



THE CITY OF
BLOOMINGTON



BURGESS & NIPLE
Engineers ■ Architects ■ Planners



Bloomington Bikeways Implementation Plan

July 20, 2012





TABLE OF CONTENTS

	page
Summary	1
Proposed Facility Types and Treatments	1
Shared Roadways	1
Separated Roadways	2
Shared Use Paths	2
Project Selection	3
Phasing Plan and Cost Estimates	7
Appendix	9



Vision and Purpose – why are we doing this?

Beginning with the City’s 2008 *Bicycle and Pedestrian Transportation and Greenways System Plan*, the staff and consultant working committee selected 27 on-street bikeway projects for further development to a conceptual engineering level of design in this initial phase of work. The 2008 plan has identified more than 80 projects that connect neighborhoods in Bloomington. The consultant team of Burgess & Niple (B&N) and Alta Planning + Design (Alta) were selected to provide:

1. Conceptual design services and planning level cost estimates for all 27 on-street bicycle facility projects,
2. Construction documents and cost estimates for two neighborhood greenway projects: Allen Street–Covenanter Drive Neighborhood Greenway and Highland Avenue–Hawthorne Drive Neighborhood Greenway,
3. A bicycle facility design guidelines report geared toward equipping Bloomington staff with best practices in design of bicycle facilities,
4. Workshops to train local government officials on applying the design guidelines and implementing the design concepts,
5. Presentations and an “open house” format public meeting,
6. A final report, cost estimate and phasing plan.

Moving projects to construction, through broad and refined engineering review will bring the projects to reality for everyone to enjoy. As with all public works projects, numerous activities have taken place that lead to the construction of bikeways.

Underway since August 2011, the City of Bloomington staff has worked with the B&N/Alta team to review roadway facility information including number of travel lanes, right of way width, posted speed, roadway functional classification, traffic volume, and other characteristics before making their recommendations for modifying streets for bicycles. The City’s, Engineering, Planning, and Sustainability departments have been actively involved in identifying workable solutions that are sensitive to the needs of bicyclists in Bloomington.



Staff and Consultant Team Tour

Proposed Facility Types and Treatments

The following bicycle facility types are recommended for further use in Bloomington. The facility types are shown in order of amount of separation from automobile traffic. For more information on these types of facilities, the City of Bloomington’s Bicycle Facility Design Guidelines have been prepared and are a useful tool for selecting bikeway types to use in Bloomington.

Shared Roadways, include Neighborhood Greenways such as the Allen-Covenanter Neighborhood Greenway and “Sharrow and Double Chevron” markings that are seen on Rogers Street, College, and others.



Shared Roadway Exhibit

Separated Roadways, including bike lanes are also in use in Bloomington. Depending on available right of way, bike lanes may be as narrow as 4 feet but are much more useful for bicyclists if 6 feet wide. Buffered bike lanes provide even more safety for bicyclists with a 2-3 foot cross-hatched painted strip and a 6 foot bike lane on pavement that places more separation between bicyclists and automobile travel lanes. Since it is only a painted area, the buffer may be used by motorists to cross lanes to make avoidance vehicular maneuvers or to switch lanes when necessary.



Separated Roadway Exhibit

Shared Use Paths like the B-Line and Bloomington Rail Trail continue to link neighborhoods with downtown and outlying areas.



B-Line Trail

In addition to the different facility types, **signage and intersection treatments** like traffic diverters, bike boxes, and green areas make bicycling safe. Signage and special designs separate and provide safe zones for bicyclists in the traffic stream of busy roadways. These bicycling infrastructure help to calm roadways by increasing awareness of cyclists and reducing automobile speeds to improve safety for everyone.



Diverter



Bike Box



Green Area

Project Selection

The Bikeway Implementation Plan's initial kick off meeting was held September 27 and 28, 2011 at Bloomington City Hall. The candidate projects to be considered in the Bikeways Implementation Plan were on-street projects that were on the *Bicycle and Pedestrian Transportation and Greenways System Plan* (BPTGS Plan) produced by the City of Bloomington in 2008. The criteria used to select and group projects as either Immediate (IM) or Longer Term (LT) for this task included the following:

- 1. Ease of Implementation:** easier projects were usually completely under City jurisdiction and could be completed relatively fast; more complex projects would take longer, cost more, or require consensus among others such as IU or property owners for the purchase of additional right of way.
- 2. System connectivity:** emphasizes City-wide coverage.
- 3. Public support:** support for projects during the 2008 BPTGS planning process or Bikeways Implementation Plan process.
- 4. Collision:** the location of bicycle involved collisions occurring between 2007 and 2009.
- 5. Existing Bikeways:** proximity to existing on-street bikeways.
- 6. B-Line connectivity:** connections to the B-Line trail were emphasized.
- 7. Major Destinations:** Emphasizes connectivity with Indiana University, Courthouse Square, College Mall, and the retail west of SR-37.

The first three criteria were used during the first round of selection of IM projects that could be built within a year or two, or the LT listing, projects that would be constructed after the IM projects.

The last four criteria on the listing above were used in an ArcGIS analysis that used available technical data. The ArcGIS analysis was a final check to make sure the plan addressed crash locations and provided the needed coverage connectivity.

The following is a summary of the bikeway projects that were included in the Bikeways Implementation Plan. Each project's design concept is included in the Appendix. An overview area map is on page 5.

CST1 – Allen Street/Covenant Drive Neighborhood Greenway: Patterson Drive to College Mall Road

The neighborhood greenway project provides east-west connectivity from the near west side; B-Line, Bryan Park, Southdowns and Sheridan Drive, and to the College Mall by way of Covenant Drive. It's construction began in 2011 with signage improvements and the addition of an intersection diverter in 2012 at Allen and Walnut Streets. The diverter increases bicycle safety by allowing right turns only by automobiles to and from Allen Street and removal of southbound Walnut left turn. A proposed section of trail that would extend the bikeway between Morton and Madison



Project Selection Meeting 9/28/2011



Bike Advocates Meeting 9/27/2011

Streets may be added in the future. Until that time, users of the neighborhood greenway will use an alley south of Allen Street between Morton and Madison Streets.

CST2 – Highland Avenue/Hawthorne Drive Neighborhood Greenway: Winslow Road to Third Street

A very complex project since the original concept would involve widening Highland Avenue south of Miller Drive. The initial concept of widening Highland proved to be cost prohibitive. To extend the Neighborhood Greenway South of Miller Drive, the best alternative is to take the route to Maxwell Street and proceed south to connect with the off street trail network through YMCA and Winslow Sports Park. North of Miller, the routing is via South Olive Street, Weatherstone Lane, Path, Highland Avenue, E. Sheridan Drive, and S. Hawthorne Drive to E. Third Street. Ultimately, this neighborhood greenway combines bike lanes, sharrows, and multiuse trail facility types, adds signage, and improves several intersections.

IM1 7th Street/Longview Avenue: Adams Street to Smith Road

This shared lane markings and bike lanes project provides east west commuting that links the near west side with downtown, IU, and the East 45/46 Bypass and College Mall Road areas. West of downtown, it is a neighborhood greenway facility while through downtown, the project uses bike lanes. Through IU, the route connects with the campus bike/pedestrian network and then connects back to E. 7th Street at Union Street. From here, the route would stay on East 7th Street and proceed east to the new SR 46 underpass and Longview Avenue.

IM2A South Adams: W. 3rd to W. 7th & IM2B West 3rd Street: S. Landmark Ave. to S. Adams Street

This route connects with IM1 7th Street/Longview as well as the existing bike lanes project on West 3rd Street. It uses bike lanes along West 3rd and S. Adams streets and becomes a neighborhood greenway on North Adams Street. The project improves the Adams/Kirkwood intersection by adding crosswalk and bike lane improvements at that location.

IM3C 19th Street: North Walnut Street to Dunn Street

The route is a neighborhood greenway design connecting the Miller Showers park with the IU stadium area at Dunn Street.

IM4 4th Street: Rogers Street to Indiana Avenue

The 4th Street route fills in a missing gap in the bikeway network by connecting the existing Rogers Street bikeway with Indiana Avenue and IU. It consists of shared lane markings and bike lanes due to limited right of way availability. An intersection diverter is proposed along West 4th Street at Rogers to reduce and slow auto vehicle traffic along 4th Street. As proposed, it will allow bikes and emergency vehicles to pass through the diverter while discouraging auto traffic in non-emergencies. The project has a Two Stage Turn Queue Box to facilitate turns by cyclists from southbound South College Avenue to eastbound West 4th Street.

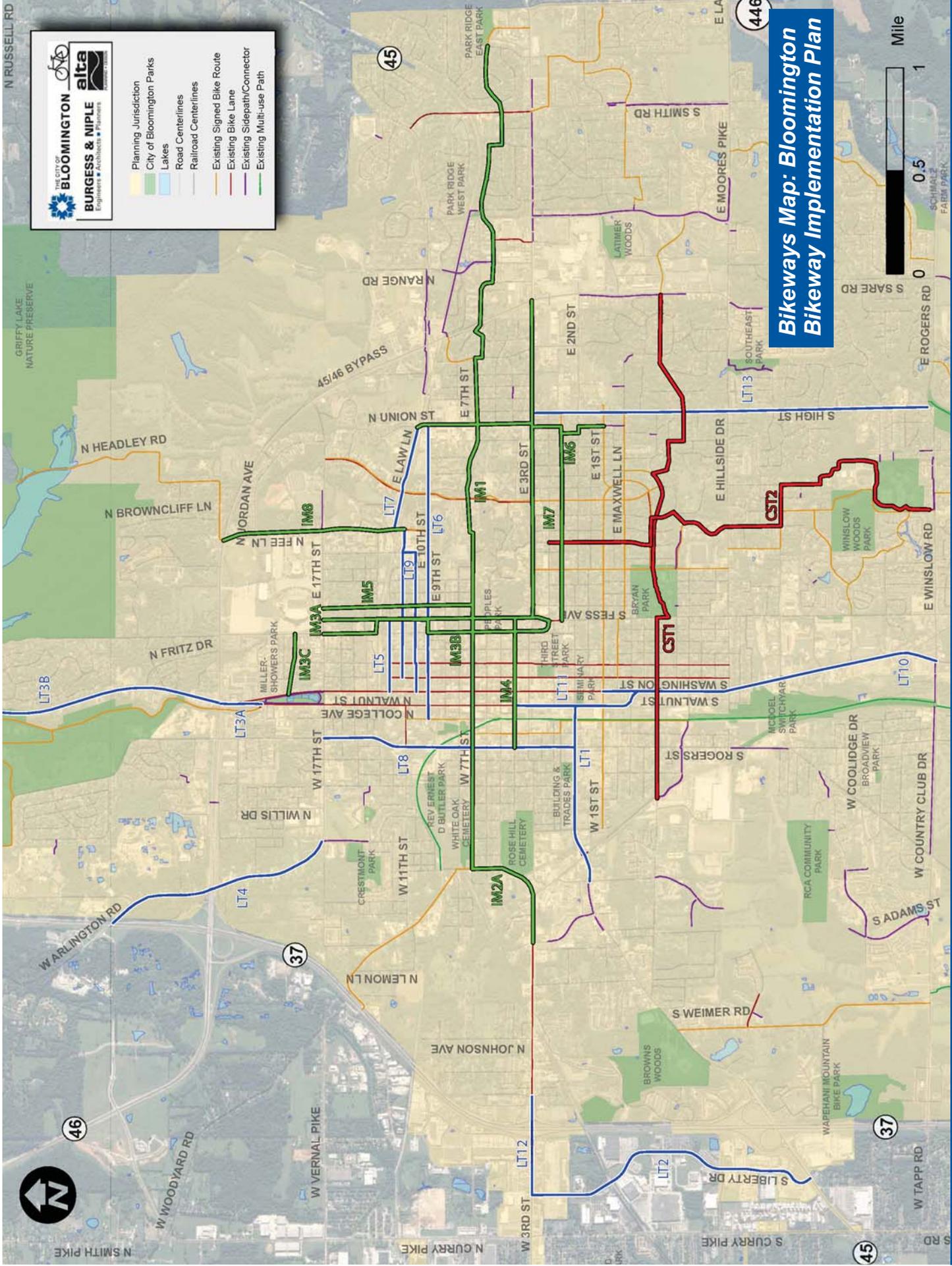
IM5 Fess Avenue, IM3A Indiana Avenue, IM3B Dunn Street: East 17th Street to East 3rd Street

These streets were reviewed as a network grid. The existing signal at Dunn and 17th Street was the leading reason for recommending neighborhood greenway treatments on North Dunn Street and E. 13th Street since the roadway doesn't cross the railroad. South of the railroad, Fess has neighborhood greenway treatments while Indiana Avenue would have bike lanes.

IM6 Clifton/Union Neighborhood Greenway: Maxwell to Law Lane

The north-south neighborhood greenway connects with the IM1 7th Street/Longview route, LT6 10th Street, and other existing bikeways in the vicinity of IU. On Union Street, bike lanes are recommended north of 7th Street and neighborhood greenway and traffic calming south of 7th Street. On Clifton and Anita Streets, neighborhood greenway is the recommended facility type.





THE CITY OF BLOOMINGTON
BURGESS & NIPLE
 Engineers • Architects • Planners

alta
 ADVANCED TECHNOLOGICAL ANALYSIS

Planning Jurisdiction

- City of Bloomington Parks
- Lakes
- Road Centerlines
- Railroad Centerlines
- Existing Signed Bike Route
- Existing Bike Lane
- Existing Sidepath/Connector
- Existing Multi-use Path

Bikeways Map: Bloomington
Bikeways Implementation Plan



IM7 3rd Street: Dunn to SR 45/46

The route connects with the Dunn Street/Indiana Ave. bikeway. Since 3rd Street is one way in the west bound direction, Hunter Avenue, a signed bike route, serves the east bound bicyclists along this stretch. Buffered bike lanes are recommended along East 3rd Street in the west bound direction.

IM8 Fee Lane: 11th to 13th Streets; 17th Street to SR 45/46

The project requires street widening for 6 foot bike lanes due to the high traffic volume on Fee Lane. Also, the intersection with 17th Street would be modified to accommodate through bicyclists.

LT1 West Second Street: Adams Street to College Avenue

Bike lanes are recommended along 2nd Street. The route also connects with other proposed projects on Patterson Drive as well as existing projects Rogers and the B-Line trail. The intersections at Patterson and Rogers Street would be modified to accommodate the proposed 5.5 foot bike lanes.

LT2 Liberty Drive: SR 45 to SR 48/West 3rd Street

The project adds 6 foot wide bike lanes to both sides of the street. The bikeway connects to the West 3rd Street bikeway and planned trails in the area.

LT3A College Avenue: Old SR 37 (Miller Showers Park) to SR 45/46

The project adds/extends a 6 foot bike lane on College Avenue to tie into the existing lane on College in the vicinity of Miller Showers Park.

LT3B North Walnut Street: SR 45/46 to Old SR 37

The project adds 9.5 foot buffered bike lanes to each side of North Walnut Street. North Walnut is a high speed and high volume corridor. The additional width provided by the buffer increases safety for the bicyclist by providing a bit of weaving area when is necessary.

LT4 Arlington Road: Monroe Street to SR 37

The project adds 6 foot bike lanes to each side of Arlington Road. The lanes will improve safety and encourage bicycling as a commuting option by connecting to Monroe Street and ultimately 17th Street.

LT5 12th Street: Walnut Street to Indiana Avenue

The project adds shared lane markings to 12th Street.

LT6 10th Street: Morton to Union

The project improves 10th Street by adding a bike lane and shared lane markings. Some widening is required but is minimized where possible. The roadway is widened between Jordan and Union to allow for 6 foot bike lanes on both sides of 10th Street.

LT7 Law Lane: North Fee Lane to North Union Street

The project adds shared lane markings to Law Lane. This is an important connection to the Fee, Jordan, and Clifton-Union bikeways.

LT8 Rogers & Madison Streets: 2nd Street to Kirkwood Avenue & 11th to 17th Streets

The project extends the existing Rogers Street bikeway through use of shared lane markings in the downhill sections and a bike lane uphill as currently used on Rogers Street.

LT9 11th St: Washington to Lincoln & Walnut Grove to Fee Ln; Cottage Grove Ave: Walnut to Lincoln

The project adds shared lane markings to sections of 11th Street and Cottage Grove Ave. The key link is connecting Cottage Grove to Walnut Street. Cottage Grove, 11th, and 12th streets function as a grid system and allow residents in the area to have easy bikeway access.



LT10 South Walnut Street: Winslow Road to 1st Street

The project widens south Walnut to add buffered bike lanes. From Winslow to Miller, it requires 10 feet of additional pavement width and reduction of auto travel lane width to 10 feet. From Miller to College, Walnut is widened by 16 feet to continue the buffered bike lane. While it is one of the more expensive projects on the bikeway listing, the project provides a safer bicycling environment given the high auto traffic and speeds along South Walnut Street.

LT11 College Avenue: Walnut Street to 4th Street

From the south, the project begins at the “split” of Walnut from College Avenue and extends the 6 foot north bound bike lane to 4th Street. From Walnut to 2nd Street, the travel lanes are reduced to 10.5 feet to provide sufficient pavement width for the bike lane. Between 2nd and 4th Streets, removed parking allows for a buffered bike lane in this section.

LT12 West Third Street: Liberty Drive to Franklin Road

The project extends bike lanes from the current West 3rd bike lanes westward through the SR 37 interchange. Bike lanes are emphasized with green areas where the bicyclist will need to transition to the left of right turning vehicles going to SR 37. A bike box is included in the project in the west bound direction to enable bikes to get ahead of the traffic in order to transition to the left of autos that are turning right onto Gates Drive to access the retail area west of SR 37.

LT13 High Street: Winslow Road to 3rd Street

The project widens High Street to add 6 foot bike lanes to both sides of the roadway. While the project is the second most expensive project on the list, the bike lanes provide necessary separation for bicyclists from automobiles on this narrow, hilly roadway.

Phasing Plan and Cost Estimates

Safety of bicyclists, pedestrians, and motorists was the top priority throughout the development of the Bikeways Implementation Plan. The City of Bloomington takes seriously its responsibility to build safe bikeways for bicyclists to enjoy and use.

The following table shows the funding period for the 27 projects based upon several factors including connectivity with existing projects, public input, anticipated funding availability, and the experience of staff and consultant team through working together on this Bikeways Implementation Plan. The bikeway projects are grouped by funding period and approximate calendar year of implementation based on anticipated funding.

The projects are grouped into four funding periods: years 2012 and 2013, 2014, 2015, and year 2016 and beyond. By using the following table combined with the overall project map and design concepts, the reader can locate the project, find information about it, and determine the funding period that the project is scheduled for construction. The table shows only planning level construction cost estimates. To obtain final cost estimates, the project costs will be updated during the subsequent final design, environmental, or permitting phases of work.

