downtown. These efforts are summarized below:

In October of 2008, Public Works staff presented four exhibits to several downtown merchants at a meeting at the Urbana Business Association office. These exhibits included: 1) Main Street road diet between Cedar Street and Vine Street with bike lanes; 2) Main Street road diet with angled parking on the north side of the street; 3) angled parking on Water Street and Walnut Street; and 4) a bike lane detour from Main Street to Elm Street.

In January of 2010, a meeting was held at the Civic Center to discuss angled parking and bike lanes. This meeting included a computer simulation of the proposed Main Street road diet by the Champaign County Regional Planning Commission, a presentation by Public Works staff summarizing the Bicycle Master Plan, and a presentation by Community Development staff about the economic benefits of a road diet downtown. The floor was opened for questions and answers at the end of the meeting and many business owners expressed their opposition or support for a proposed road diet with bike lanes project. In general, the merchants were supportive of the road diet, but several did not want the bike lanes on Main Street.

Main Street Traffic Plan

From the various plan processes and meetings described above, the following list of objectives has been developed to help guide the improved safety and functionality of the downtown, and of Main Street in particular:

- Improve safety for all mode choices – pedestrians, bicyclists, transit, and vehicles.
- Upgrade traffic signals to fully actuated with audible pedestrian signals and countdown timers, particularly at Main Street and Race Street.
- Improve circulation and access for all users.
- Improve signage and way-finding.
- Calm traffic.

In addition, any changes to the traffic pattern should:

- Preserve on-street parking
- Accommodate deliveries
- Not increase travel times or delays.

Options Considered

Based on the objectives expressed above, five options for the striping on Main Street from Cedar Street to Vine Street are presented and analyzed as follows. These options are described below and a table summarizing the pros and cons of each option follows.

Option 1: No change

See Exhibit 1 attached

The first option is to keep the existing street cross-section as-is. The segment between Race Street and Broadway Avenue would have two 8-foot wide parking lanes, and four 11.5-foot wide vehicle lanes.

This option is not recommended by staff because it does not address the objectives identified above to enhance the downtown, including improvements to safety.

Option 2: Angled Parking

See Exhibits 2A, 2B & 6 attached

Cedar Street to Race Street: The existing parallel parking on both the north and south sides of the street would remain. The existing median would be expanded with striping. An eastbound to northbound left turn lane would be created at Race Street. The existing eastbound to southbound right turn lane at Race Street would be removed. Bike lanes would be added in each direction.

Race Street to Broadway Avenue: The existing parallel parking on the north side would be converted to angled parking. Option 2A shows back-in angled parking and Option 2B shows head-in angled parking. Larger bump-outs would be constructed at the mid-block crossing and at the northwest corner of Main Street and Broadway Avenue. A westbound to southbound left turn lane would be created at Race Street and an eastbound to northbound left turn lane would be created at Broadway Avenue. The existing parallel parking on the south side would remain as-is. Bicycle traffic would be directed to route around the block to Elm Street.

Broadway Avenue to Vine Street: The existing parallel parking on the north side of the street would remain. A westbound to southbound left turn lane would be created at Broadway Avenue. A raised median would be constructed at the mid-block crossing at Walnut Street. The existing eastbound to northbound left turn lane at Vine Street would remain and an eastbound to southbound right turn lane would be created at the intersection. Bike lanes would be added in each direction.

This option is not recommended by staff because the traffic volumes, speeds, and presence of transit on Main Street make it unsuitable for the addition of angled parking. This option would

also pose the greatest problems for the accommodation of on-street loading. It should be noted that Urbana Fire department staff is not in support of this option due to the potential for delayed response times for fire calls on Main Street and elsewhere in Urbana. It is the only option (other than “do nothing”) that could result in complete lane blockage due to parking maneuvers. Main Street is a common travel route for emergency vehicle access from the main Fire Station to locations on campus and in West Urbana. Other possible locations for angled parking are addressed later in this memorandum.

Option 3: Wide Lanes

See Exhibits 3 & 6 attached

Cedar Street to Race Street: The existing parallel parking on both the north and south sides of the street would remain. The existing median would be removed. An eastbound to northbound left turn lane would be created at Race Street. The existing eastbound to southbound right turn lane at Race Street would remain. Bike lanes would be added in each direction.

Race Street to Broadway Avenue: The existing parallel parking on both the north and south sides of the street would remain. The through vehicle lane in each direction would be 17 feet wide. A westbound to southbound left turn lane would be created at Race Street and an eastbound to northbound left turn lane would be created at Broadway Avenue. Bicycle traffic would be directed to route around the block to Elm Street.

Broadway Avenue to Vine Street: The existing parallel parking on the north side of the street would remain. A westbound to southbound left turn lane would be created at Broadway Avenue. A raised median would be constructed at the mid-block crossing at Walnut Street. The existing eastbound to northbound left turn lane at Vine Street would remain and an eastbound to southbound right turn lane would be created at the intersection. Bike lanes would be added in each direction.

This option is not recommended by staff because the wide vehicle lanes will not address the traffic calming objective. In addition, safety considerations could occur if vehicles attempt to crowd the travel lane with two side-by-side vehicles.