Bikeway Phasing Plan and Cost Estimates

Funding Period	Tracking #	Project	Termini/Route	Bike Facility Type	Construction Cost Estimate
1	CST 1	Allen Street - Covenanter Drive	Patterson Drive to College Mall Road (Does not include Morton - Madison Section)	Neighborhood Greenway	\$110,293
1	CST 2 North	Highland Ave.- Hawthorne St.	Miller at Highland Ave, West to Olive St, Weatherstone, Path, Highland, Southdowns/Sheridan, Hawthorne Dr. to 3rd Street	Neighborhood Greenway	\$73,760
1	IM 1	7th Street - Longview Ave.	7th Street - Adams St. to Smith Road	Shared Lane Markings & Bike Lanes	\$59,039
1	IM2A	South Adams	W. 3rd Street to W. 6th Street	Bike Lanes	\$16,641
1	IM2B	3rd Street	Landmark Ave. to S Adams St	Bike Lanes	\$21,816
1	IM3C	19th Street	Rogers Street to Indiana Avenue	Shared Lane Markings	\$6,583
1	IM6	Clifton Ave.-Union Street	Maxwell Lane to Law Lane	Neighborhood Greenway	\$37,662
1	IM7 Mid	East 3rd Street	High St. to Jefferson St.	Buffered Bike Lanes	\$7,657
1	LT3A	College Avenue	Old SR 37 (Miller Showers Park) to SR 45/46	Bike Lanes	\$10,443
1	LT5	12th Street	Walnut Street to Indiana Avenue	Shared Lane Markings	\$5,940
1	LT9	11th St./Cottage Grove	Cottage Grove: N. Walnut to N. Lincoln; 11th: N. Washington to N. Lincoln and Walnut Grove Street to N. Fee	Shared Lane Markings	\$7,158
1	LT11 North	College Avenue	2nd Street to 4th Street	Bike Lanes or Buffered Bike Lanes	\$19,162
Period 1, Funding Years 2012 and 2013					\$376,154
2	IM4	4th Street	7th Street to 17th Street	Shared Lane Markings & Bike Lanes	\$42,326
2	IM7 West	East 3rd Street	Dunn St. to High St.	Buffered Bike Lanes/Bike Lanes	\$44,164
2	LT1	2nd Street	S. Adams St. to College Ave.	Bike Lanes	\$54,470
2	LT4	Arlington Road	Monroe Street to SR 37	Bike Lanes	\$70,408
2	LT8	Rogers Street	2nd Street to Kirkwood Ave; 11th Street to 17th Street	Shared Lane Markings	\$13,306
Period 2, Funding Year 2014					\$224,674
3	IM3A	Indiana Avenue	10th Street to 17th Street	Bike Lane - One way roadway/Shared Lane Markings	\$9,924
3	IM3B	Dunn Street	3rd Street to 12th Street; 13th Street to 17th Street	Bike Lane - One way roadway/ & Shared Lane Markings	\$29,027
3	IM5	Fess Bike Boulevard	Walnut Street to Dunn Street	Bike Lane - One way roadway & Shared Lane Markings	\$19,300
3	IM8	Fee Lane	17th Street to SR 45/46; 11th Street to 13th Street	Widen Road to Add Bike Lanes	\$632,110
3	LT2	Liberty Drive	SR 45 to SR 48	Bike Lanes	\$86,710
3	LT6	10th Street	Morton Street to Union Street	Bike Lane/Shared Lane Markings	\$75,245
3	LT7	Law Lane	Fee Lane to Union Street	Shared Lane Markings	\$4,954
Period 3, Funding Year 2015					\$857,270
4	CST 2 South	South Highland Ave.	Winslow to Miller via Path and Maxwell Street or Highland Ave.	Shared use path or buffered bike lanes	TBD
4	IM7 East	East 3rd Street	Jefferson to SR 46	Road Diet/Buffered Bike Lanes	\$56,386
4	LT3B	North Walnut Street	SR 45/46 to Old SR 37	Buffered Bike Lanes	\$123,226
4	LT10	Walnut Street	Winslow Road to 1st Street	Widen Road to Add Bike Lanes	\$2,565,691
4	LT11 South	College Avenue	Walnut Street to 2nd Street	Bike Lanes or Buffered Bike Lanes	\$19,815
4	LT 12	W. 3rd Street	Liberty Drive to Franklin Road	Bike Lanes	\$43,358
4	LT 13	High Street	Winslow Street to E. 3rd	Widen Road to Add Bike Lanes	\$2,276,096
Period 4, 2016 and Beyond					\$5,084,572
Projects Subtotal Cost					\$6,542,669
Contingency (10%)					\$654,267
Total Construction Cost					\$7,196,936



APPENDIX

Bike Design Concepts

Vetted Bikeway Project Table

Facility Decision Matrix



Vetted Bloomington Bikeway Projects

DRAFT Post Alta Memo Dated 10/7/2011

Immediate Projects

Longer Term Projects

Number	Project	Limits	Number	Project	Limits
CST 1	Allen/Covenanter Bike Boulevard	Patterson Drive to College Mall Road	LT1	2nd St.	S. Adams St. to College Ave.
CST 2	Highland - Hawthorne Bike Boulevard	Highland: Winslow to Miller Dr. (BL), Miller Dr., Olive, Southdowns (BB); Hawthorne: Southdowns Drive (Allen St. Bicycle Boulevard) to 3rd Street	LT2	Liberty Drive Bike Lanes	SR 45 to SR 48
IM1	6th/7th/Longview	6th - Adams Street to Indiana Avenue; 7th Street - Adams St. to Smith Road	LT3A	College Avenue Bike Lanes	Old SR 37 (Miller Showers Park) to SR 45/46
IM2A	South Adams	W. 3rd Street to W. 6th Street	LT3B	Walnut Street Bike Lanes	SR 45/46 to Old SR 37
IM2B	3rd Street Bike Lanes	Landmark Ave. to S Adams St	LT4	Arlington Road Bike Lanes	Monroe Street to SR 37
IM3A	Indiana Avenue Bike Lanes	10th Street to 17th Street	LT5	12th Street Bike Lanes	Walnut Street to Indiana Avenue
IM3B	Dunn Street Bike Lanes	3rd Street to 12th Street; 13th Street to 17th Street	LT6	10th Street Bike Lanes*	Morton Street to Union Street
IM3C	19th Street Bike Lanes	Walnut Street to Dunn Street	LT7	Law Lane Bike Lanes*	Fee Lane to Union Street
IM4	4th Street Bike Lanes	Rogers Street to Indiana Avenue	LT8	Rogers Street Bike Lanes	2nd Street to Kirkwood Ave; 11th Street to 17th Street
IM5	Fess Bike Boulevard	7th Street to 17th Street	LT9	11th St./Cottage Grove	Cottage Grove: N. Walnut to N. Lincoln; 11th: N. Washington to N. Lincoln and Walnut Grove Street to N. Fee
IM6	Clifton/Union Bike Boulevard	Maxwell Lane to Law Lane	LT10	Walnut Street Bike Lanes	Winslow Road to 1st Street
IM7	East 3rd St	Dunn St. to SR 45/46	LT11	College Avenue Bike Lanes	Walnut Street to 4th Street
IM8	Fee Lane Bike Lanes	17th Street to SR 45/46; 11th Street to 13th Street	LT 12	W. 3rd Street Bike Lanes*	Liberty Drive to Franklin Road
			LT 13	High Street	Winslow Street to E. 3rd

* On Immediate list but delayed due to complexity or jurisdictional considerations

CST - Construction Plans IM - Immediate Priority Projects

BB - Bike Boulevard (Neighborhood Greenway) Facilities

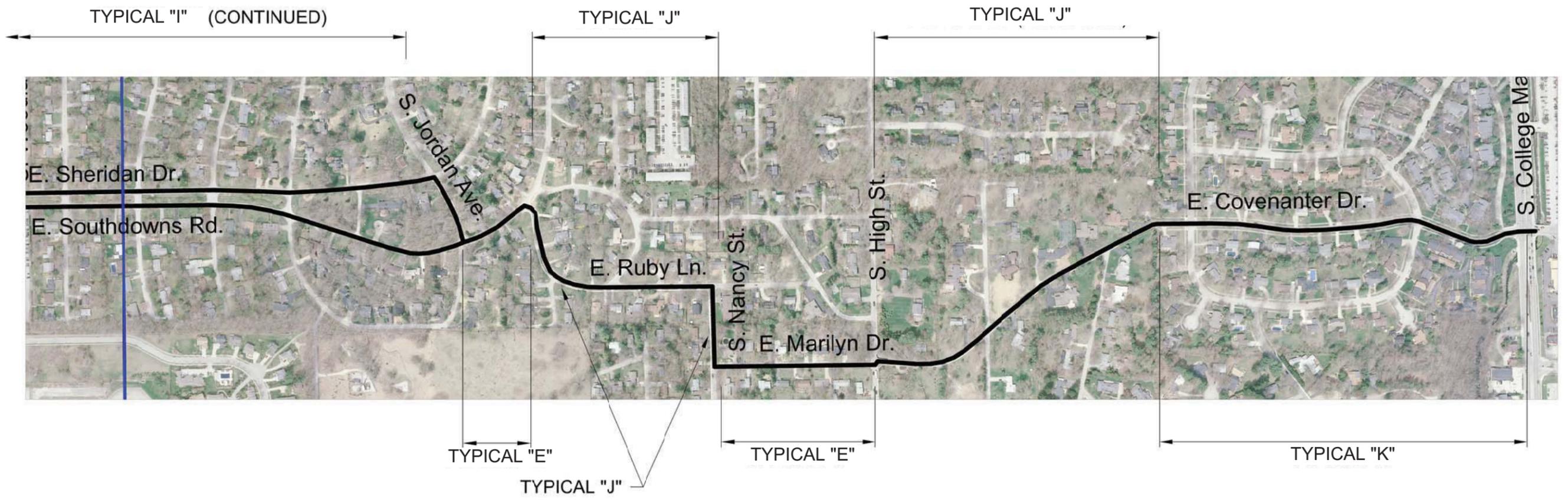
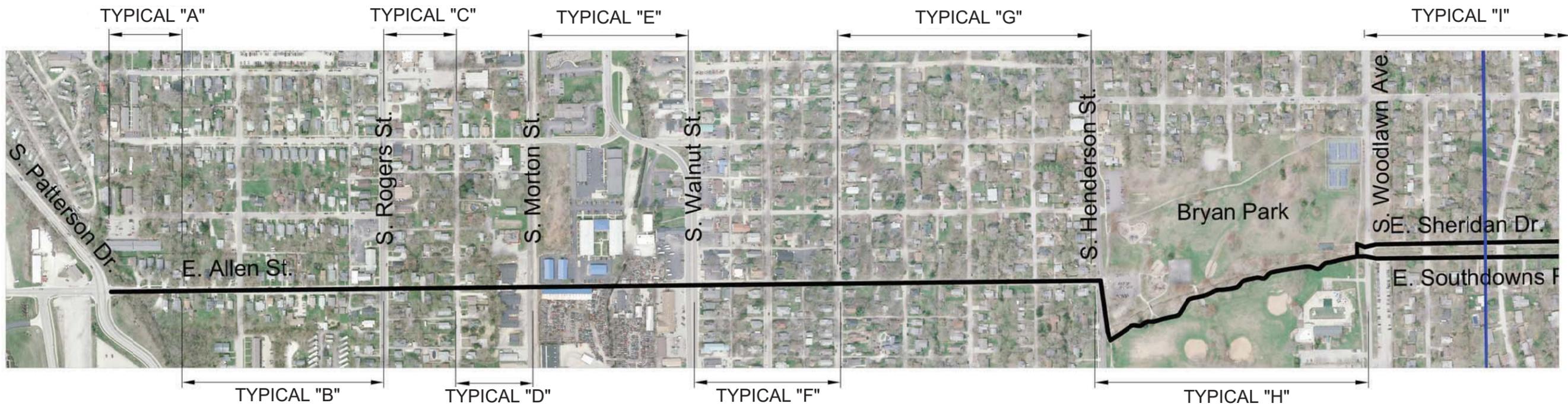
BL - Bike Lane Facilities

BL/SR - Bike Lane and Sharrows Initiative

LT - Longer Term Projects

5/7/2012





foster - Oct 25, 2011 - 1:39pm P:\PR50635\cadd\Details\Allen-Covenanter TYPICAL LAYOUT.dwg



DESIGNED: JLC DRAWN: BJD
 CHECKED: CH CHECKED: JLC

ALLEN ST/COVENANTER
 KEY MAP - TYPICAL SECTIONS

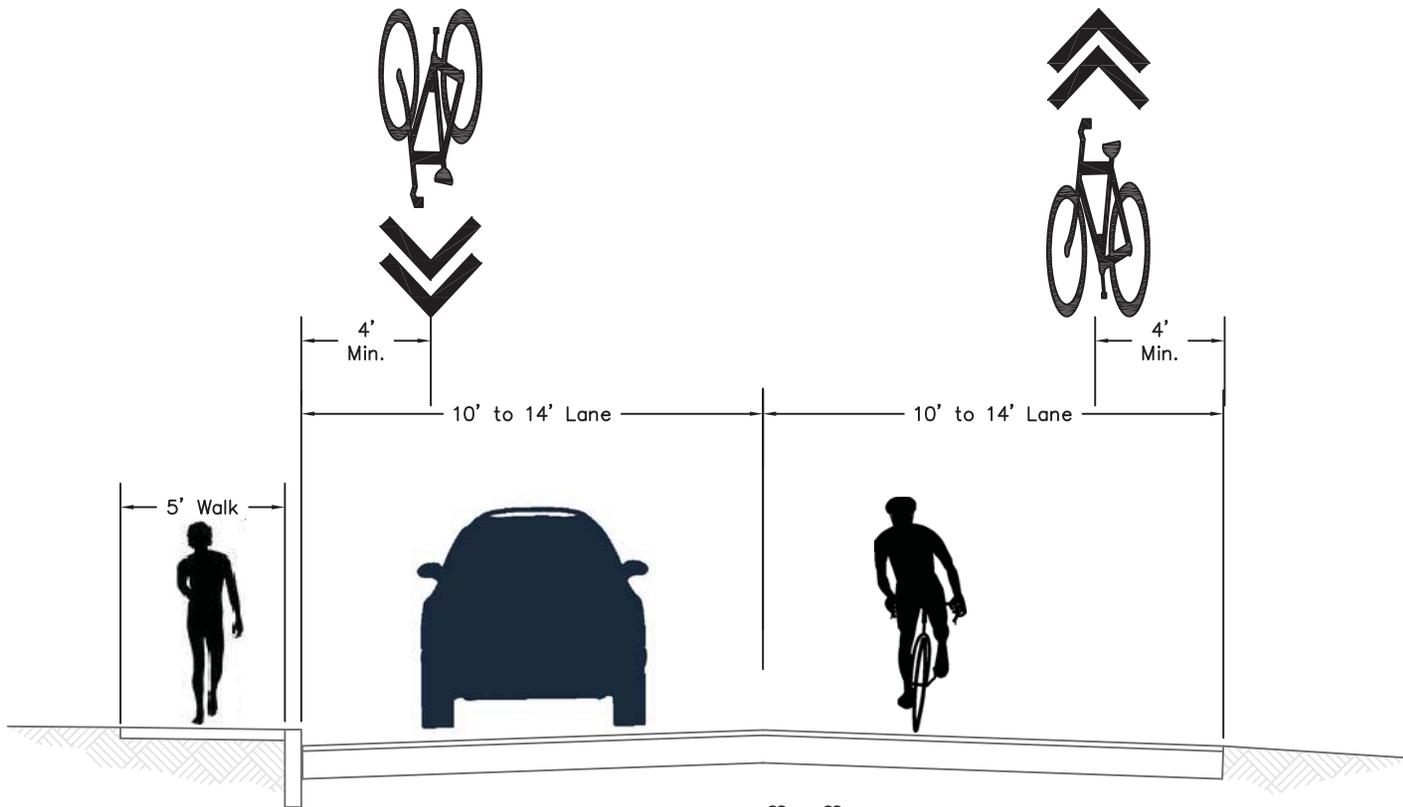
HORIZONTAL SCALE 1"=250' (Full Size "D")	BRIDGE FILE
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS of
CONTRACT	PROJECT



Patterson Dr - Allen/Covenanter Bike Boulevard

Bloomington Bikeways Implementation Plan
Source: Google Earth Aerial
Author: RW
Date: October, 2011