Option 4: Wide Shoulder

See Exhibits 4 & 6 attached

Cedar Street to Race Street: The existing parallel parking on both the north and south sides of the street would remain. The existing median would be removed. An eastbound to northbound left turn lane would be created at Race Street. The existing eastbound to southbound right turn lane at Race Street would remain. Bike lanes would be added in each direction.

Race Street to Broadway Avenue: The existing parallel parking on both the north and south sides of the street would remain. The through vehicle lane in each direction would be 11 feet wide. A 6 feet wide “buffer” or “shoulder” would be striped between the vehicle lane and parking lane on each side of the street. A westbound to southbound left turn lane would be created at Race Street and an eastbound to northbound left turn lane would be created at Broadway Avenue. Bicycle traffic could use the shoulder, but there would be no bicycle lane markings.

Broadway Avenue to Vine Street: The existing parallel parking on the north side of the street would remain. A westbound to southbound left turn lane would be created at Broadway Avenue. A raised median would be constructed at the mid-block crossing at Walnut Street. The existing eastbound to northbound left turn lane at Vine Street would remain and an eastbound to southbound right turn lane would be created at the intersection. Bike lanes would be added in each direction.

This option is also not recommended by staff because without bicycle lane markings, motorists may not expect to see bicyclists riding in the shoulder which would make it less safe for bicyclists. However, it should be noted that Option 4 is preferred over Options 1 through 3.

Option 5: Bike Lanes

See Exhibits 5A, 5B & 6 attached

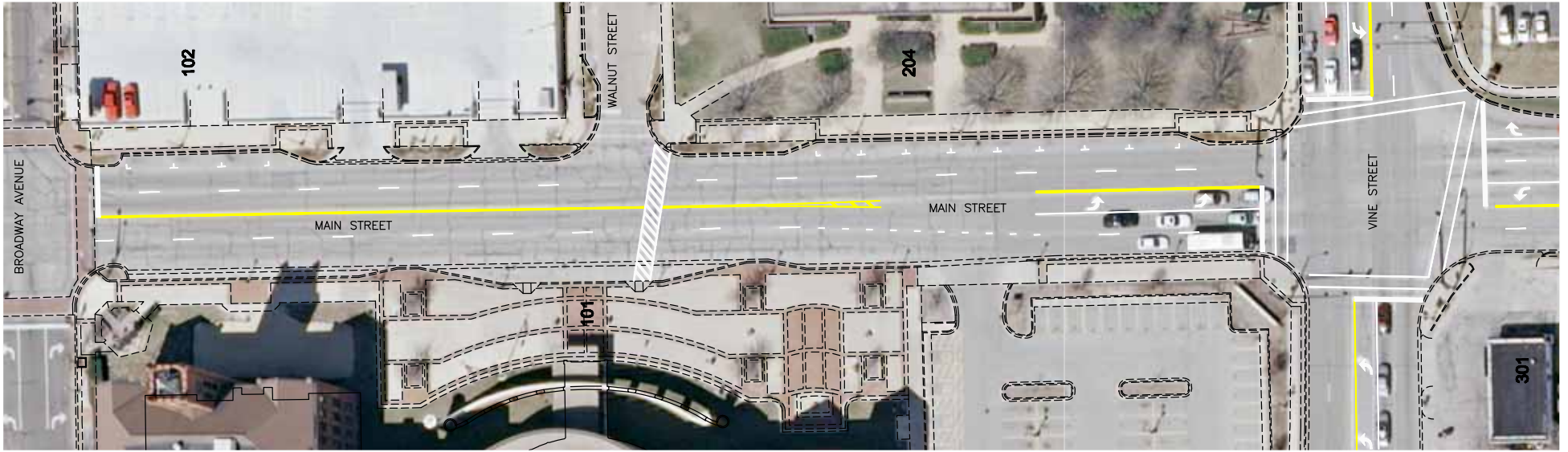
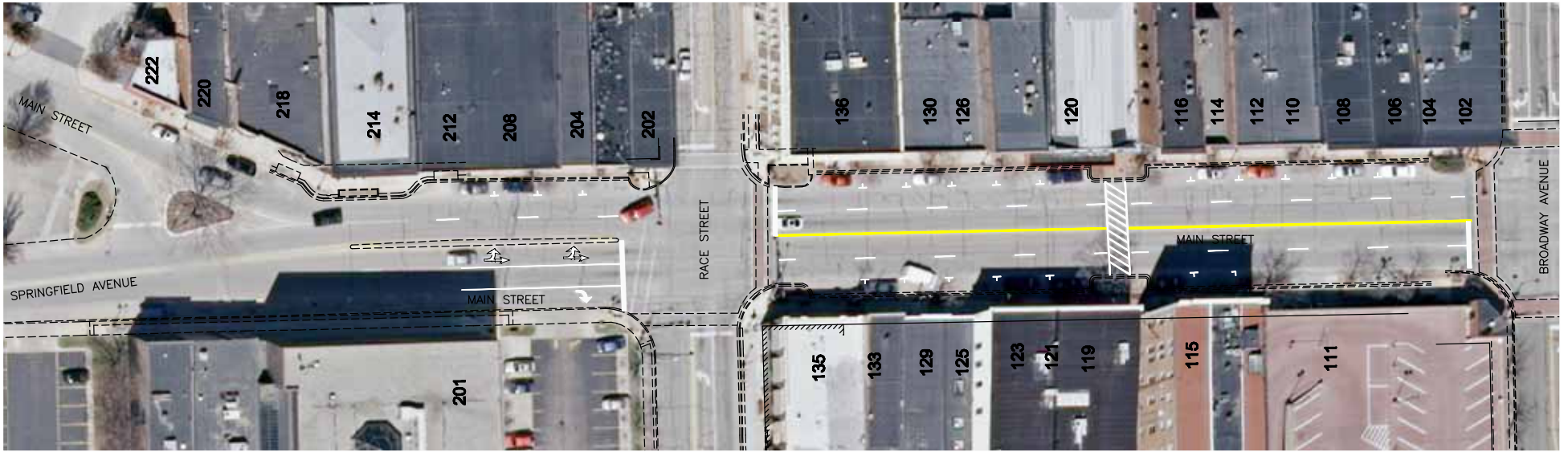
Cedar Street to Race Street: The existing parallel parking on both the north and south sides of the street would remain. The existing median would be removed. An eastbound to northbound left turn lane would be created at Race Street. The existing eastbound to southbound right turn lane at Race Street would remain. Bike lanes would be added in each direction.