TYPICAL SECTION "A" INTERSECTION

S. PATTERSON DRIVE TO 375' W. OF S. FAIRVIEW STREET

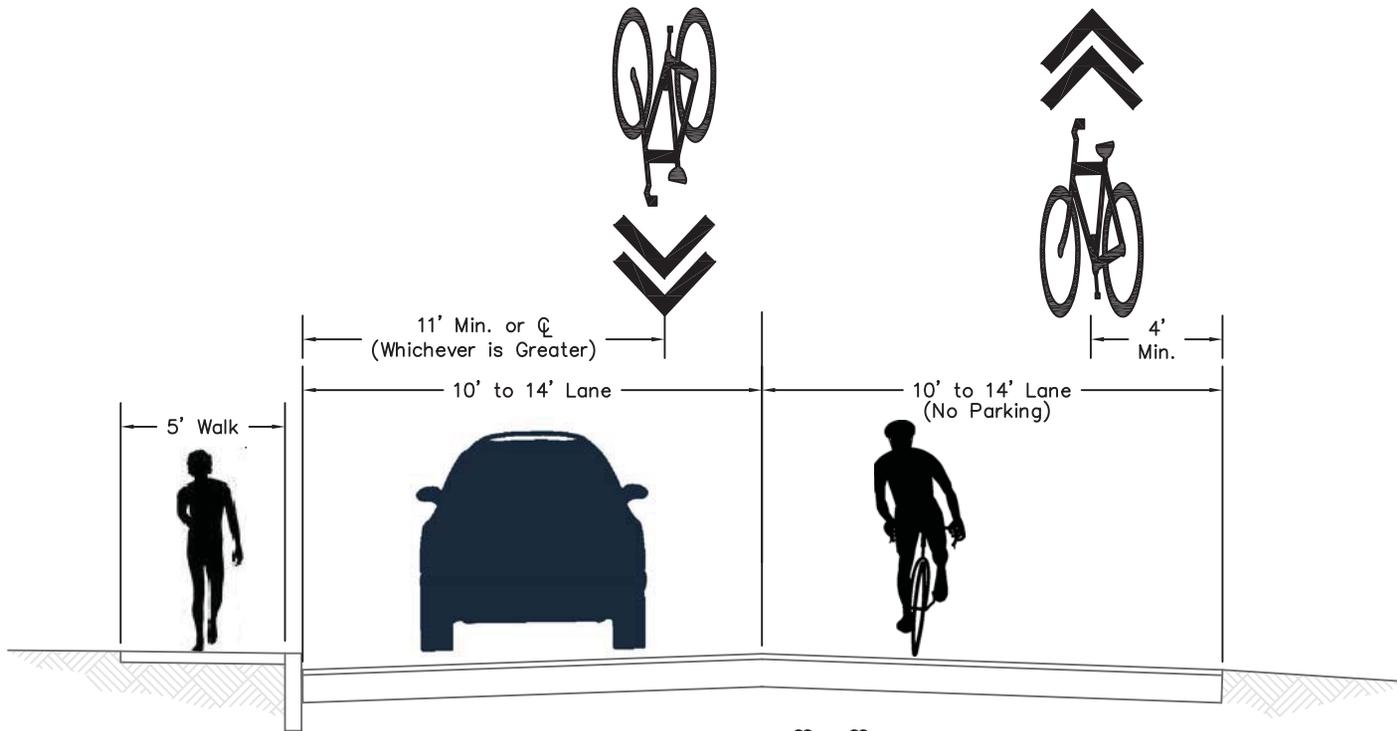


THE CITY OF
BLOOMINGTON



BURGESS & NIPLE
Engineers ■ Architects ■ Planners





TYPICAL SECTION "A" MID-BLOCK

S. PATTERSON DRIVE TO 375' W. OF S. FAIRVIEW STREET

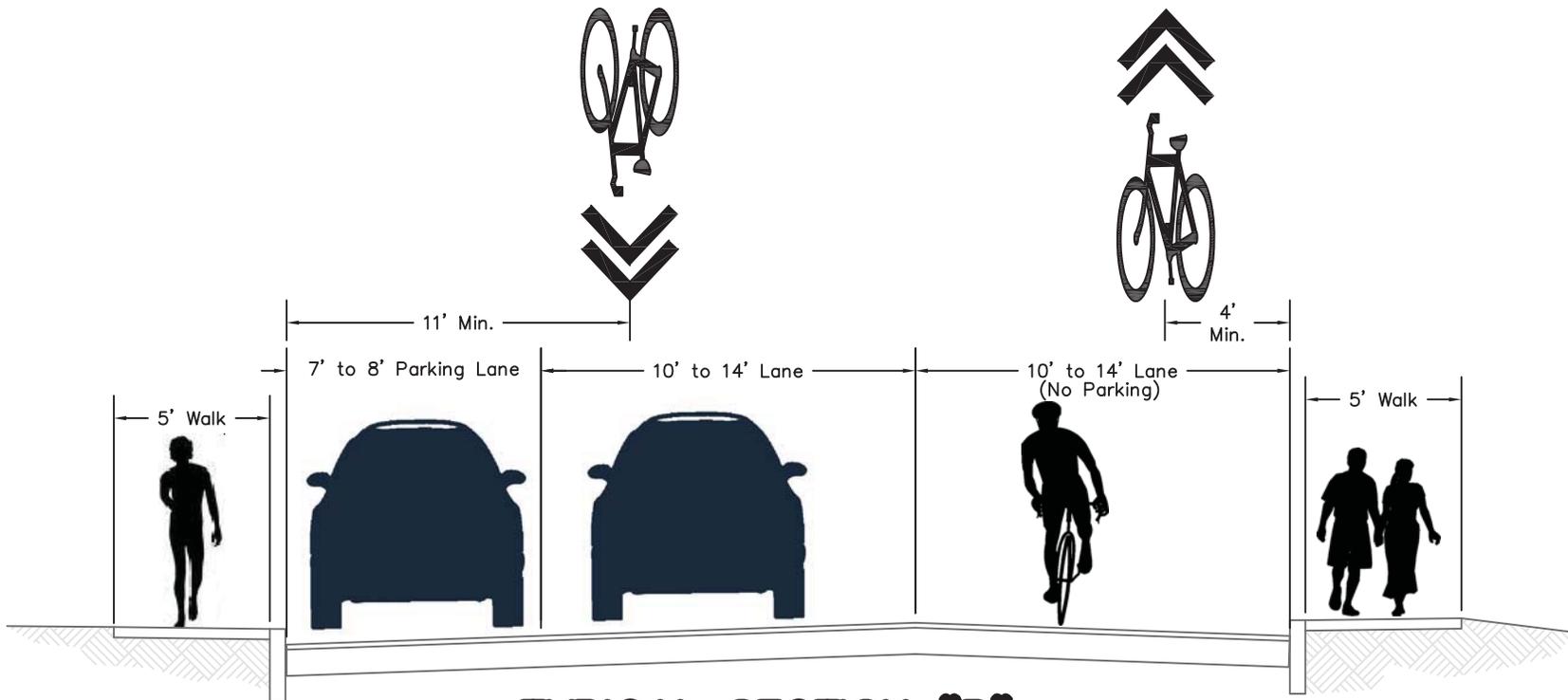


THE CITY OF
BLOOMINGTON



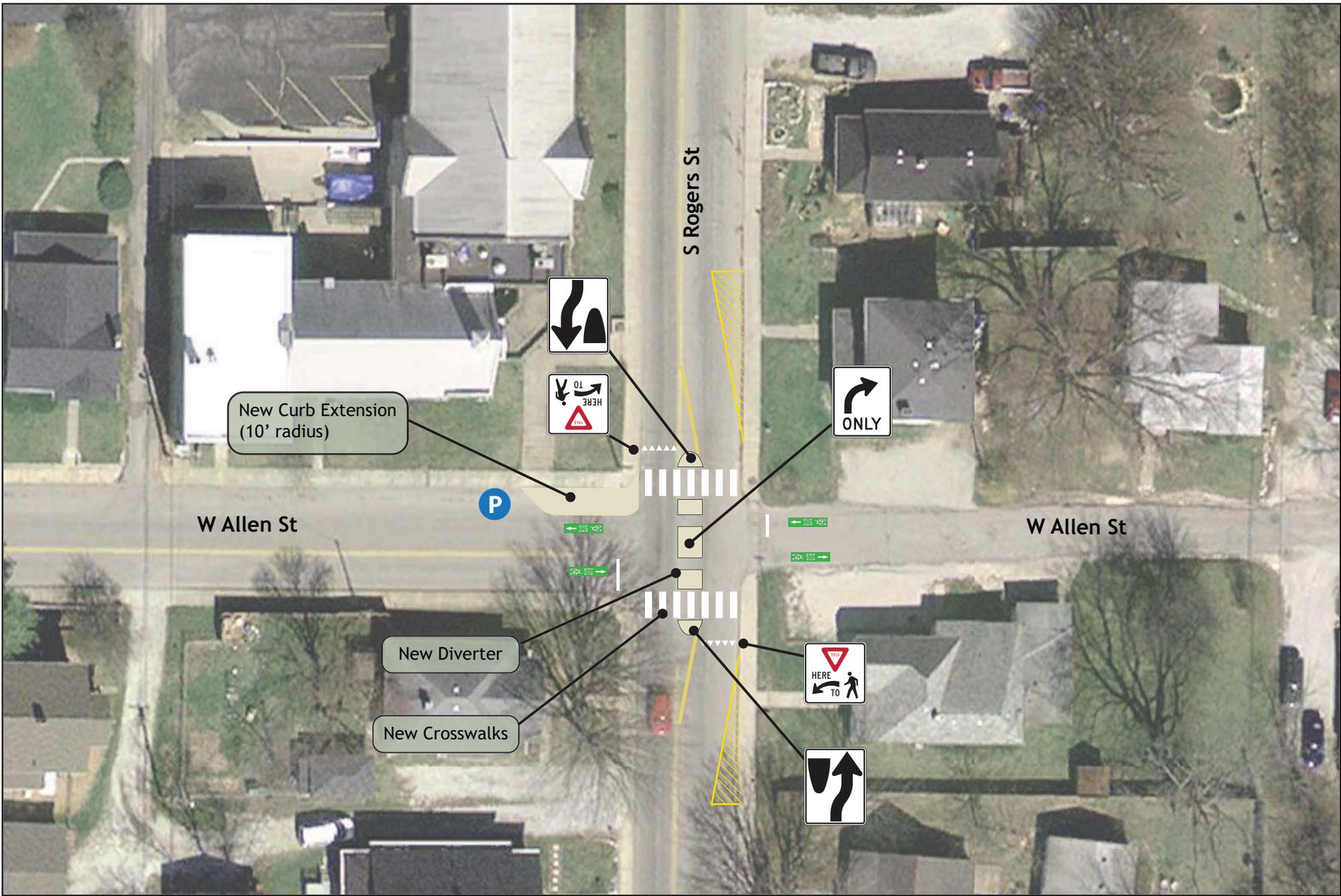
BURGESS & NIPLE
Engineers ■ Architects ■ Planners





TYPICAL SECTION "B"

S FAIRVIEW STREET TO ROGERS STREET

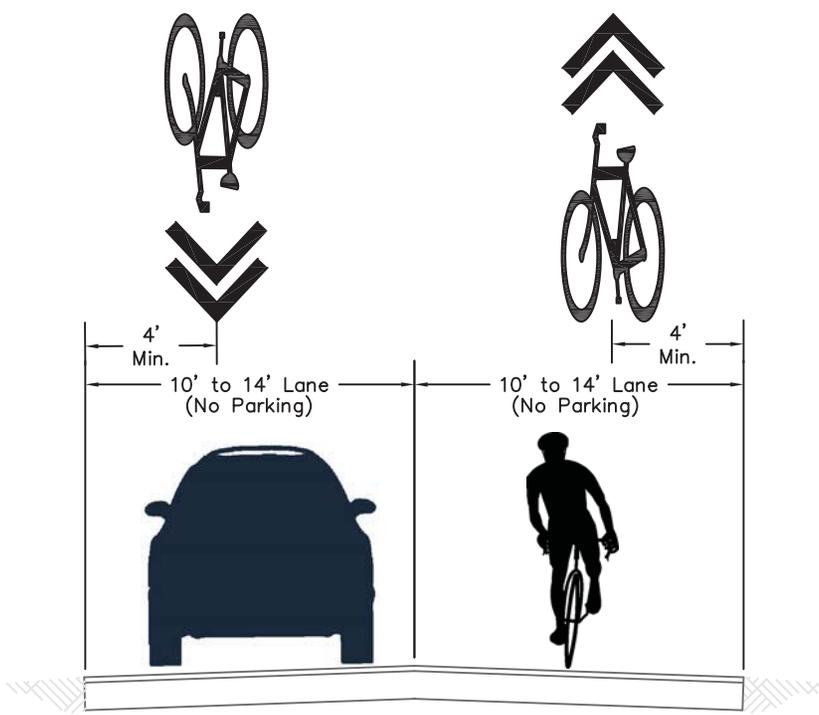


Rogers St - Allen/Covenanter Bike Boulevard

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: October, 2011





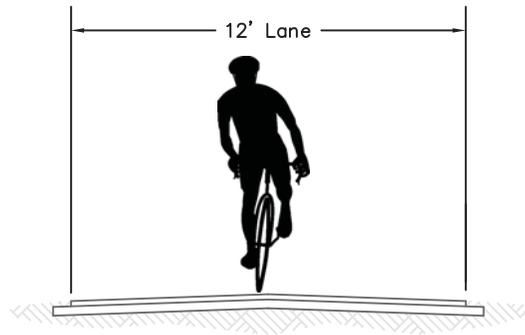
TYPICAL SECTION "C"

S ROGERS STREET TO S MADISON STREET


 THE CITY OF
BLOOMINGTON


BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



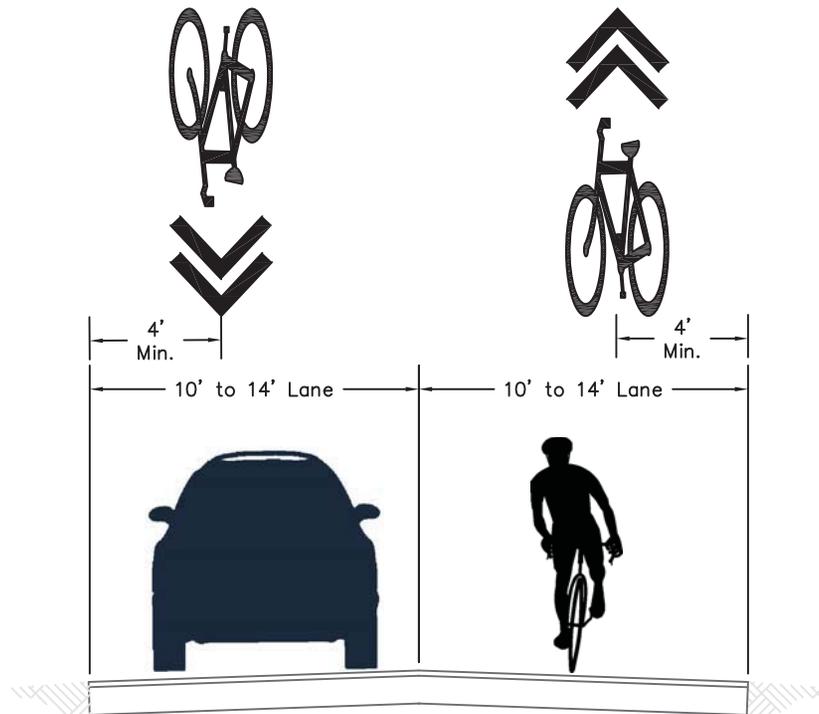
TYPICAL SECTION "D"

S. MADISON STREET TO S MORTON STREET



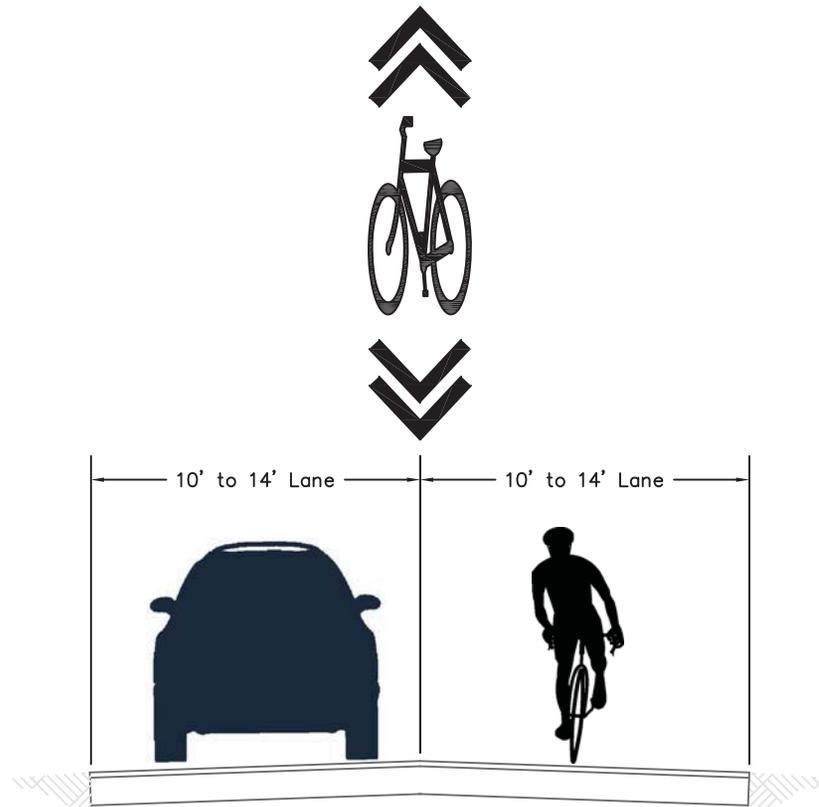
BURGESS & NIPLE
Engineers ■ Architects ■ Planners





TYPICAL SECTION "E" INTERSECTION

S MORTON STREET TO S WALNUT STREET
 JORDAN AVE. & PORTION OF E. SOUTHDOWNS DRIVE
 & MARILYN STREET



TYPICAL SECTION "E" MID-BLOCK

S MORTON STREET TO S WALNUT STREET
 JORDAN AVE. & PORTION OF E. SOUTHDOWNS DRIVE
 & MARILYN STREET

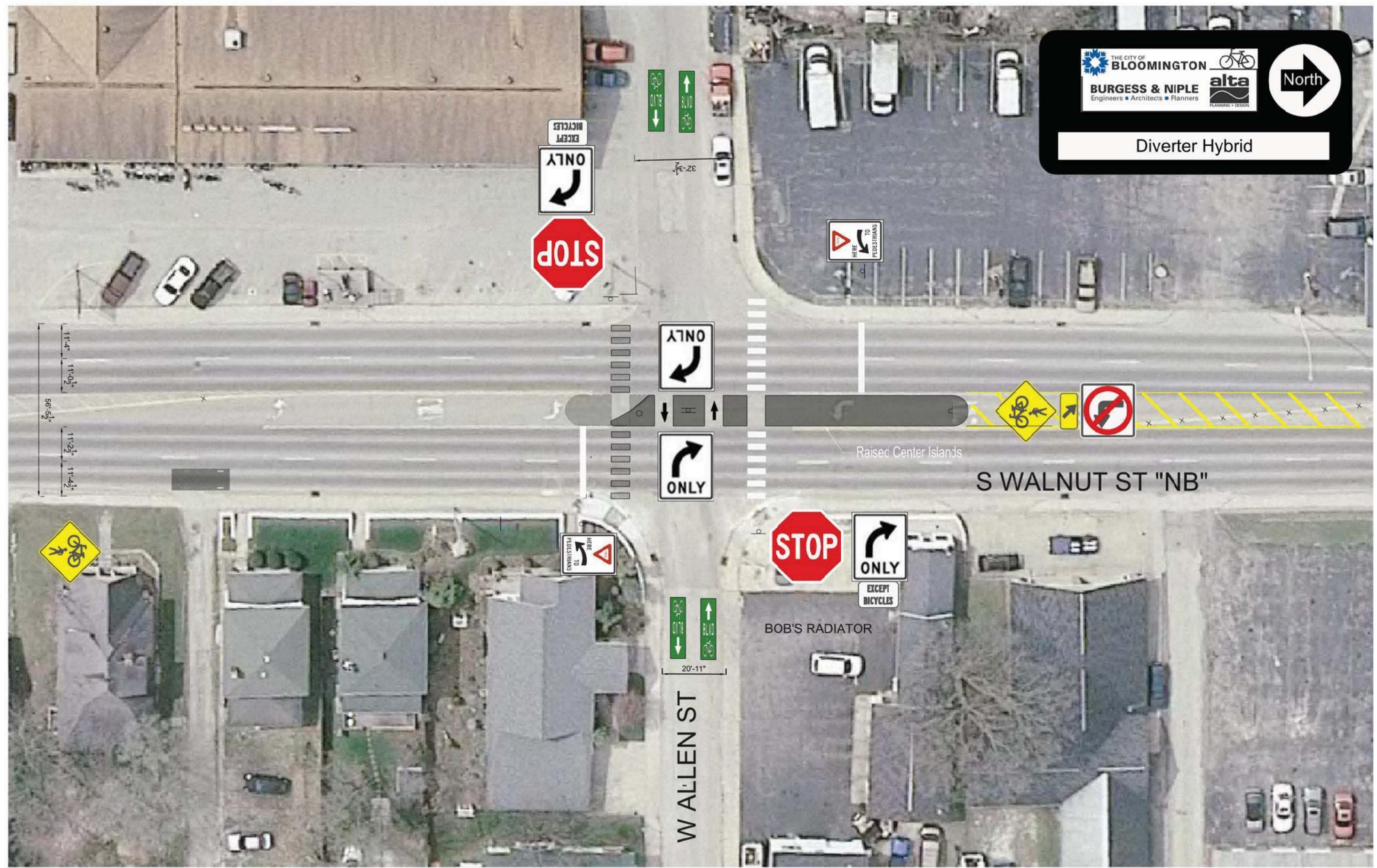


BURGESS & NIPLE
 Engineers ■ Architects ■ Planners





Diverter Hybrid



S WALNUT ST "NB"

W ALLEN ST

BOB'S RADIATOR

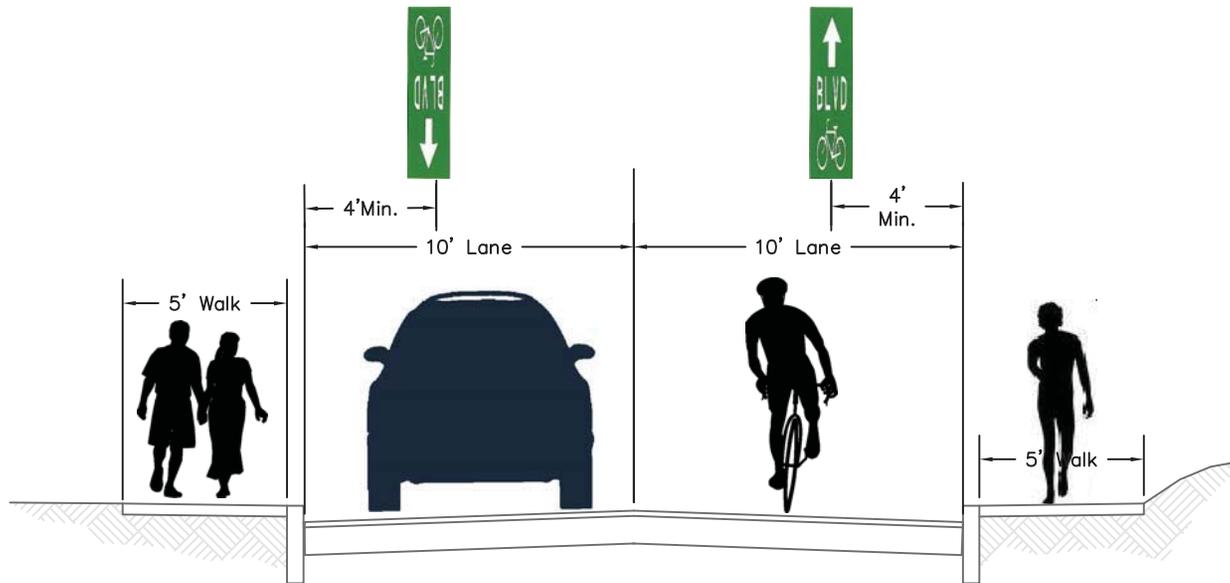
Raised Center Islands

11'-4"
11'-0 1/2"
56'-5 1/2"
11'-2 1/2"
11'-4 1/2"

20'-11"

32'-3 1/2"

Scale 1"=30'



TYPICAL SECTION "F" INTERSECTION

S. WALNUT STREET TO LINCOLN STREET

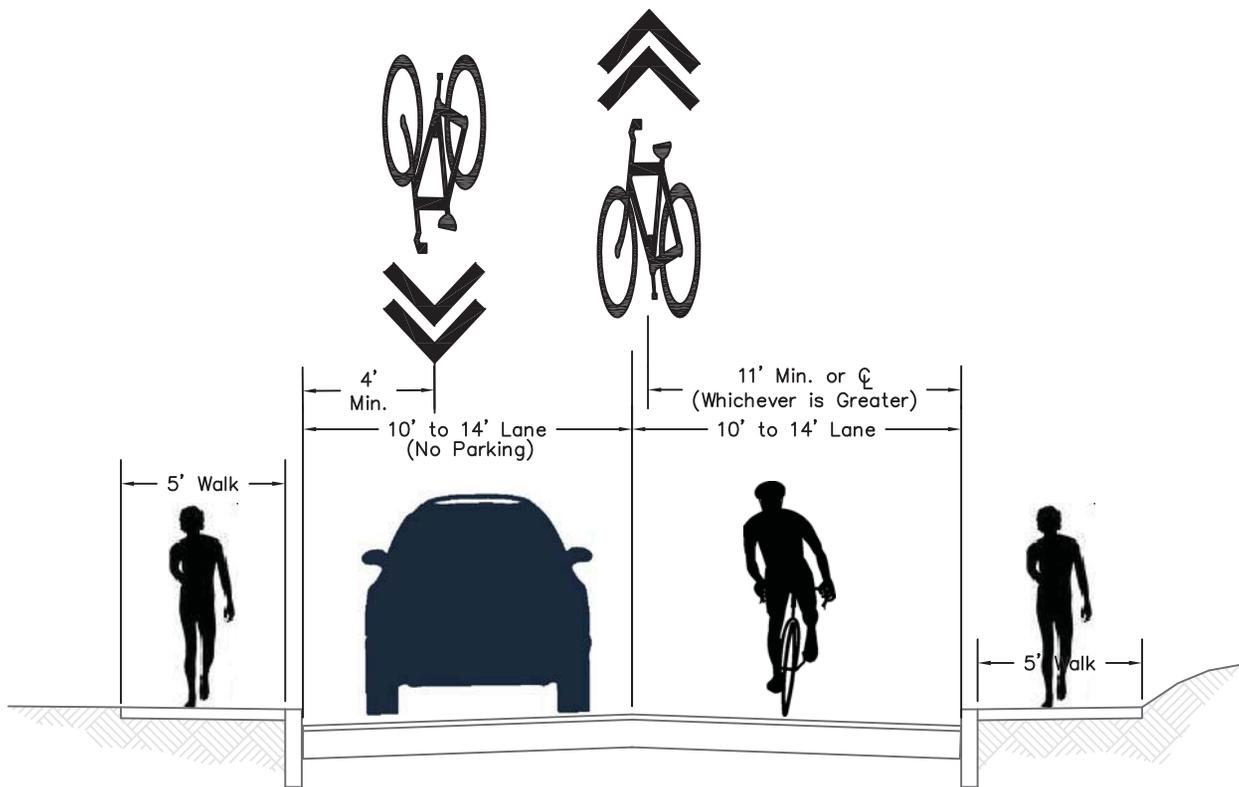


THE CITY OF
BLOOMINGTON



BURGESS & NIPLE
Engineers ■ Architects ■ Planners

alta
PLANNING + DESIGN

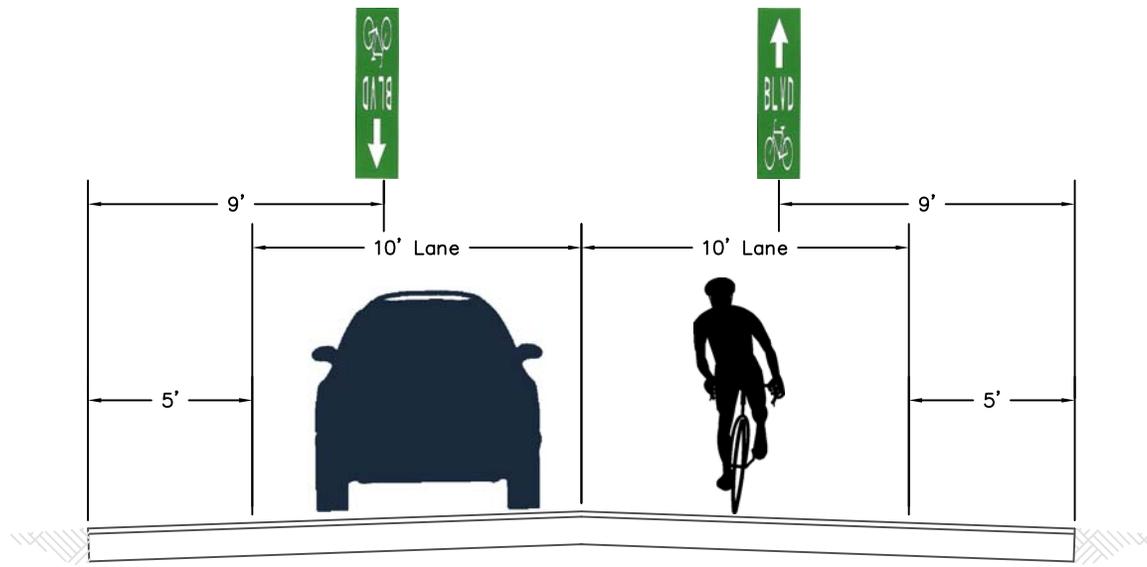


TYPICAL SECTION "F" MID-BLOCK
 S. WALNUT STREET TO LINCOLN STREET


 THE CITY OF
BLOOMINGTON

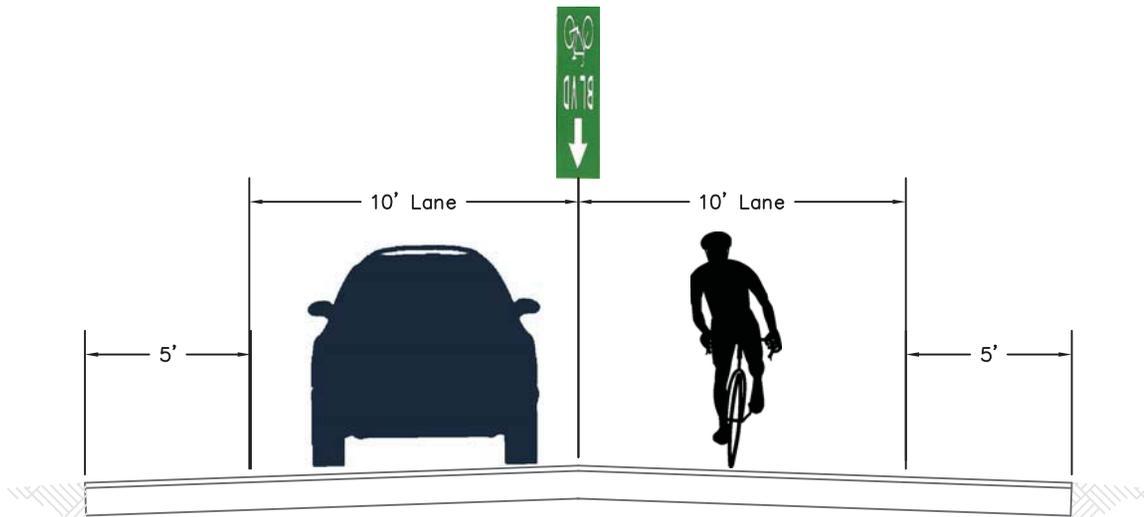

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners


alta
 PLANNING + DESIGN



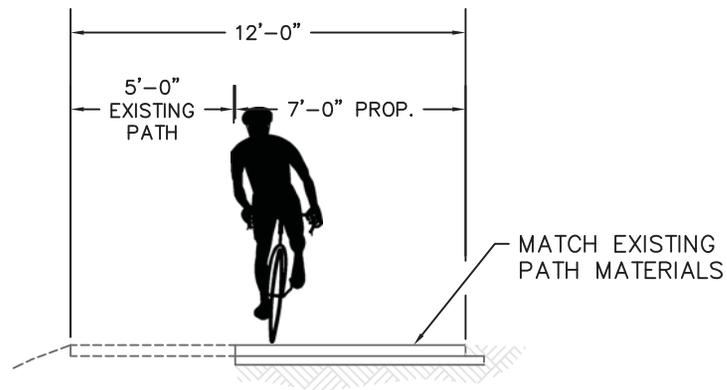
TYPICAL SECTION "G" INTERSECTION

S LINCOLN STREET TO S HENDERSON STREET



TYPICAL SECTION "G" MID-BLOCK

S LINCOLN STREET TO S HENDERSON STREET



TYPICAL SECTION "H"

BRYAN PARK



BURGESS & NIPLE
Engineers ■ Architects ■ Planners





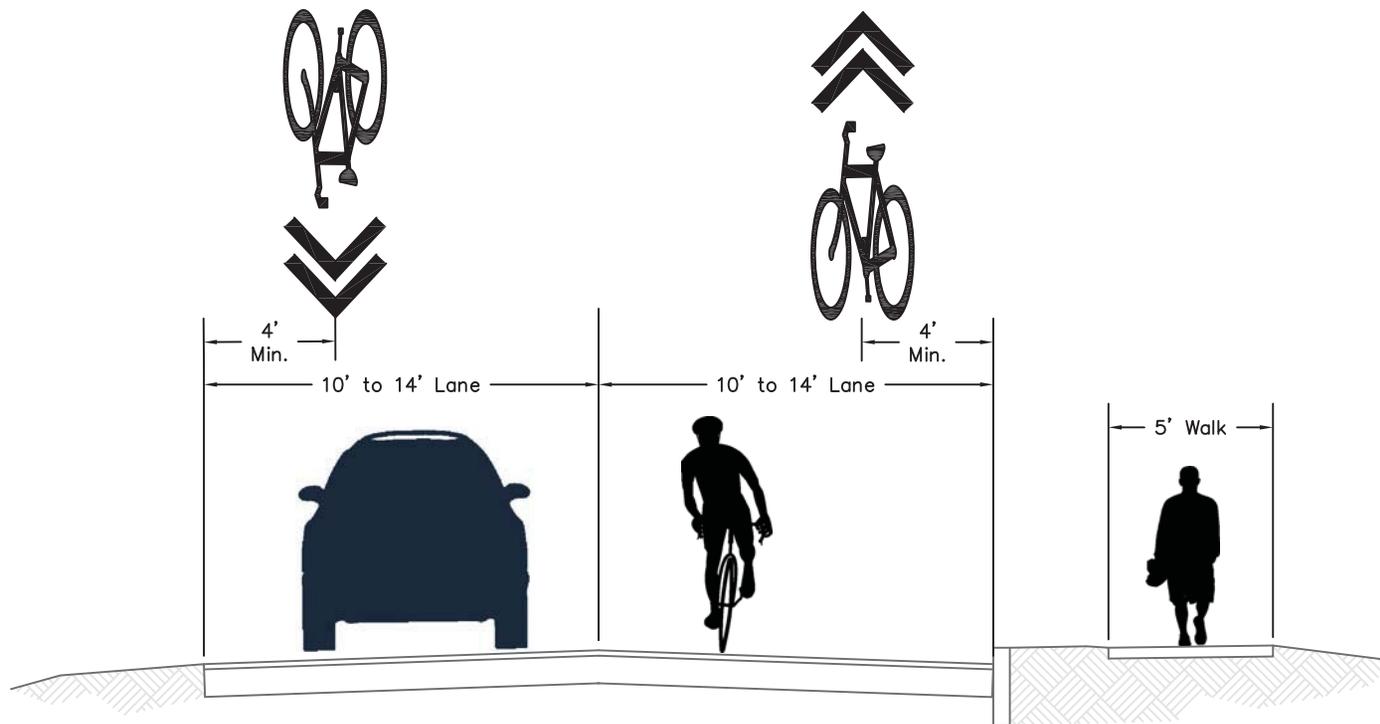
TYPICAL SECTION "1"

S WOODLAWN AVENUE TO S JORDAN AVE.


 THE CITY OF
BLOOMINGTON


BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



TYPICAL SECTION "J" INTERSECTION

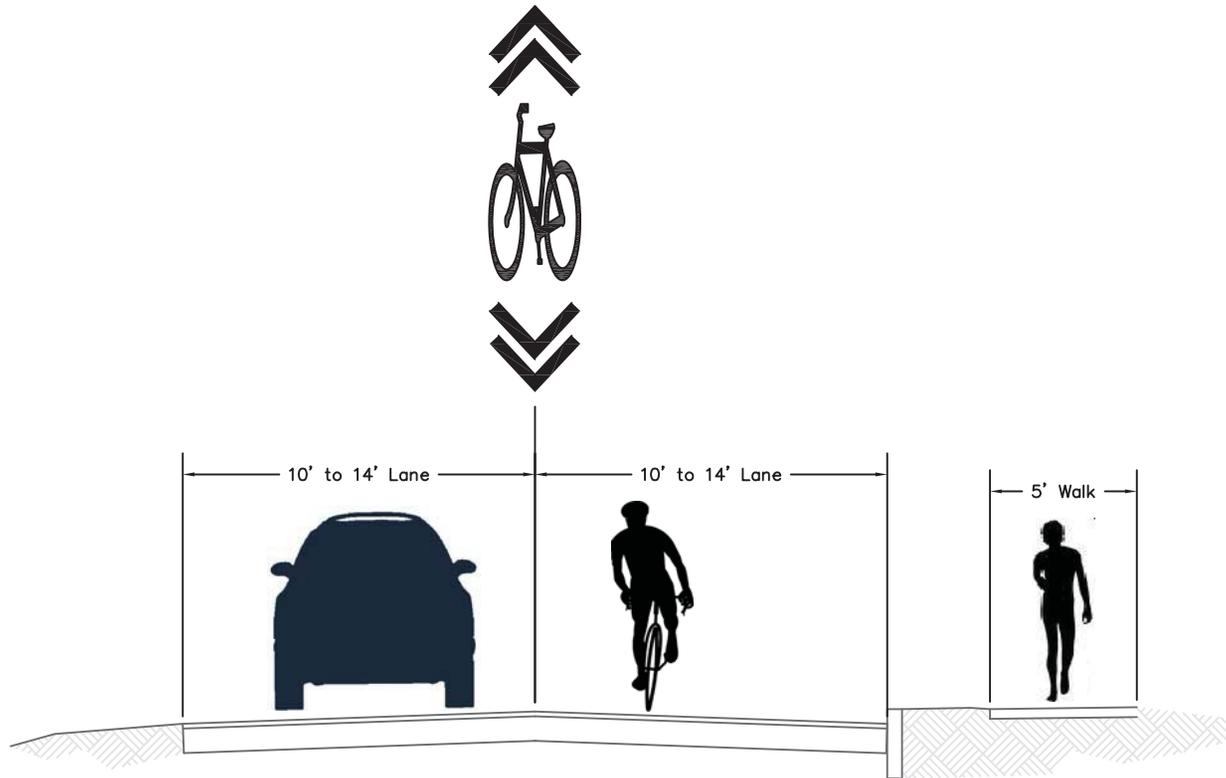
MITCHELL STREET, RUBY LANE, NANCY STREET & HIGH STREET TO NOTA ROAD



High Street - Allen/Covenanter Bike Boulevard

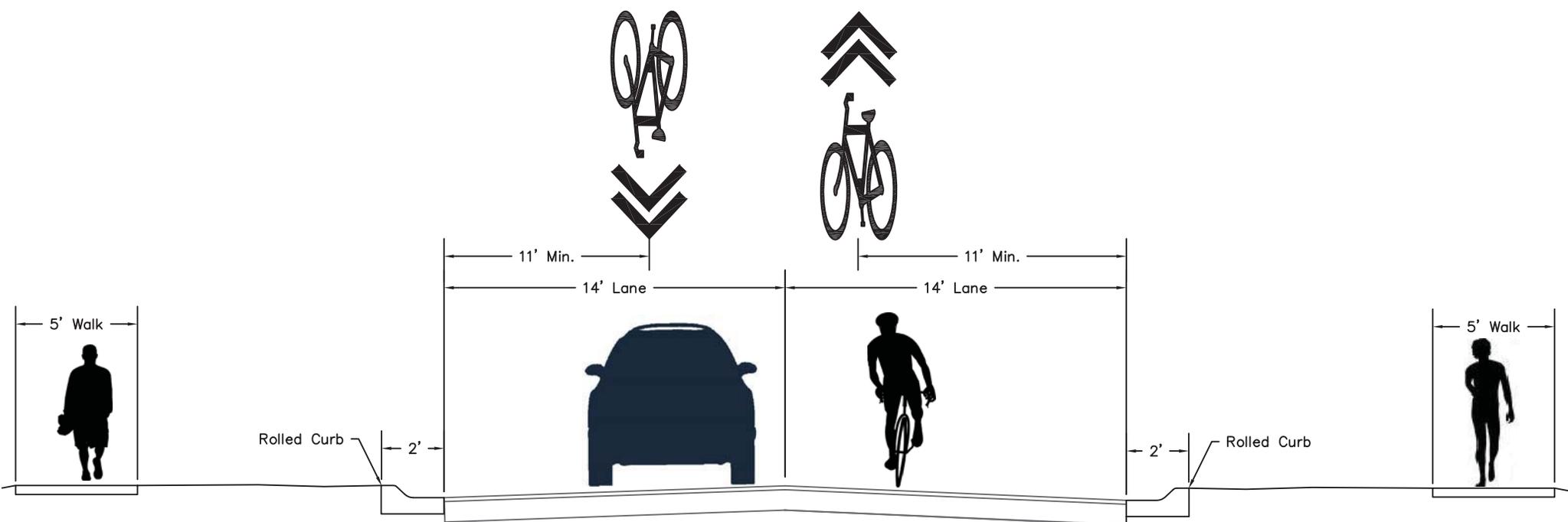
Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
Author: RW
Date: October, 2011