Race Street to Broadway Avenue: The existing parallel parking on both the north and south sides of the street would remain. The through vehicle lane in each direction would be 11 feet wide. A 7-foot wide bike lane would be striped between the vehicle lane and the 7.5-foot wide parking lane on each side of the street. The parking tick marks are extended 3 feet into the bike lane to encourage bicyclists to ride out of the door zone. A typical full size SUV with its door open wide, measures approximately 10-feet 2-inches. If a bicyclist rides to the left of the extended tick mark, they would be virtually out of the door zone of an SUV and most likely out of the door zone of the typical passenger vehicle. A westbound to southbound left turn lane would be created at Race Street and an eastbound to northbound left turn lane would be created at Broadway Avenue.

Broadway Avenue to Vine Street: The existing parallel parking on the north side of the street would remain. A westbound to southbound left turn lane would be created at Broadway Avenue. A raised median would be constructed at the mid-block crossing at Walnut Street. The existing eastbound to northbound left turn lane at Vine Street would remain and an eastbound to southbound right turn lane would be created at the intersection. Bike lanes would be added in each direction.

Option 5 is recommended by staff because we believe that it addresses all of the objectives identified. However, this Option would not result in the addition of any additional parking on Main Street itself and is objected to by many downtown business owners.

Exhibits depicting the five options are on the following pages.