TYPICAL SECTION "J" MID-BLOCK

MITCHELL STREET, RUBY LANE, NANCY STREET &
CONVENANTER FROM HIGH STREET TO NOTA ROAD



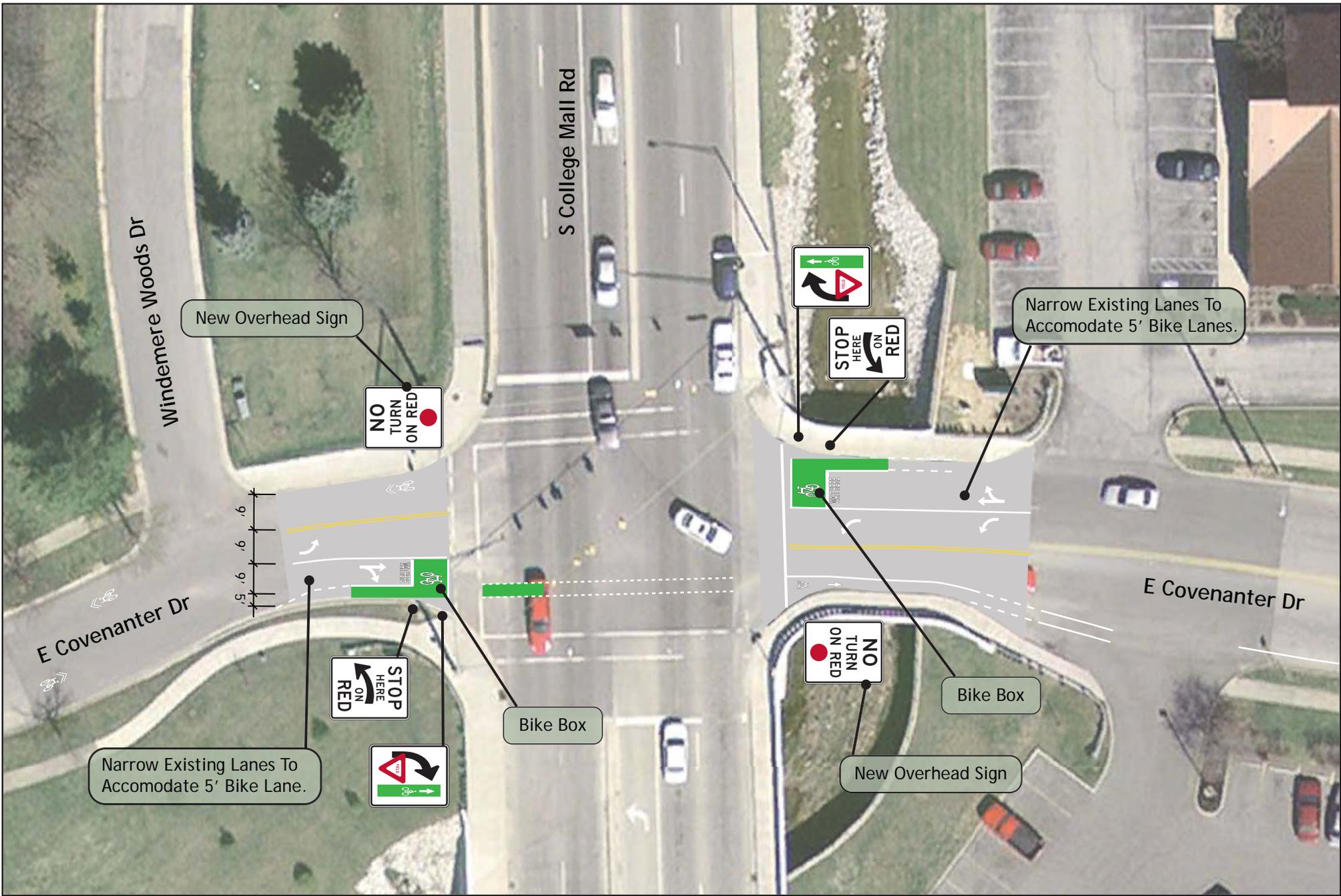
TYPICAL SECTION "K"

NOTA ROAD TO S COLLEGE MALL ROAD


 THE CITY OF
BLOOMINGTON


BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

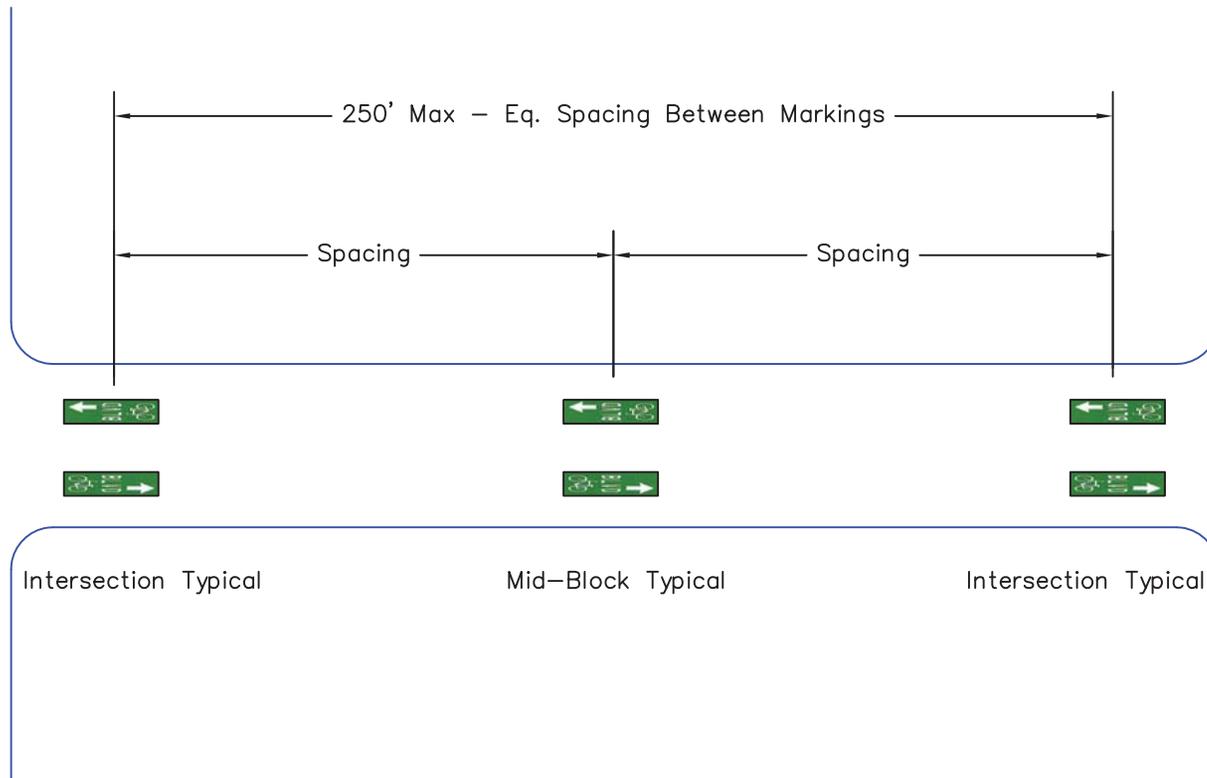

alta
 PLANNING + DESIGN



College Mall Intersection - Allen/Covenanter Bike Boulevard

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: October, 2011



TYPICAL LAYOUT FOR PAVEMENT MARKING PANELS



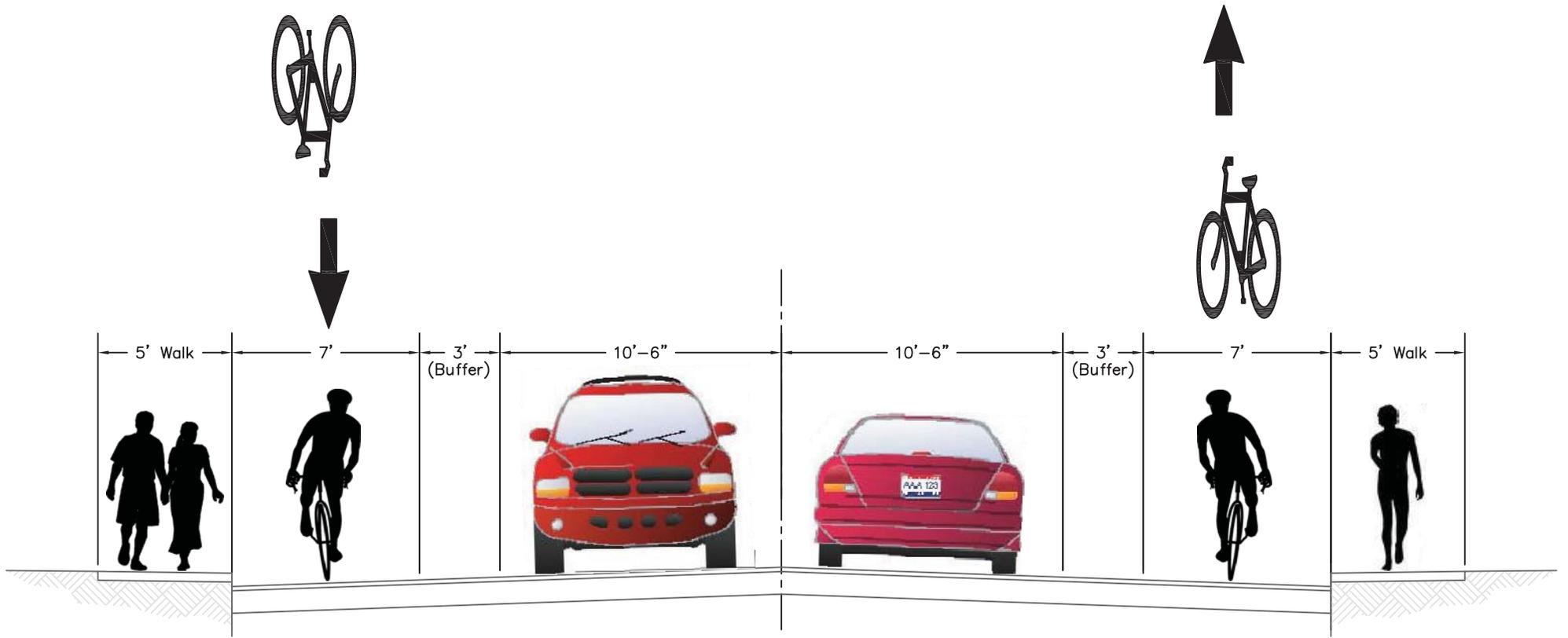
foster - May 08, 2012 - 12:17pm P:\PR50635\cadd\02-HH\02-HH Location Map.dwg



DESIGNED: JLC DRAWN: BJD
 CHECKED: CH CHECKED: JLC

HIGHLAND/HAWTHORNE
 KEY MAP - INTERSECTION DETAILS

HORIZONTAL SCALE 1"=250' (Full Size "D")	BRIDGE FILE
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS of
CONTRACT	PROJECT



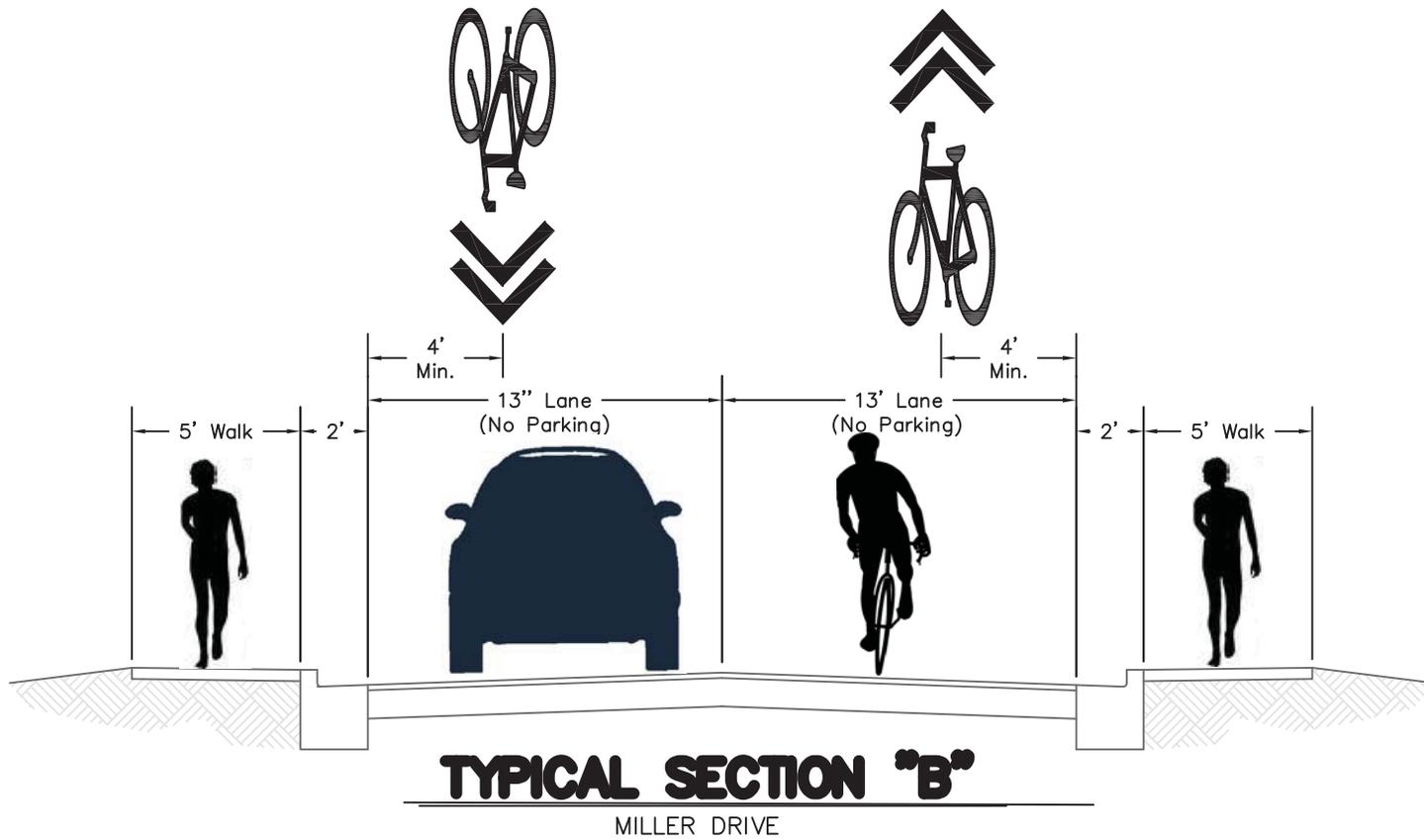
TYPICAL SECTION "A"

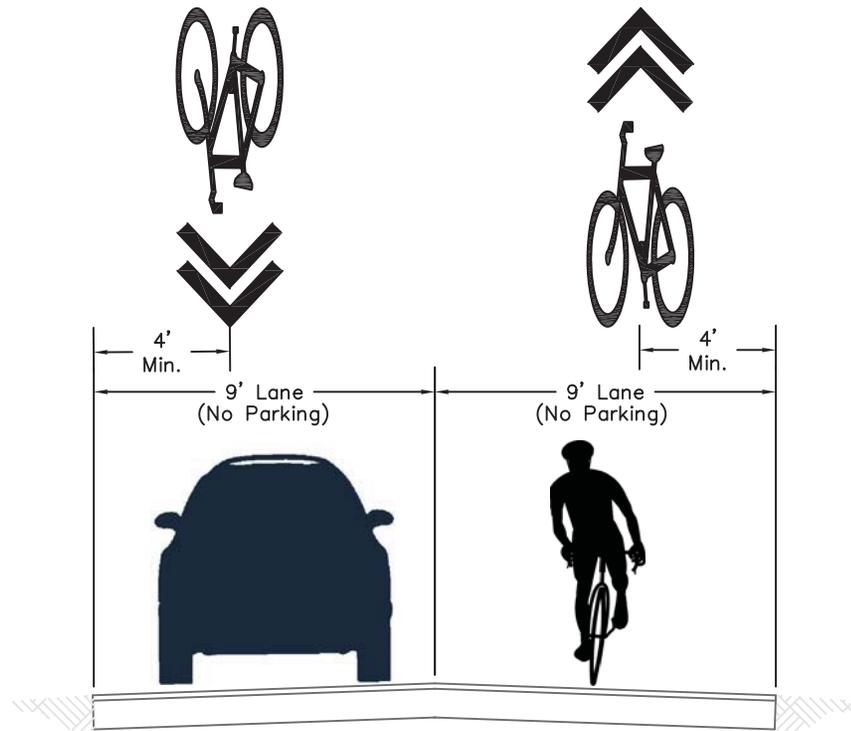
WINSLOW ROAD TO MILLER DRIVE


THE CITY OF BLOOMINGTON


BURGESS & NIPLE
 Engineers ■ Architects ■ Planners


alta
 PLANNING + DESIGN

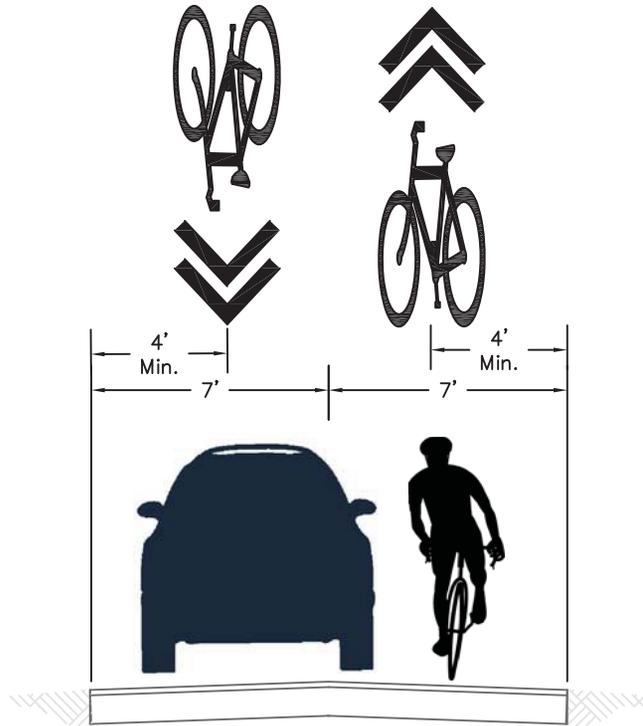




TYPICAL SECTION "C"

OLIVE STREET – MILLER DRIVE TO THORTON DRIVE

NOTE: Sharrow Markings to be staggered.



TYPICAL SECTION "D"

OLIVE STREET – THORNTON DRIVE TO HILLSIDE DRIVE

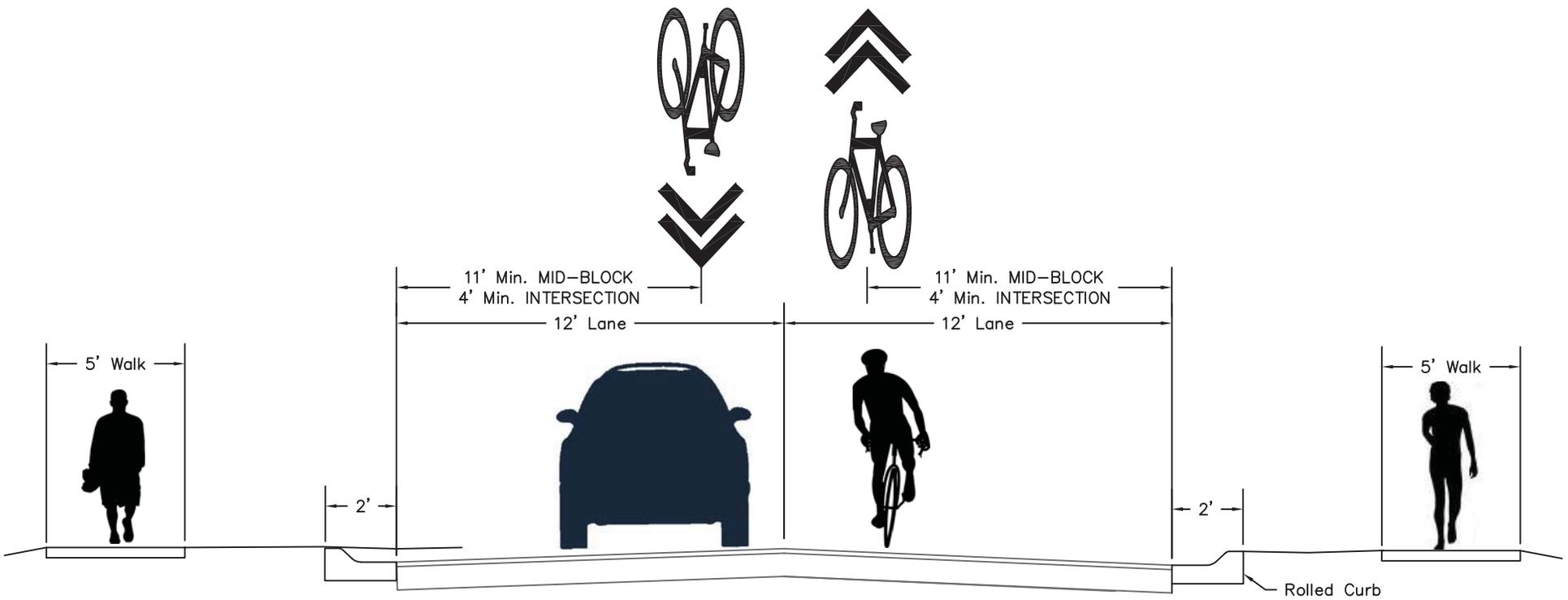


THE CITY OF
BLOOMINGTON



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners

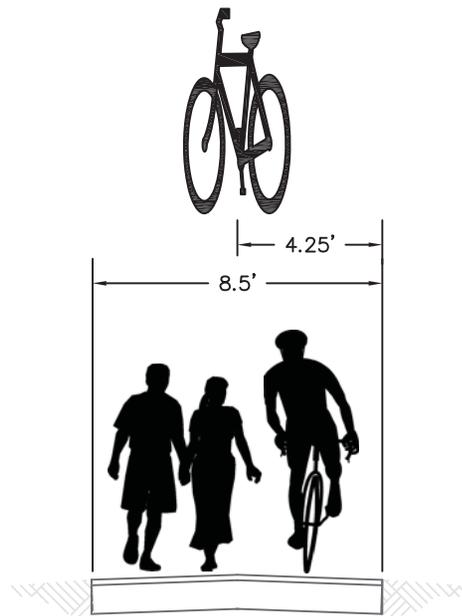
alta
PLANNING + DESIGN



TYPICAL SECTION "E"

WEATHERSTONE LANE – HILLSIDE DRIVE TO CONNECTOR PATH

Note:
Stagger Mid-Block Needed.



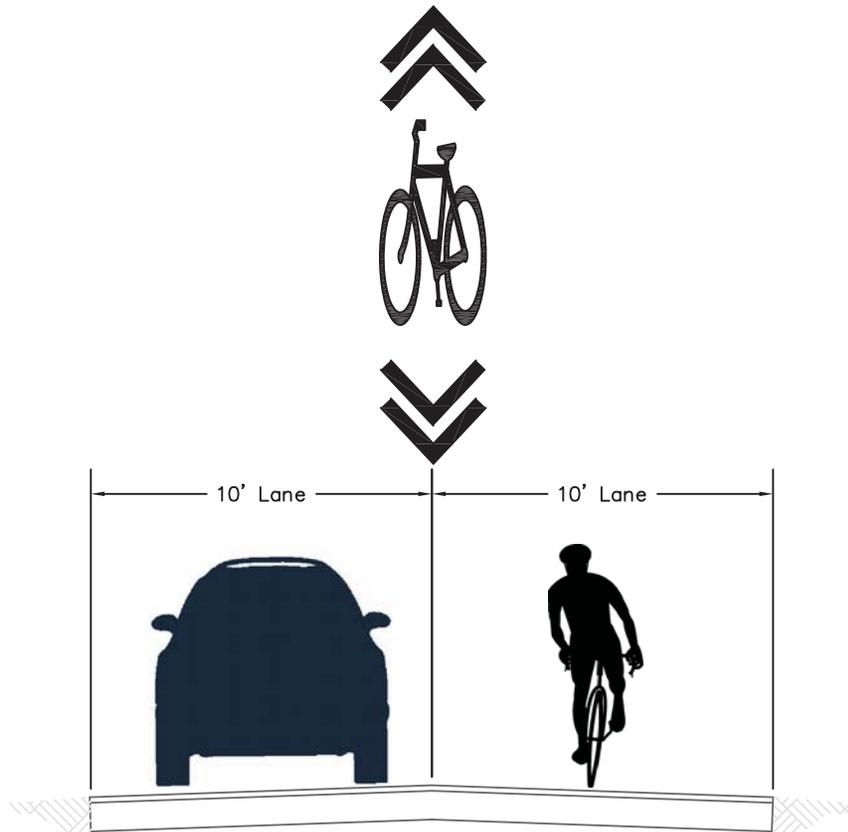
TYPICAL SECTION "F"

CONNECTOR PATH BETWEEN WEATHERSTONE LANE & TARZIAN LANE

 THE CITY OF
BLOOMINGTON 

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

alta
PLANNING + DESIGN



TYPICAL SECTION "G"

TARZIAN LANE – CONNECTOR PATH TO HIGHLAND AVENUE
 HIGHLAND AVENUE – TARZIAN LANE TO SHERIDAN DRIVE
 HAWTHORNE DRIVE – SHERIDAN DRIVE TO MAXWELL LANE

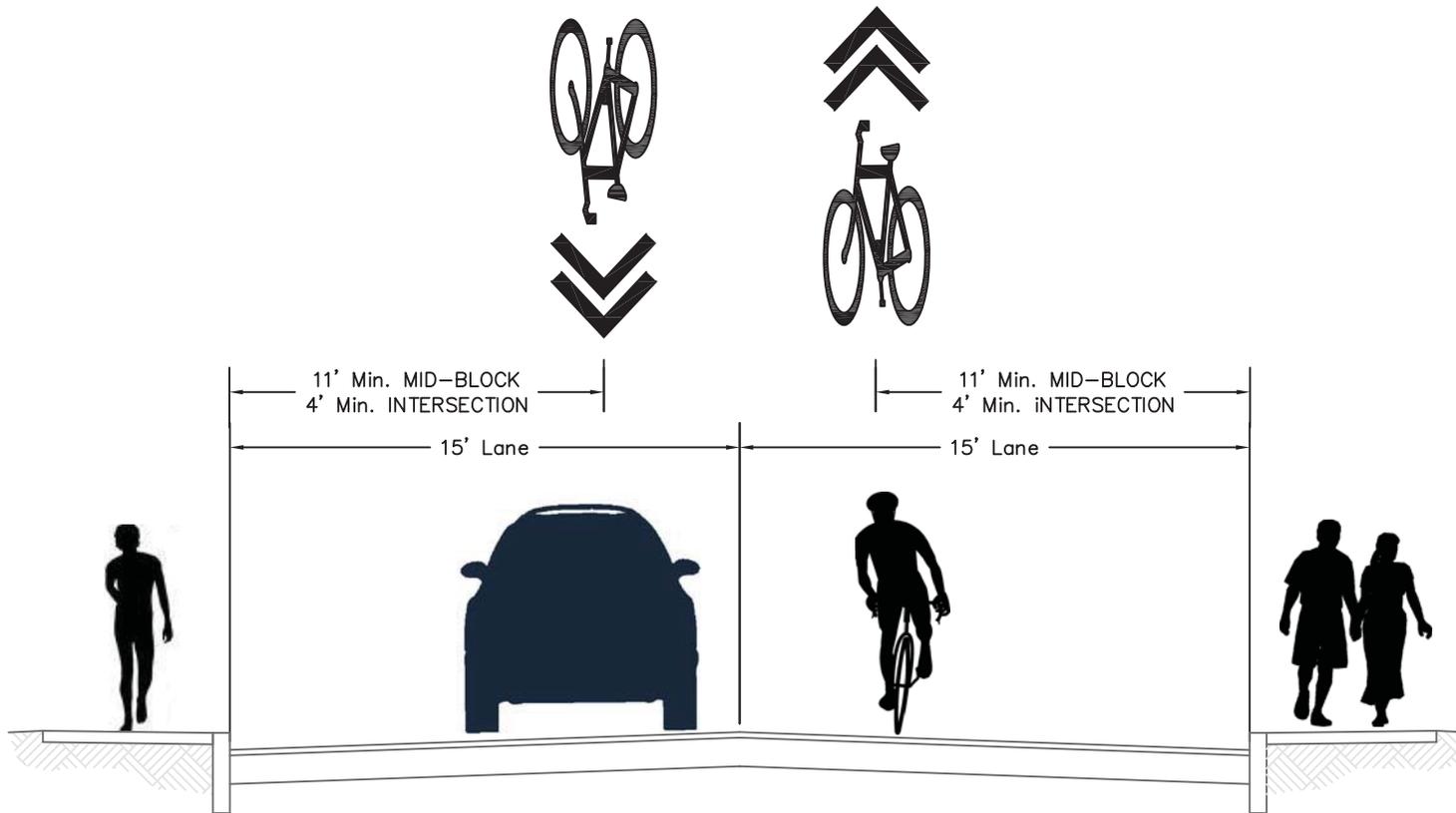


THE CITY OF
BLOOMINGTON



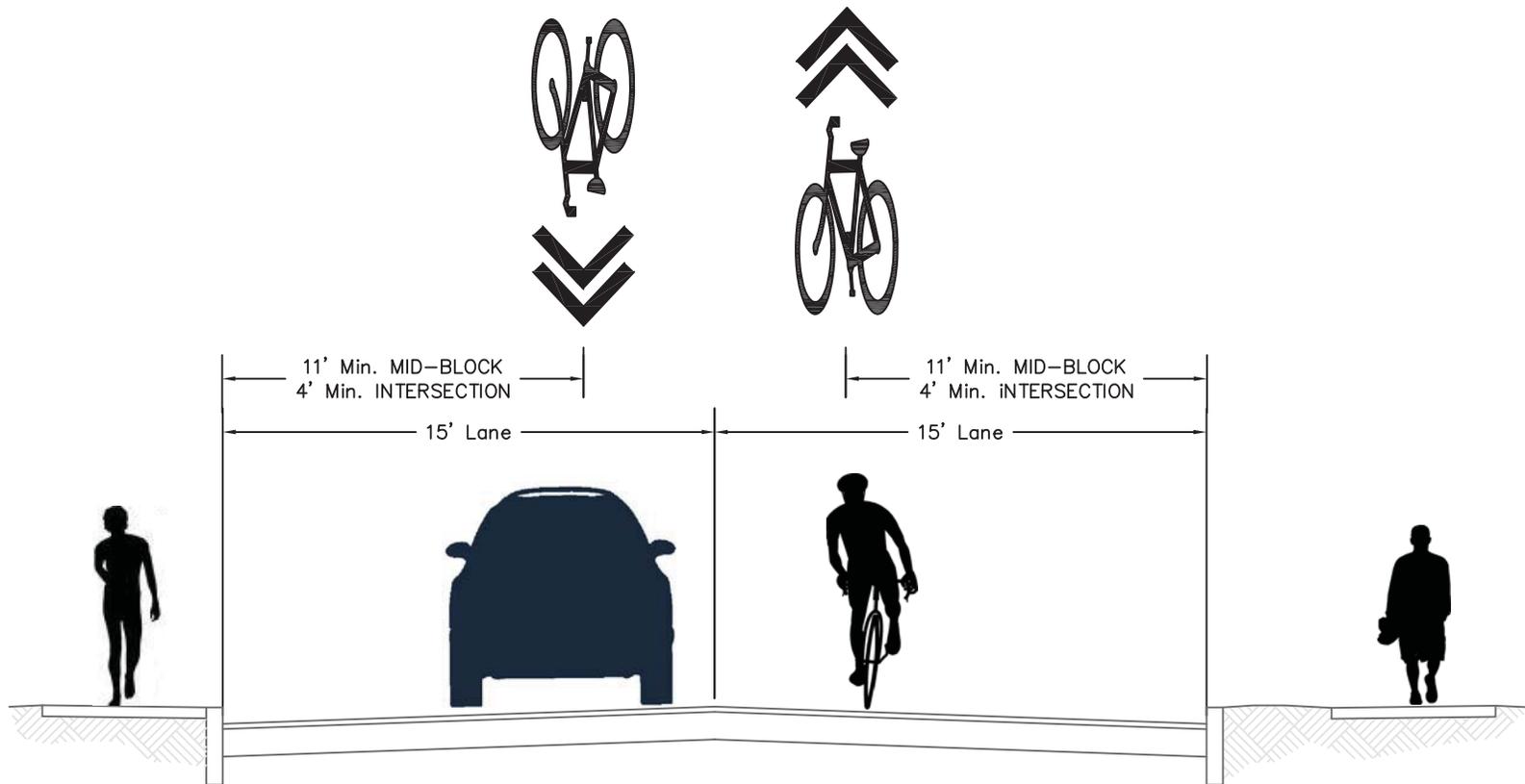
BURGESS & NIPLE
 Engineers ■ Architects ■ Planners





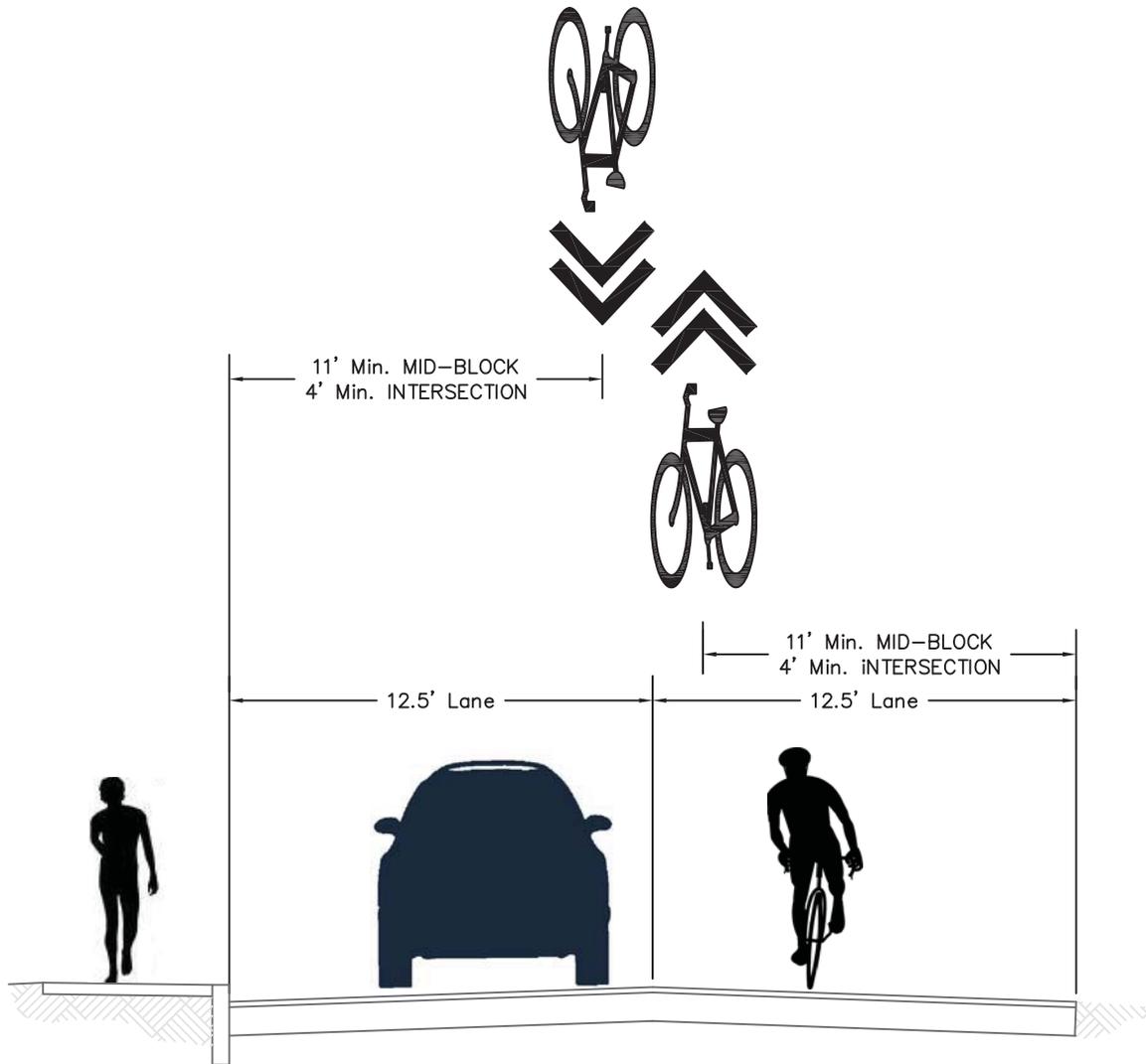
TYPICAL SECTION "H"

HAWTHORNE DRIVE – MAXWELL LANE TO 1st STREET



TYPICAL SECTION "1"

HAWTHORNE DRIVE – 1st STREET TO UNIVERSITY STREET



TYPICAL SECTION "J"

HAWTHORNE DRIVE – UNIVERSITY STREET TO 2nd STREET



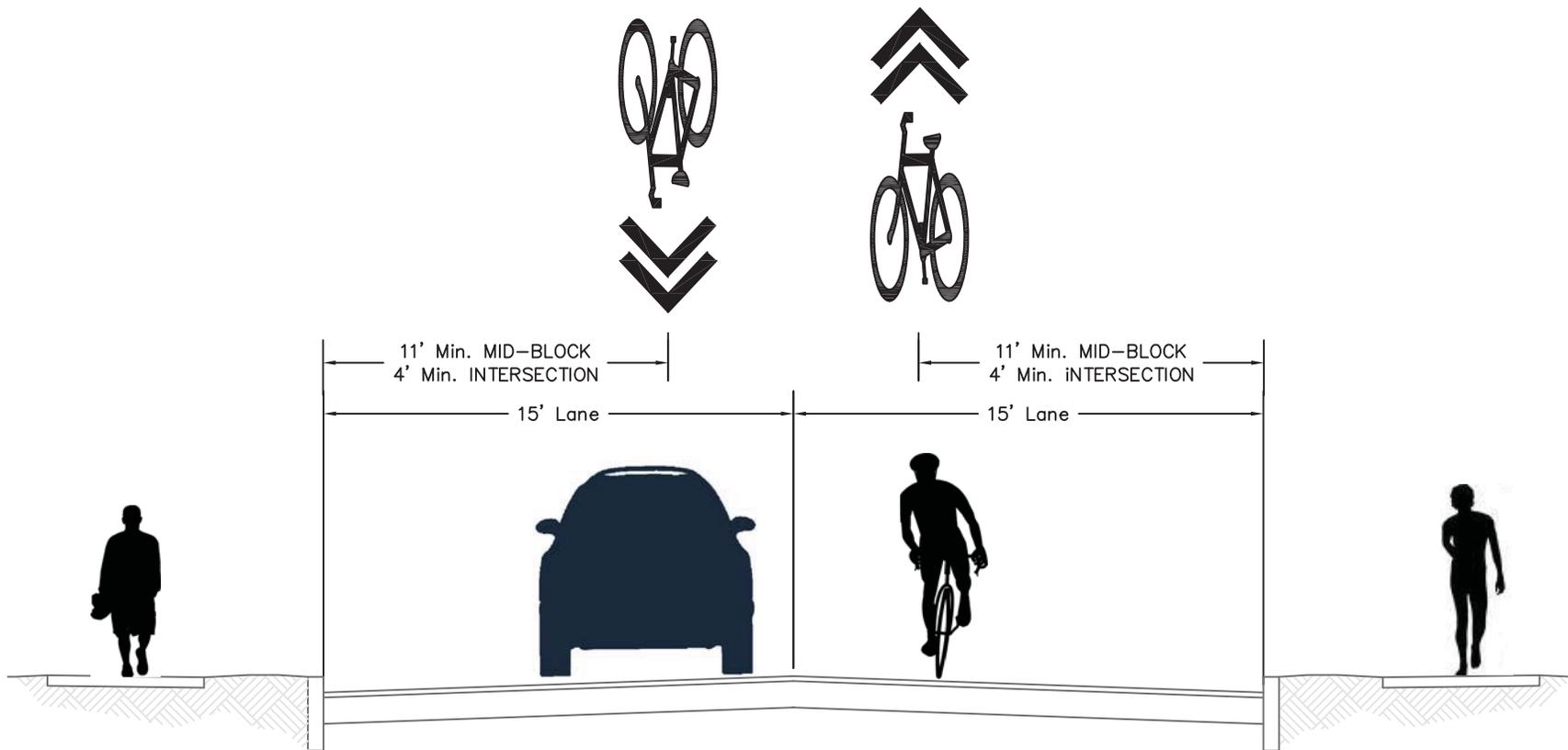
THE CITY OF
BLOOMINGTON



alta
PLANNING + DESIGN

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

NOTE:
Stagger Markings as Needed.