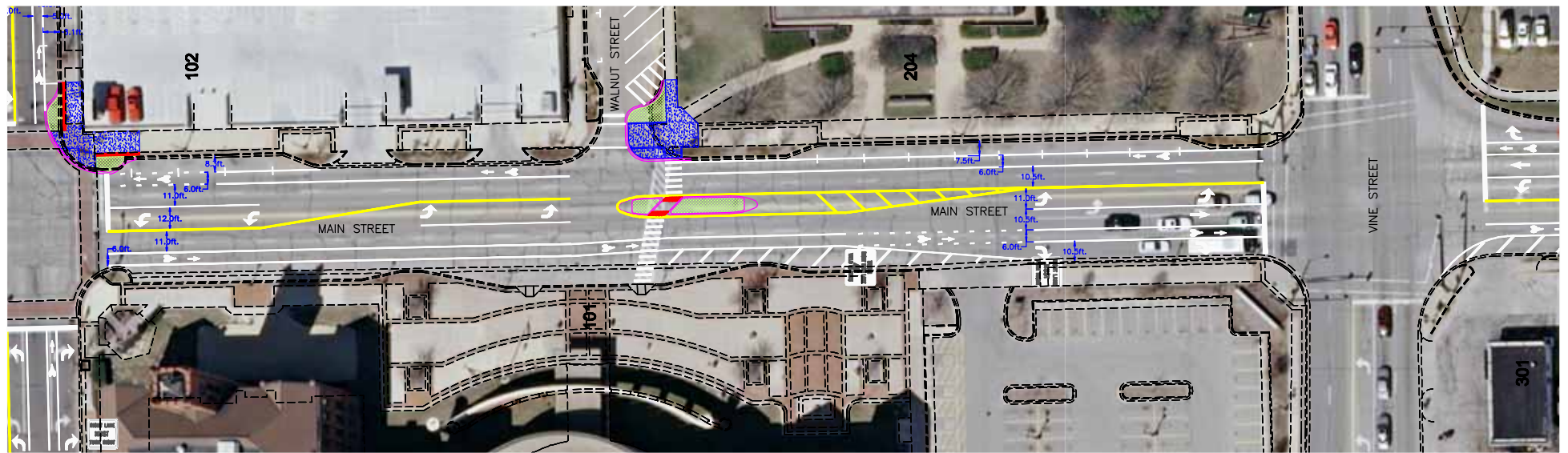


OPTION 1: NO CHANGE




Date: 05/06/10
Design by: JJS

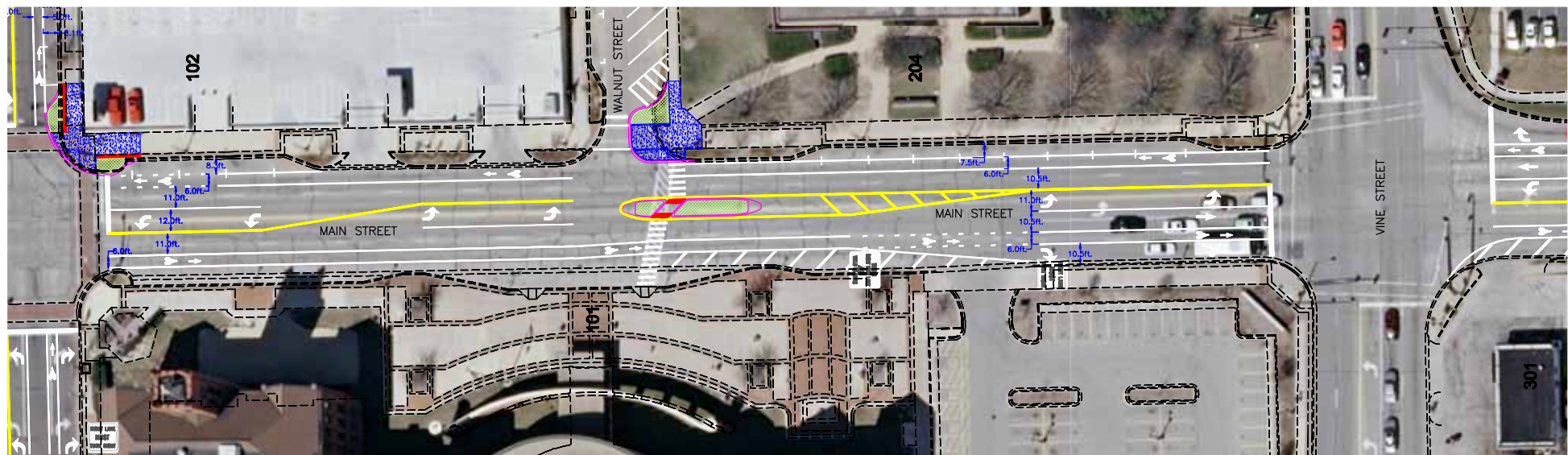
MAIN STREET TRAFFIC PLAN
EXHIBIT 1




OPTION 2A: BACK-IN ANGLED PARKING


 Sheet 2 of 9
 Date: 05/06/10
 Design by: JJS

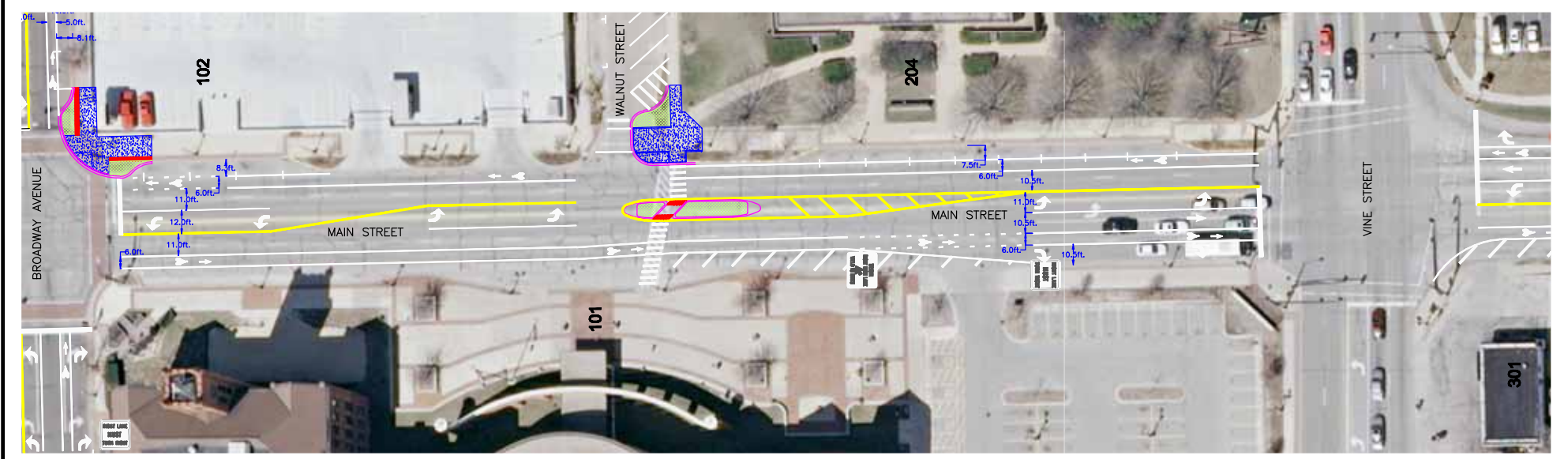
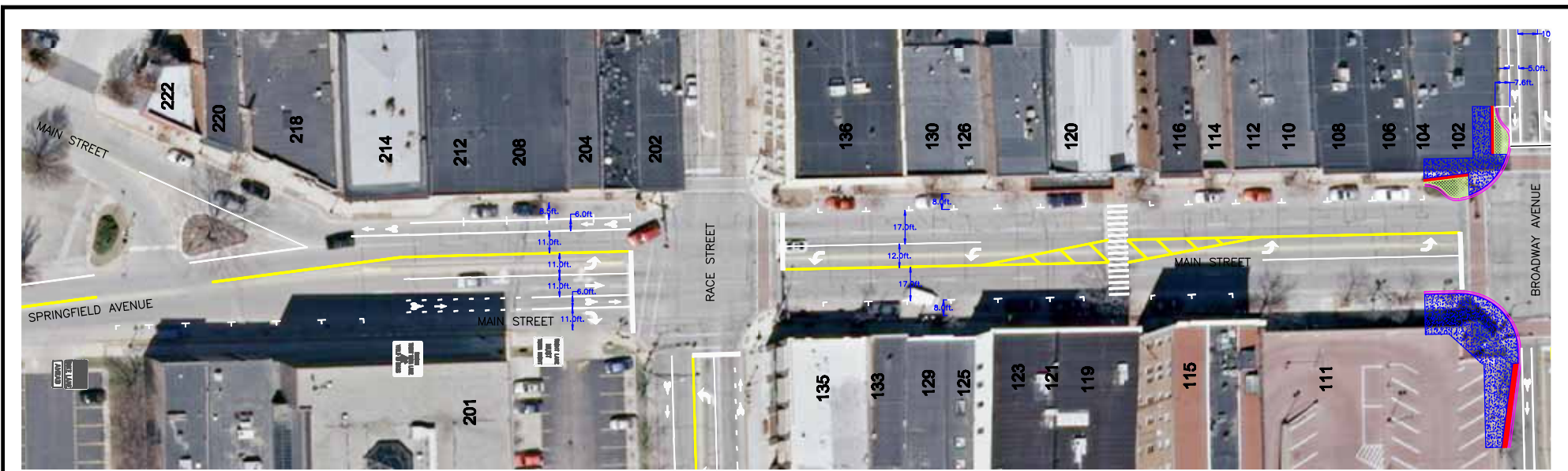
MAIN STREET TRAFFIC PLAN
 EXHIBIT 2A