TYPICAL SECTION "K"

HAWTHORNE DRIVE – 2nd STREET TO 3rd STREET



THE CITY OF
BLOOMINGTON



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners



alta
PLANNING + DESIGN

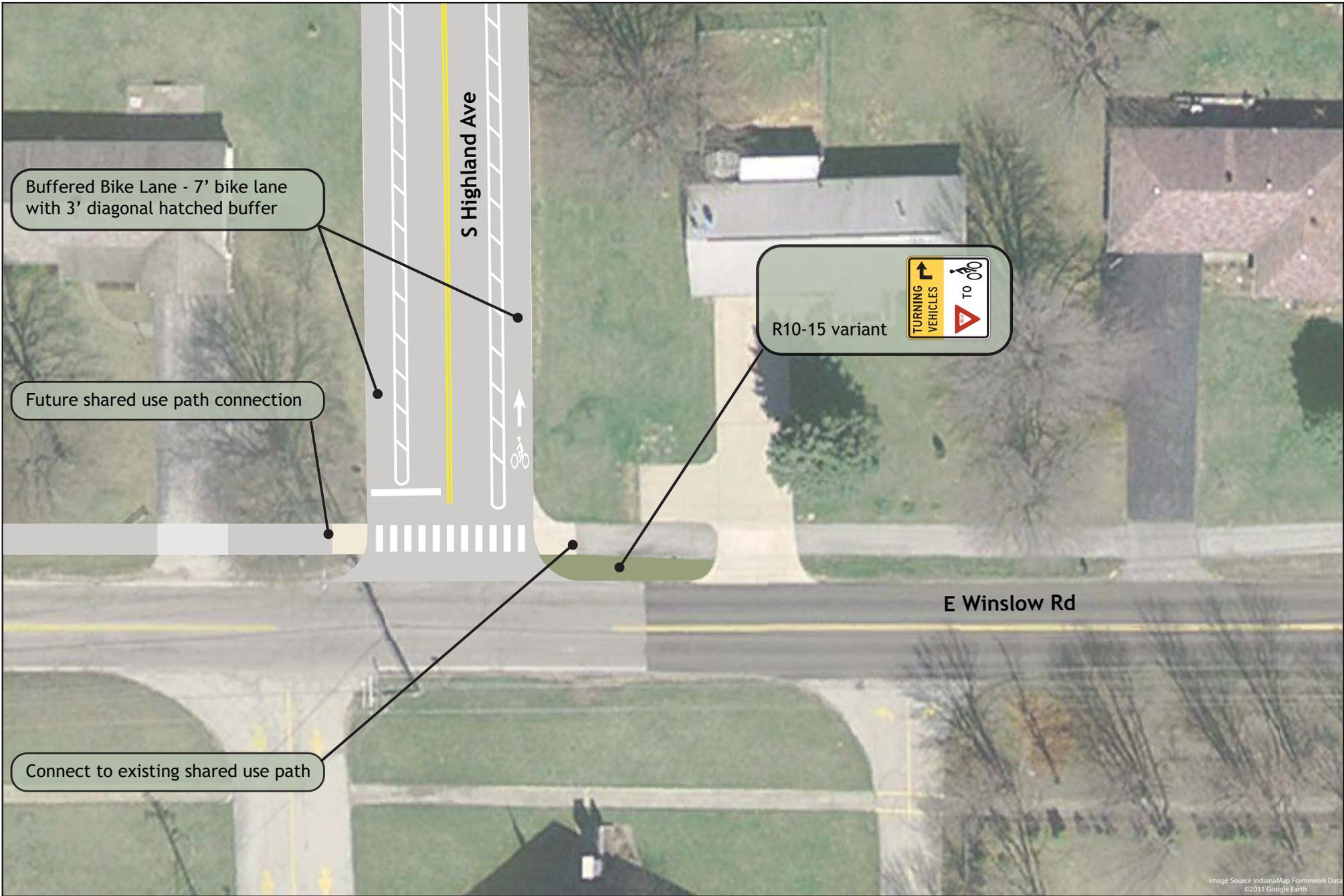


Image Source IndianaMap Framework Data ©2011 Google Earth

Winslow Road - Highland/Hawthorne Bike Boulevard

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
Author: RW
Date: December, 2011



BURGESS & NIPLE
Engineers ■ Architects ■ Planners



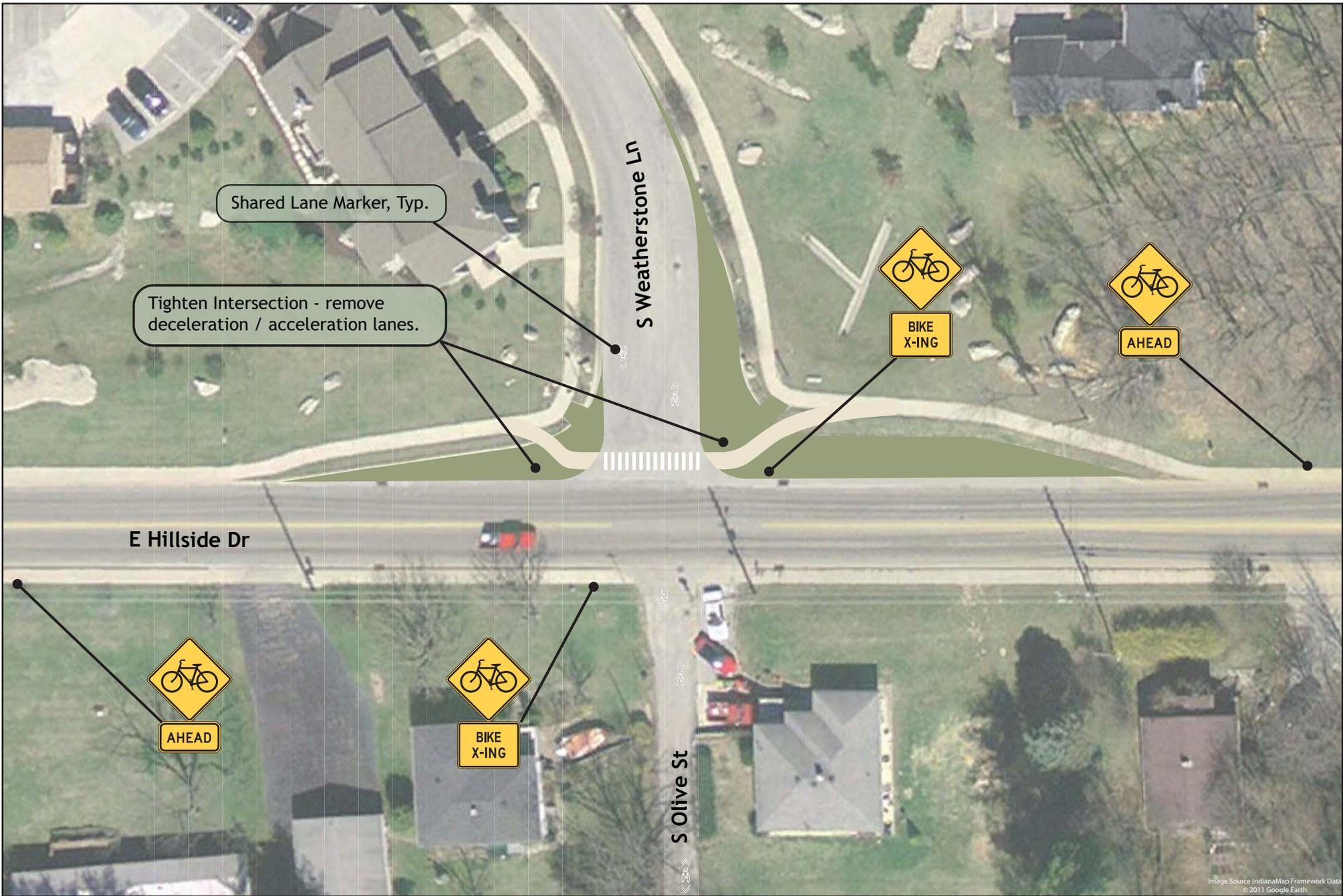


Image Source IndianaMap Framework Data © 2011 Google Earth

Hillside Drive - Highland/Hawthorne Bike Boulevard

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: November, 2011

THE CITY OF BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



E 3rd to E Atwater - Highland/Hawthorne Bike Boulevard

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: December, 2011

THE CITY OF BLOOMINGTON

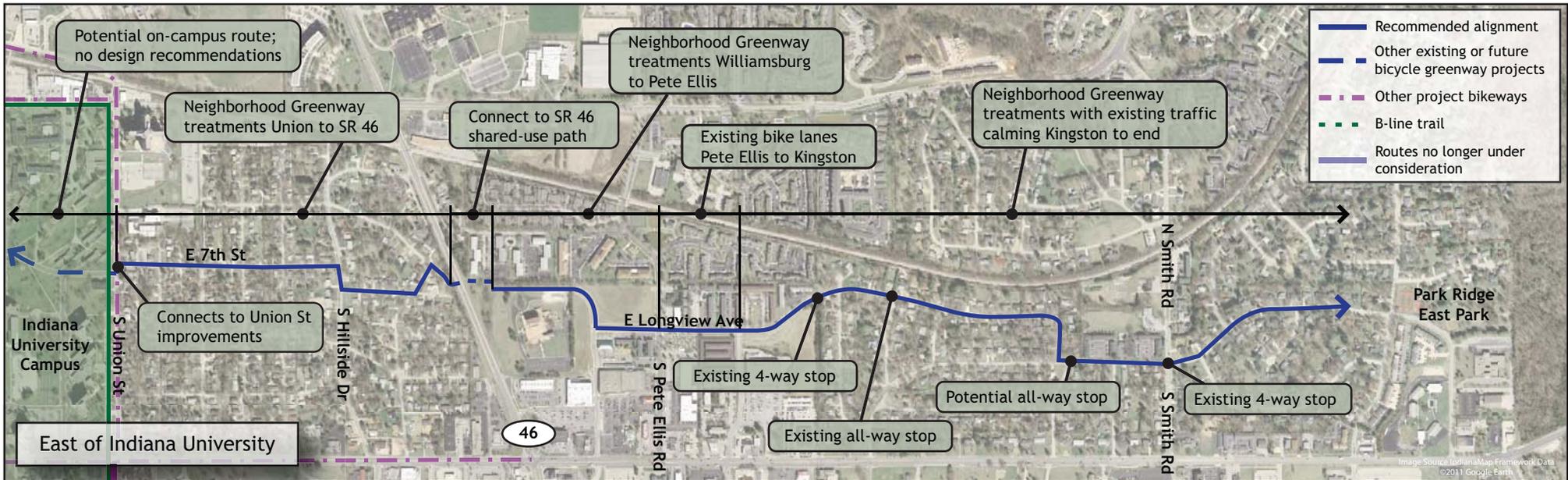
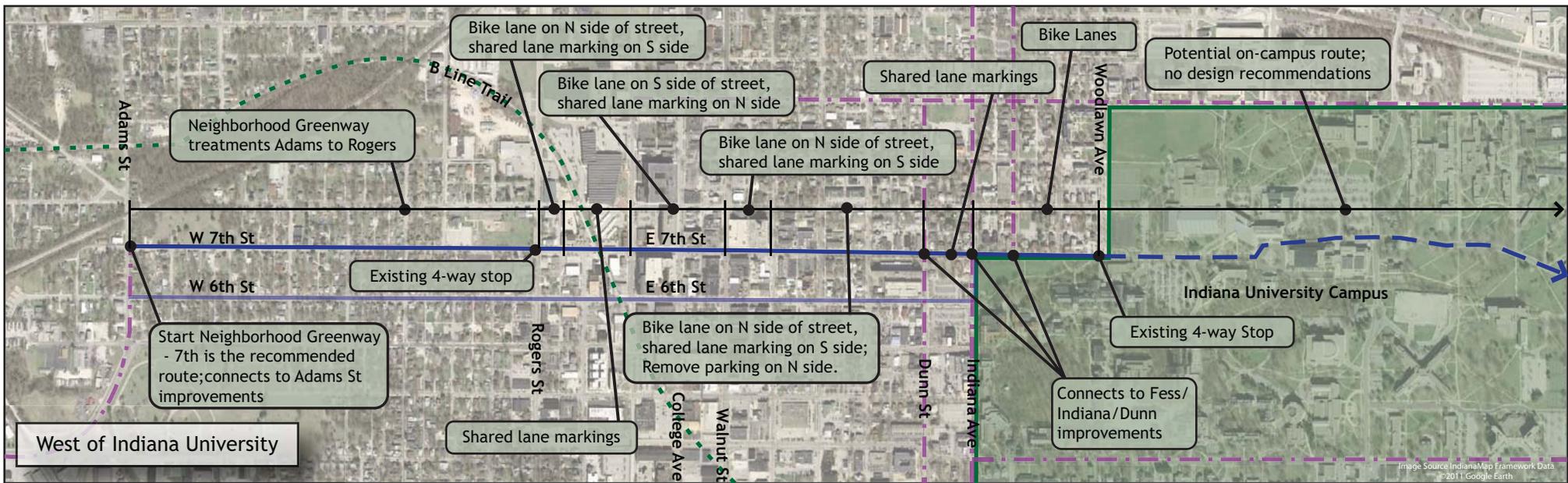
BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN

Image Source IndianaMap Framework Data
 ©2011 Google Earth



NOTE: Traffic Control at these Intersections to be Changed so Side Streets Stop for Hawthorne Drive, Allowing for Continuous Travel for Bicyclist.



- Recommended alignment
- - - Other existing or future bicycle greenway projects
- - - Other project bikeways
- - - B-line trail
- - - Routes no longer under consideration

IM1 7th/Longview: 7th Street - Adams St to Smith Rd; Longview Avenue - Pete Ellis Rd to Smith Rd

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012





THE CITY OF BLOOMINGTON

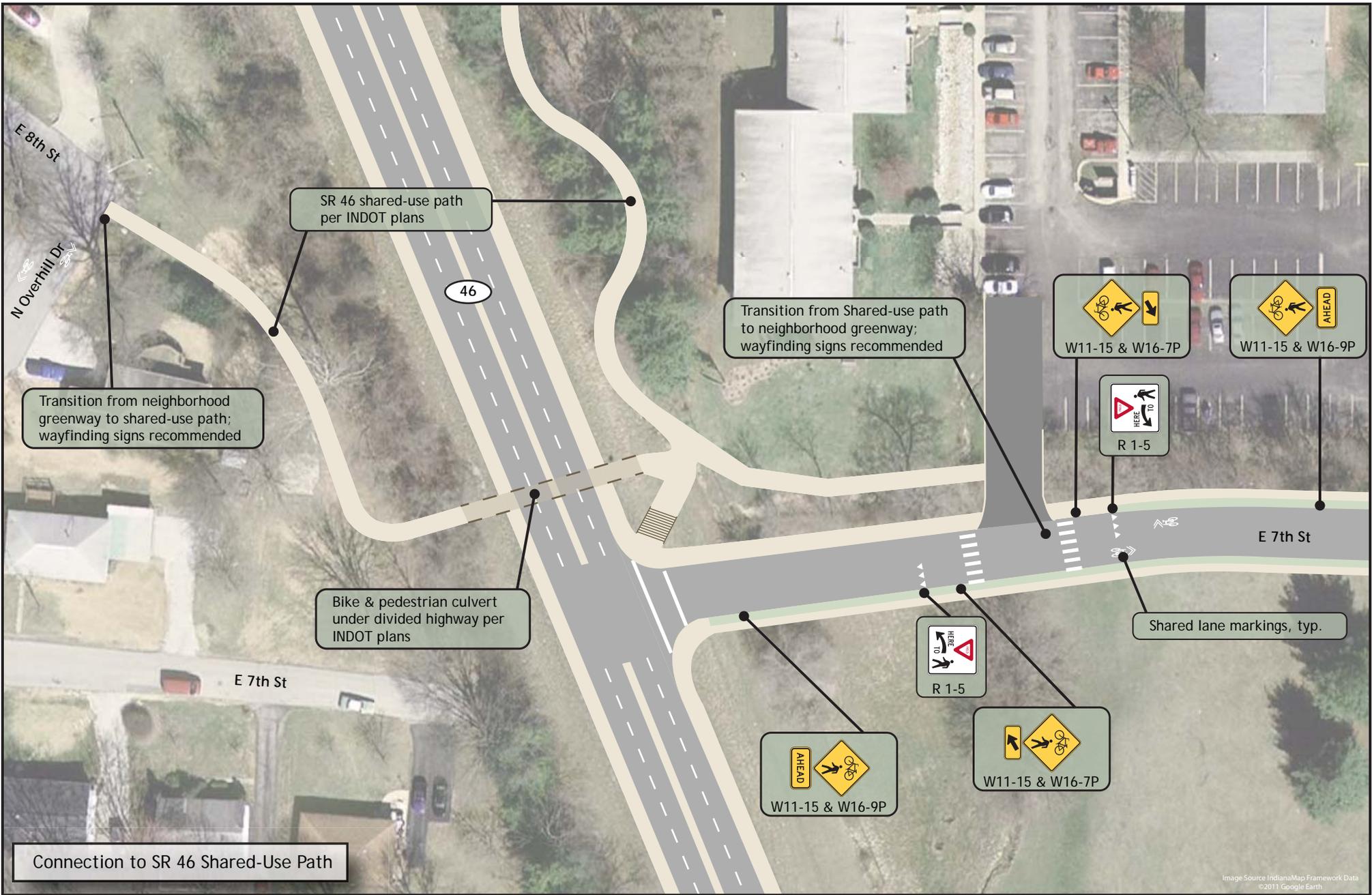




BURGESS & NIPLE
 Engineers ■ Architects ■ Planners



alta
 PLANNING + DESIGN



IM1 7th/Longview: 7th Street - Adams St to Smith Rd; Longview Avenue - Pete Ellis Rd to Smith Rd