OPTION 2B: HEAD-IN ANGLED PARKING


 Sheet 3 of 9
 Date: 05/06/10
 Design by: JJS

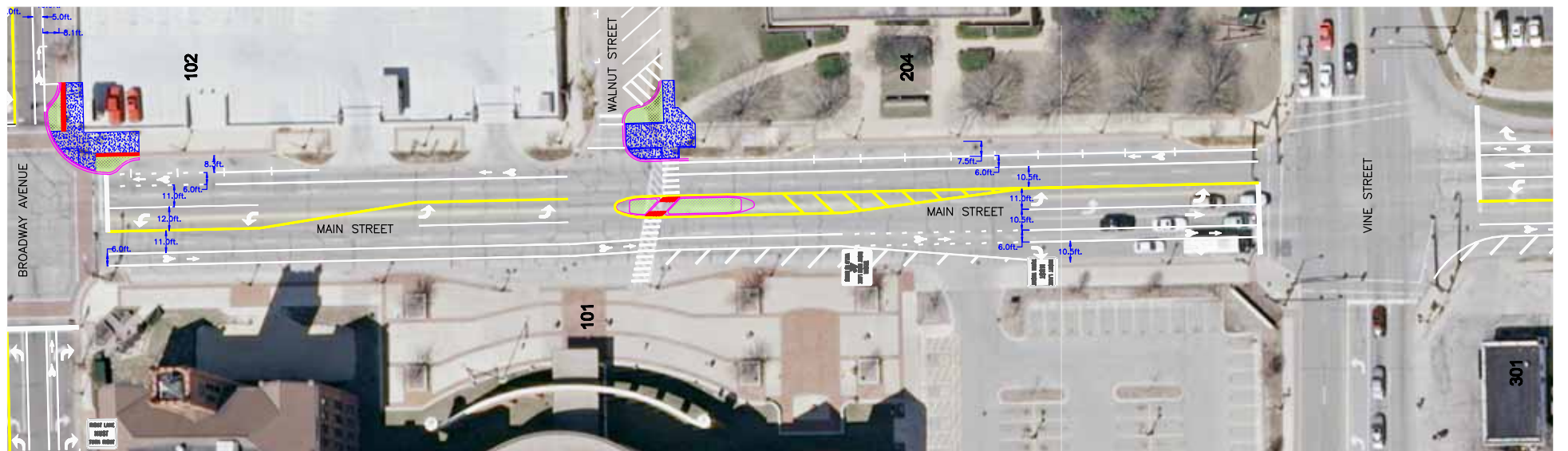
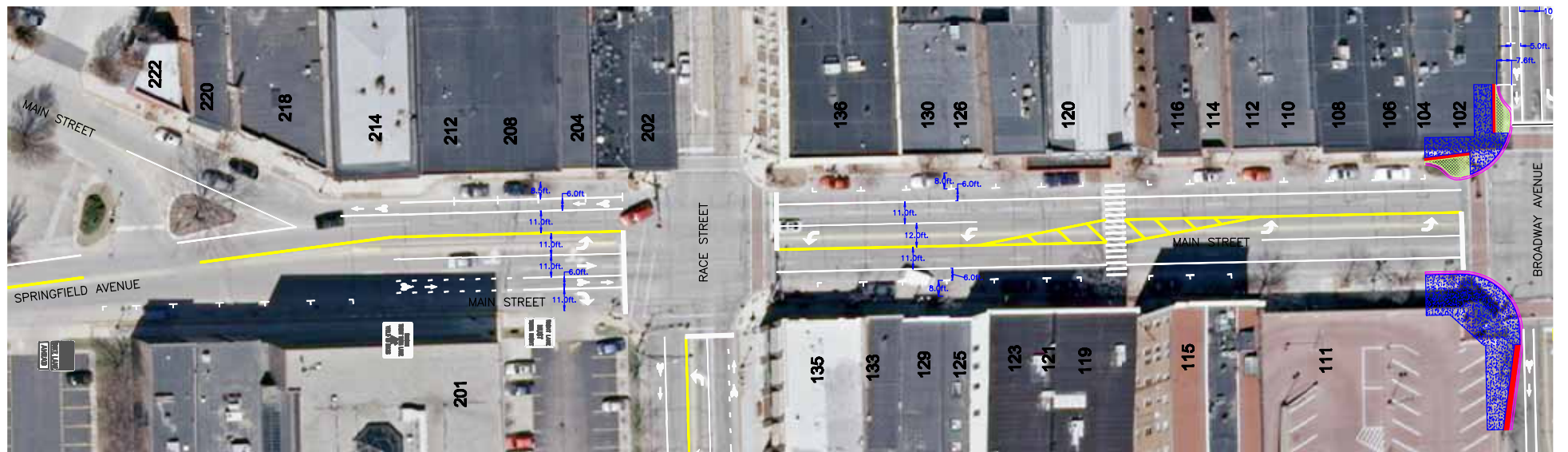
MAIN STREET TRAFFIC PLAN
 EXHIBIT 2B



OPTION 3: WIDE OUTSIDE LANES


 Date: 05/06/10
 Design by: JJS

MAIN STREET TRAFFIC PLAN
 EXHIBIT 3



OPTION 4: SHOULDER



Date: 05/06/10
Design by: JJS

MAIN STREET TRAFFIC PLAN
EXHIBIT 4

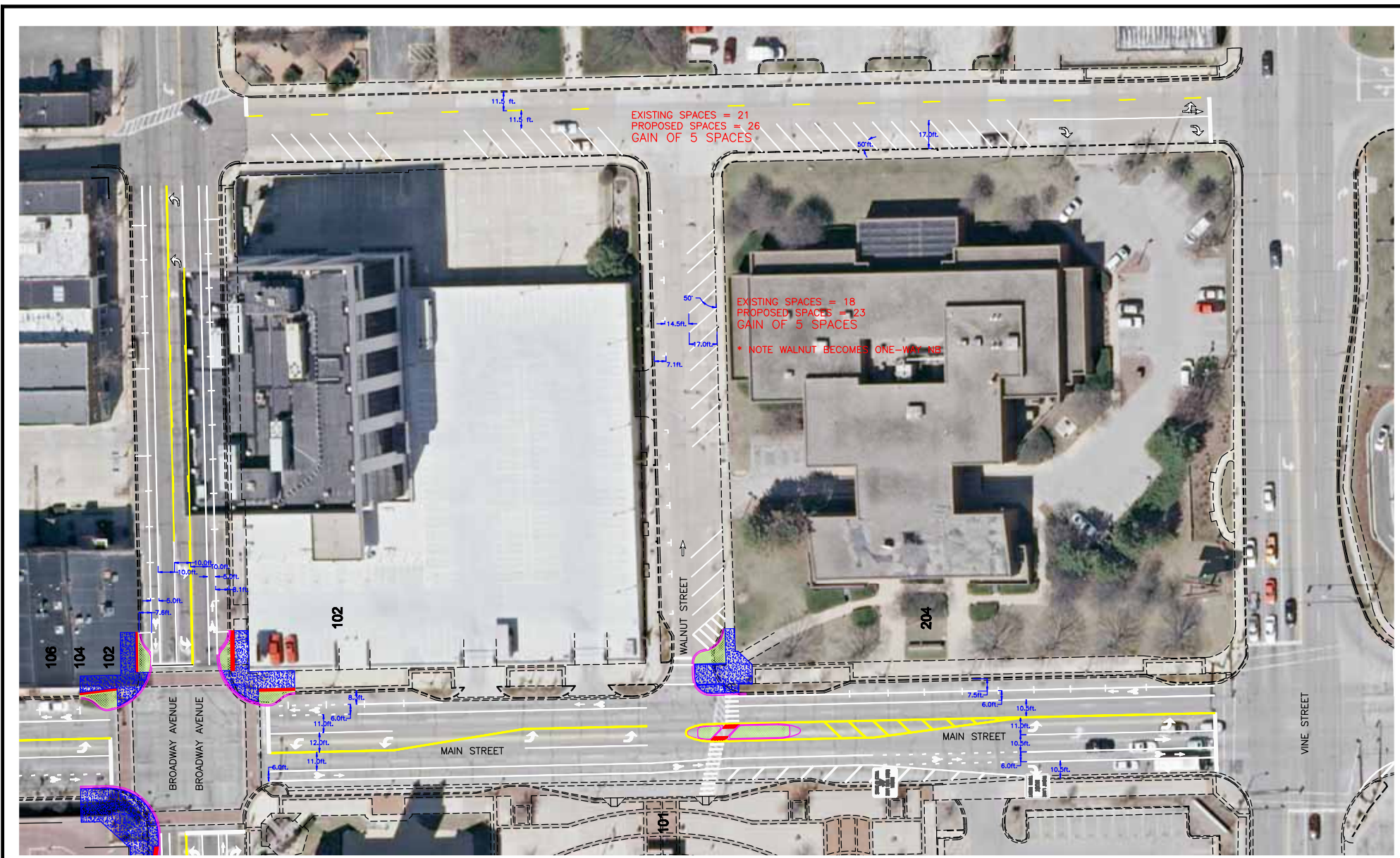


ELM STREET DETOUR FOR BIKES



Sheet 1 of 1
 Date: 05/06/10
 Design by: JJS

MAIN STREET TRAFFIC PLAN
 EXHIBIT 6



ANGLED PARKING GAIN OF PARKING SPACES – WALNUT STREET AND WATER STREET

Date: 05/06/10
 Design by: JJS

MAIN STREET TRAFFIC PLAN
 EXHIBIT 7

Pros and Cons of Options

Improve Pedestrian Safety

Decreasing the number of vehicle lanes from four to three (i.e., a road diet), as shown in Options 2 through 5, will decrease the number of vehicles lanes pedestrians must cross to go from one side of Main Street to the other, making it safer for pedestrians to cross.

The road diet allows for the addition of a painted median at the mid-block pedestrian crosswalk between Race Street and Broadway Avenue and construction of a raised median at Main Street and Walnut Street for pedestrians crossing Main Street to the Champaign County Courthouse. These medians will allow pedestrians to cross one half of the road at a time.

In Option 2, the existing bump-outs mid-block between Race Street and Broadway Avenue and at the northwest corner of Main Street and Broadway Avenue can be expanded due to the angled parking, shortening the pedestrian crossing distance even more.

With the construction of a road diet, the traffic signals at Main Street and Race Street and at Main Street and Broadway Avenue would be upgraded. Currently, the left turns at these intersections are permissive (no left turn arrow). This can be especially dangerous for pedestrians as left-turning vehicles are more often looking for a gap in vehicle traffic to make their left turn and are not watching for pedestrians in the crosswalk. Providing protected left turns allows the left turn lane to be cleared of traffic prior to releasing the pedestrians to cross the street.

The traffic signal upgrade would also provide pedestrian push-buttons and countdown timers on all legs of both intersections. The existing signals do not have these. The push-buttons allow pedestrians to call for the walk signal. The countdown timers are a considerable upgrade from the current flashing “Don’t Walk.” Countdown timers allow the pedestrians to see how much time they have left to cross the street and therefore make an informed decision as to whether to cross the street or wait.

Improve Bicyclist Safety

Providing bike lanes, as shown in Option 5, can have the following benefits:

- Encourage bicyclists to ride in the correct direction of travel
- Help organize traffic and decrease chance of motorist straying into bicyclists’ path
- Make it less likely that passing motorists swerve toward opposing traffic
- Reduce vehicle speeds so motorists would be more likely to notice businesses
- Give bicyclists a clear space to ride so not tempted to ride on the sidewalk
- Bring new shoppers to downtown

However, the bike lanes can have the following drawbacks:

- Conflicts at intersections (i.e. bike lanes to right of vehicle lanes)
- Possibility of “dooring” accidents

Option 5 reduces the chance of dooring accidents by extending the parking tick 3-feet into the bike lane to encourage riding in the left half of the bike lane.

Improve Vehicle Safety

Constructing a road diet, as shown in Options 2 through 5, will allow the creation of left turn-lanes at Race Street and at Broadway Avenue. The left turns at these intersections are currently permissive and left-turn and rear-end collisions predominate at the intersections. In addition, the left/through lanes at Race Street are negatively offset, limiting the view of opposing traffic. Converting the road from four lanes to three lanes separates the left-turn and through traffic, provides for aligned left turn lanes, which will enhance the sight distance, and also allows for protected left-turns, which increases safety for vehicles. It should be noted that significant vehicle safety concerns would occur under Option 2 because Main Street has not been found to meet criteria for safe angled parking to be located. In addition, Option 3 (Wide Lanes) could post safety problems in that the wide lanes would limit the traffic calming effect and could result in unsafe conditions if drivers attempt to crowd the lane with two vehicles.

Calm Traffic

Constructing a road diet, as shown in Options 2 through 5, will decrease the number of travel lanes and will reduce the vehicle lane widths, which will calm traffic. This traffic calming will provide a more pedestrian-scaled environment, slowing vehicles down so they take notice of the businesses. As discussed above, the traffic calming effect of Option 3 would be limited.

Preserve On-Street Parking

On-street parking is preserved in all 5 options.

Provide Additional Parking

Converting the existing parallel parking on the north side of Main Street between Race Street and Broadway Avenue to angled parking, as shown in Options 2A and 2B, will provide an additional 8 parking spaces.

Angled parking typically works to calm traffic, adds to the parking supply, takes less time than parallel parking and, increases the distance between the travel lane and the sidewalk. Angled parking may increase the number of crashes, but the severity is reduced due to the slower speeds.

Option 2A shows back-in angled parking and Option 2B shows head-in angled parking. Back-in angled parking has been shown as it would be safer than head-in. However, because back-in angled parking is unfamiliar to motorists, significant signage and education would be necessary. According to research by Public Works staff, back-in angled parking has been shown to offer the following benefits and drawbacks:

Benefits of Back-in Angled Parking

- Curb side loading
- Better sight lines
- Safer for bicyclists
- Open vehicle doors prevents children from running into street

- Fewer accidents than head-in

Drawbacks of Back-in Angled Parking

- Backing maneuver is unfamiliar
- Wrong-way parking
- Vehicles overhanging sidewalk
- Vehicles backing into street furniture
- Exhaust over sidewalk

As expressed earlier, staff does not recommend converting the parallel parking to angled parking on Main Street due to the traffic volume, speed, and presence of transit. However, staff does recommend converting the parallel parking on Water Street and Walnut Street to angled parking. Exhibit 7 shows head-in angled parking on both of these streets, which results in a gain of 10 additional parking spaces.

Accommodate Deliveries

One consequence of all four road diet options would be the need to change how deliveries are made to the businesses. While the width of the road remains the same, the number of vehicle lanes would be decreased in all scenarios. Providing for on-street deliveries would be particularly problematic under Option 2 since the addition of angled parking would eliminate the space available for on-street deliveries.

Currently, delivery trucks park in the outside lanes. While they do block one lane of traffic, there is still another lane which vehicles can use. With only one vehicle lane, delivery trucks will not be able to block the lane.

Several options are available to accommodate delivery vehicles. Deliveries could be restricted to early morning hours, before many of the businesses are open. At this time, there would likely be parking spaces available which the trucks can pull into. Another option is for trucks to stop in the center turn lanes on Main Street.

Trucks could also use the alleys for deliveries. Goose Alley is available for the businesses on the north side and Crane Alley is available for deliveries on the south side. Elm Street would also be available for trucks to pull over on for the south side businesses. Finally, a few parking spaces could be removed on Broadway Avenue north of Main Street to create a dedicated loading zone.

In the road diet options, the delivery options noted above would only be required for extended time deliveries. Vehicles such as the U.S. Post Office, UPS, and FedEx could pull over the bike lane (or into an available parking space) for their quick deliveries. In the angled parking option, there is no bike lane to pull over so all deliveries would have to take place from parking spaces, the center turn lanes, the alleys, or Elm Street.

Regardless of the option selected, an extensive public communication effort would need to be undertaken to inform the merchants and their delivery truck drivers of the proper procedures for deliveries.

Summary of Pros and Cons by Option

	Improve Pedestrian Safety	Improve Bike Safety	Improve Vehicle Safety	Calm Traffic	Preserve On-Street Parking	Provide Additional On-Street Parking	Accommodate Deliveries
Option 1 – No Change					√		√
Option 2 – Angled Parking	√		1	√	√	√	√
Option 3 – Wide Lanes	√		√		√		√
Option 4 – Shoulder	√	2	√	√	√		√
Option 5 – Bike Lanes	√	√	√	√	√		√

1 – Because of the angled parking on the north side of Main Street, the left turn lanes at Main Street and Broadway Avenue would be negatively offset, creating a situation similar to what currently exists at Main Street and Race Street.

2 – The shoulder provides a space for bicyclists to ride outside of the vehicle traffic lane, however, without the bike lane markings, vehicles may not expect to see bicyclists in that area, which can increase crashes.

Fiscal Impact and Timeline

This project on Main Street between Cedar Street and Vine Street would include milling and resurfacing, striping, ADA ramp construction, and traffic signal upgrades. The project would be financed with TIF funds and is estimated to cost approximately \$750,000 to \$1,000,000. We anticipate that construction will occur on this segment in the summer of 2012.

Main Street between Vine Street and Grove Street is included in the 2010 MFT Resurfacing project and includes milling and resurfacing, striping and ADA ramp construction. This project would be paid for using TIF funds and is estimated to cost approximately \$300,000 to \$400,000. We anticipate construction will occur on this segment yet this year.

In May of 2008, the Public Works Department submitted an application for Illinois Transportation Enhancement Program (ITEP) funds for a bicycle and pedestrian improvement project on Main Street from Cedar Street to Scottswood Drive. Main Street between Cedar Street and Grove Street was included as part of that application, but only for construction purposes (in order to allow a continuous two mile project constructed at one time). The ITEP funding was intended to be used for the segment east of Grove Street and TIF funding was intended to be used for the segment west of Grove Street.

We were just recently informed that we did not receive funding for this project. However, we were also informed that the ITEP program would open for new applications in the next few months and that projects submitted in 2008 could be submitted again. We plan to submit the project again with the limits being from Grove Street to Scottswood Drive. This project is estimated to cost approximately \$1.1 to \$1.2 million. Should we receive ITEP funding for this segment, construction would be dependent on the timing of the announcement of receiving the grant.

Council Action

We realize that this memo contains a significant amount of information. We ask that you review the options, offer comments or changes, and provide a recommendation to staff on how to proceed.



If your Main Street is (re)designed for slower traffic and easier pedestrian movement, it can greatly improve many facets of the experience pedestrians and motorists have in the district. Remember that the economic vitality of the business district depends upon the ability of shoppers, workers, and visitors to travel safely and conveniently throughout the commercial corridor. (WORKING with the Highway Department, Keith R. Tianen, AICP, Main Street News, No. 265, Oct/Nov 2009)