Bloomington Bikeways Implementation Plan

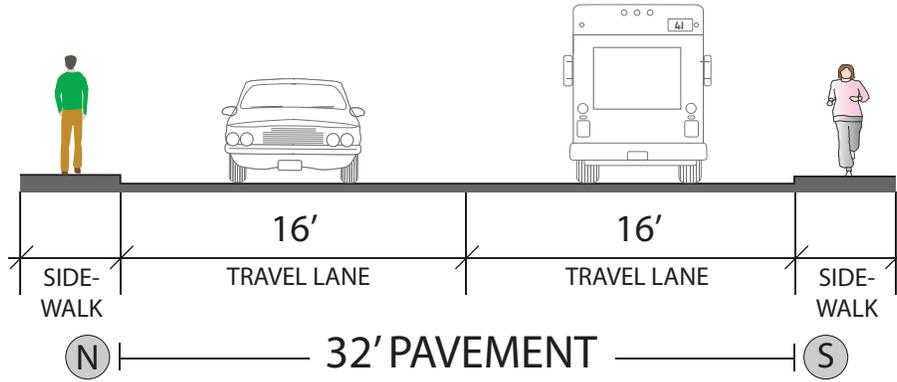
Source: Google Earth Aerial
 Author: RW
 Date: March 2012

THE CITY OF BLOOMINGTON

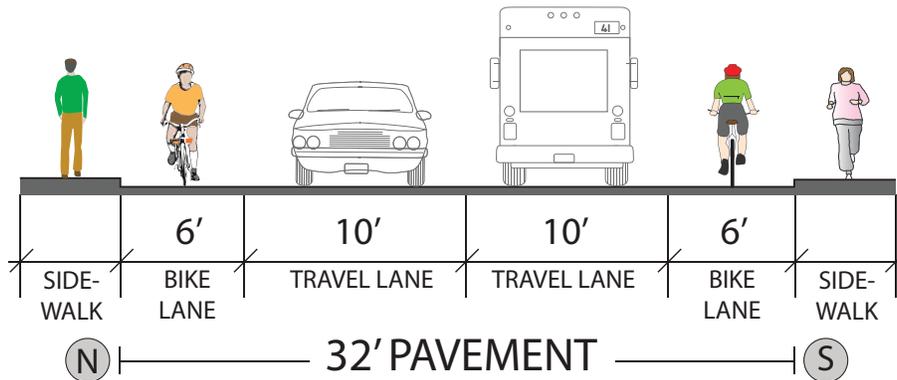
BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN

E 7th Street - Indiana Ave to Woodlawn Ave Existing Roadway



E 7th Street - Indiana Ave to Woodlawn Ave Proposed Bike Lanes



**IM1 7th/Longview: 7th Street - Adams St to Smith Rd;
Longview Avenue - Pete Ellis Rd to Smith Rd**

Bloomington Bikeways Implementation Plan
Author: RW
Date: March 2012



BURGESS & NIPLE
Engineers ■ Architects ■ Planners





IM2A South Adams: W 3rd St to W 7th St & IM2B West 3rd Street: S Landmark Ave to S Adams St

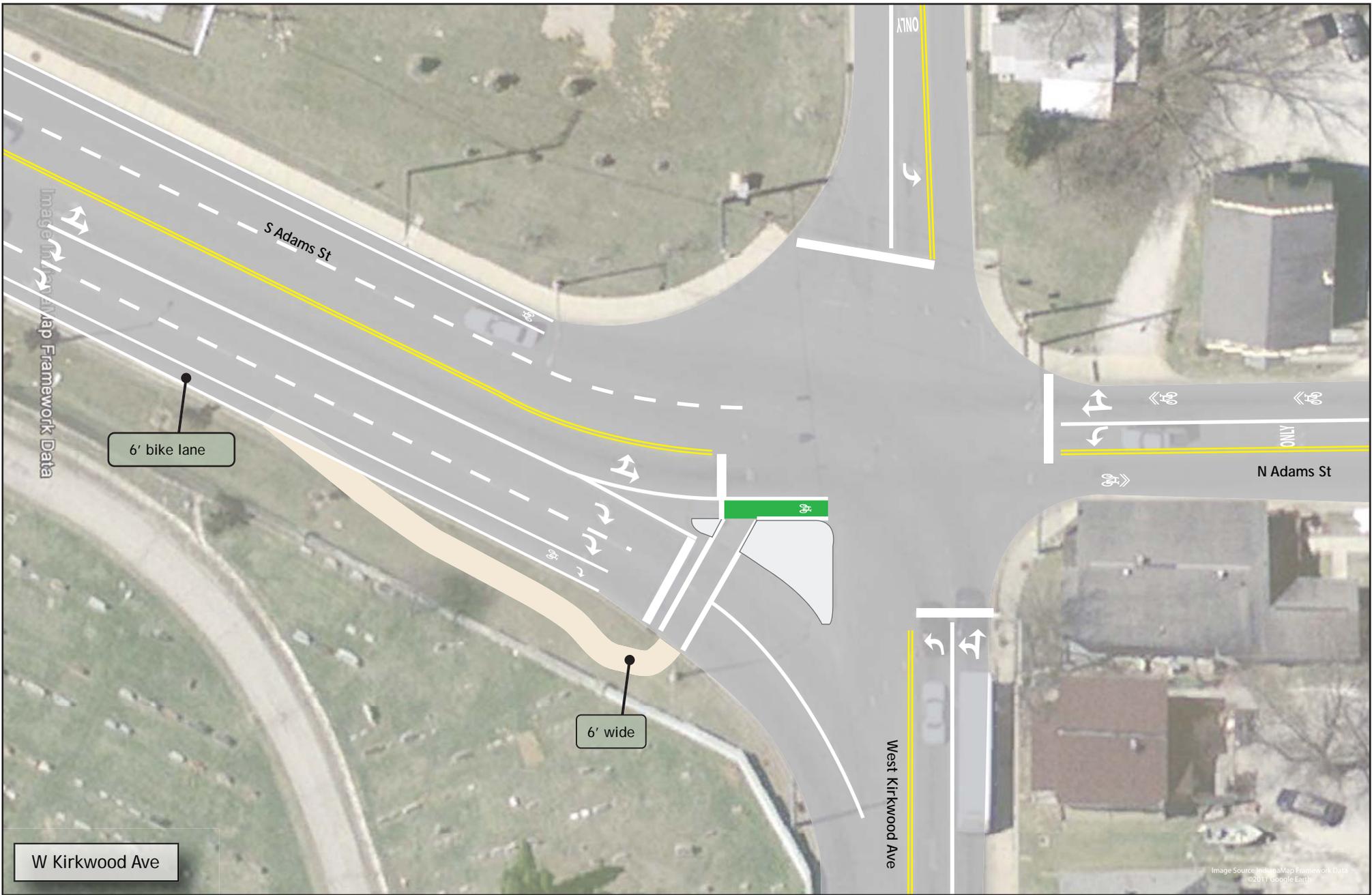
Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012

THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



IM2A South Adams: W 3rd St to W 7th St

Bloomington Bikeways Implementation Plan

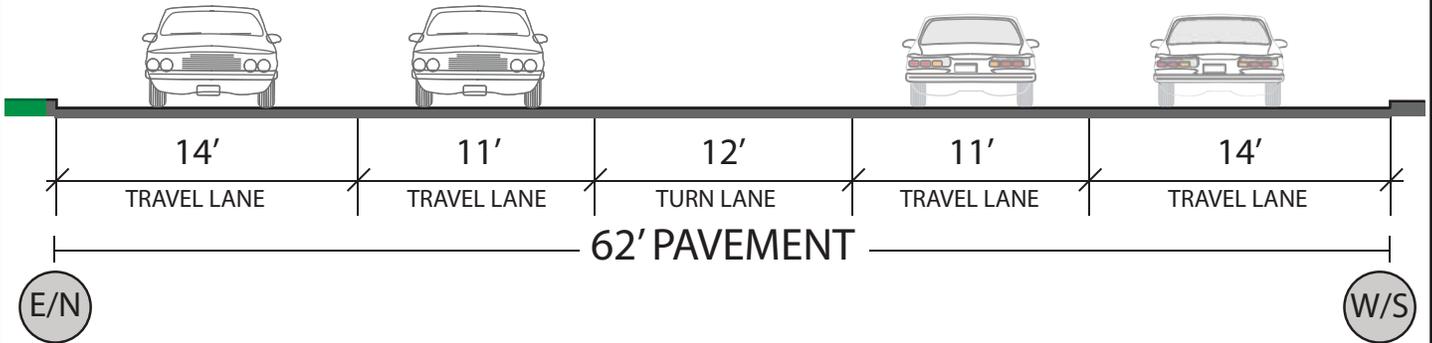
Source: Google Earth Aerial
 Author: RW
 Date: March 2012

THE CITY OF BLOOMINGTON

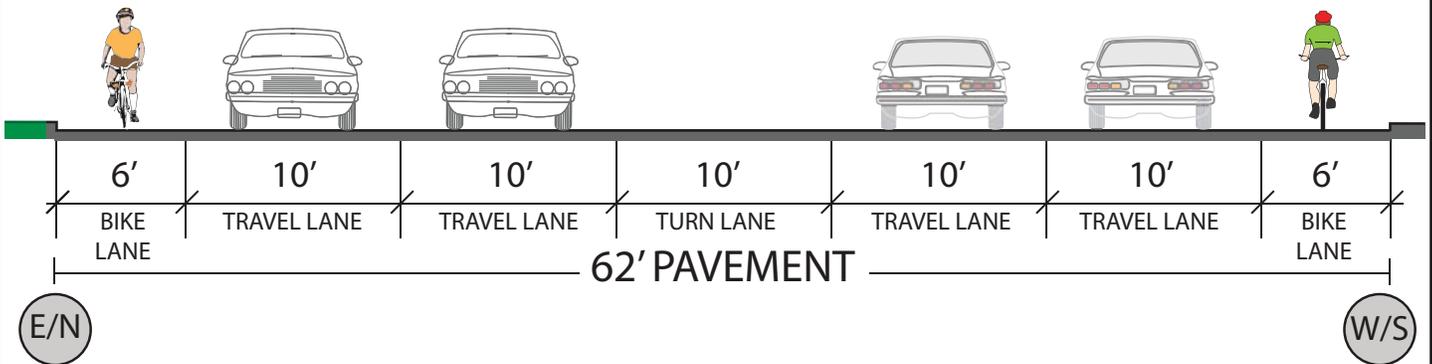
BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN

W 3rd Street and S Adams Street - Existing Condition



W 3rd St and S Adams Street - Proposed Bike Lanes



IM2A South Adams: W 3rd St to W 7th St;
IM2B West 3rd Street: S Landmark Ave to S Adams St

Bloomington Bikeways Implementation Plan
 Author: RW
 Date: March 2012

THE CITY OF
BLOOMINGTON

BURGESS & NIPLÉ
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



IM3C 19th Street: N Walnut St to N Dunn St

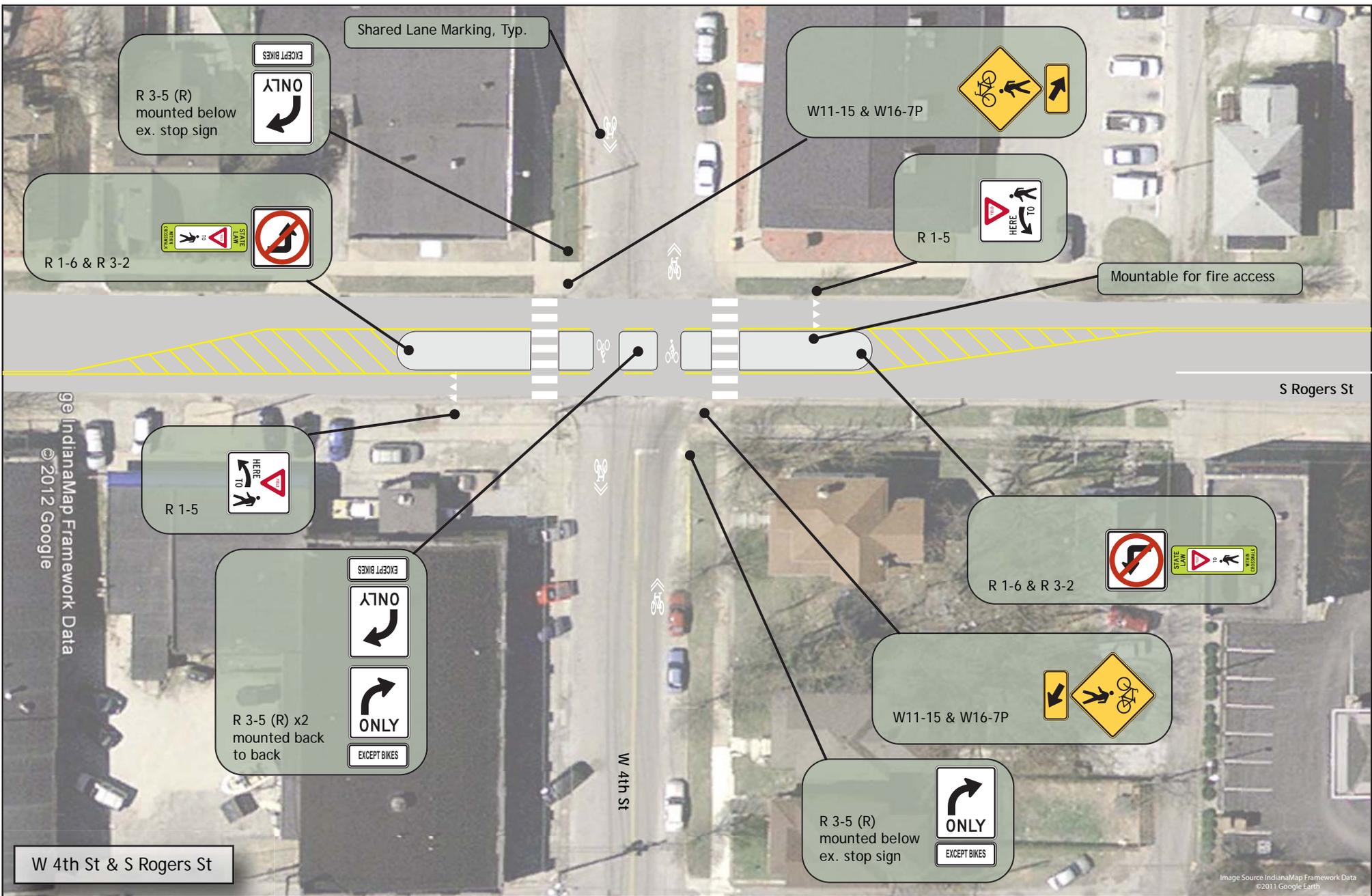
Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2011

THE CITY OF BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

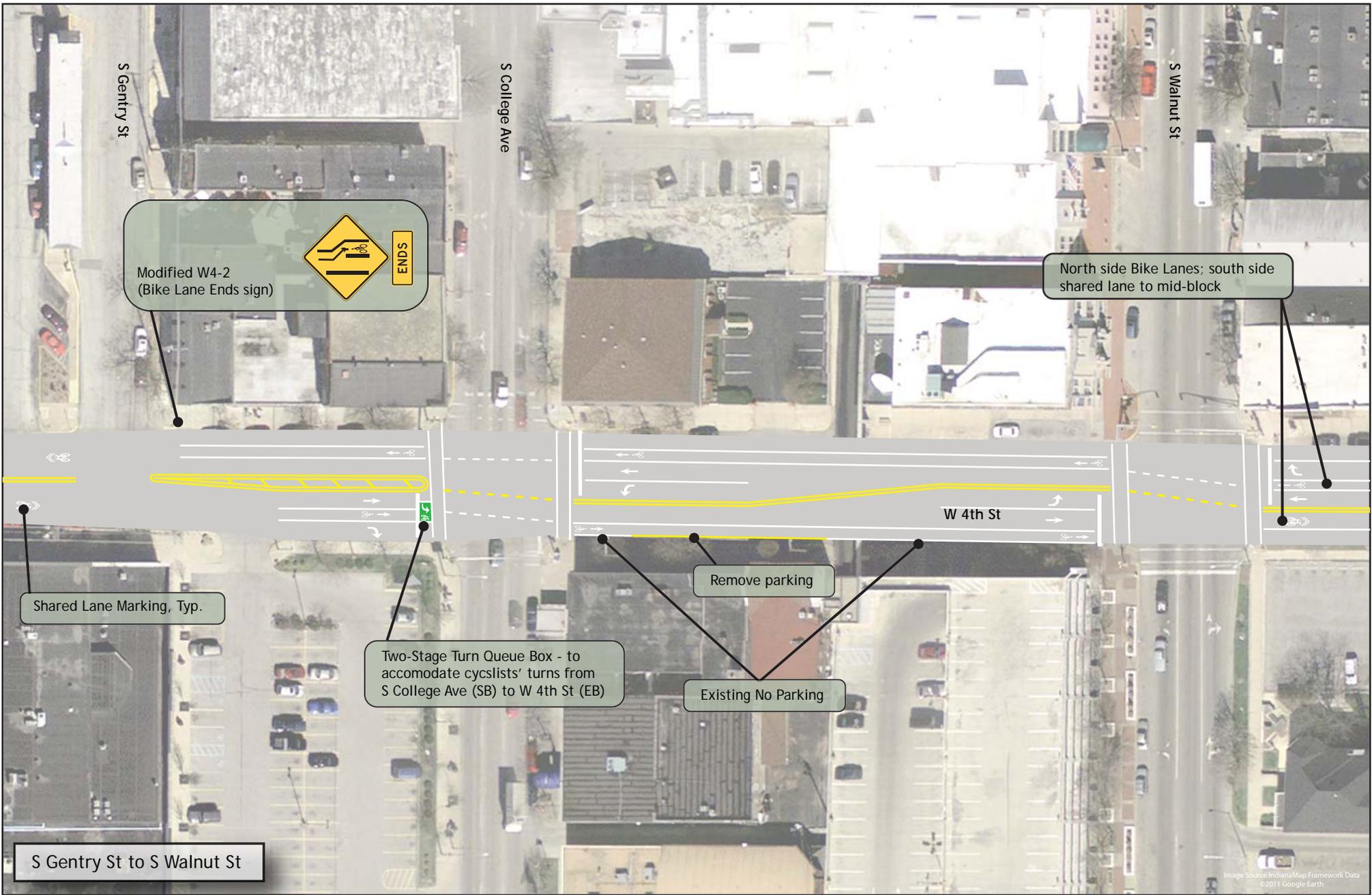
alta
 PLANNING + DESIGN



IM4 4th Street: Rogers St to Indiana Ave

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012

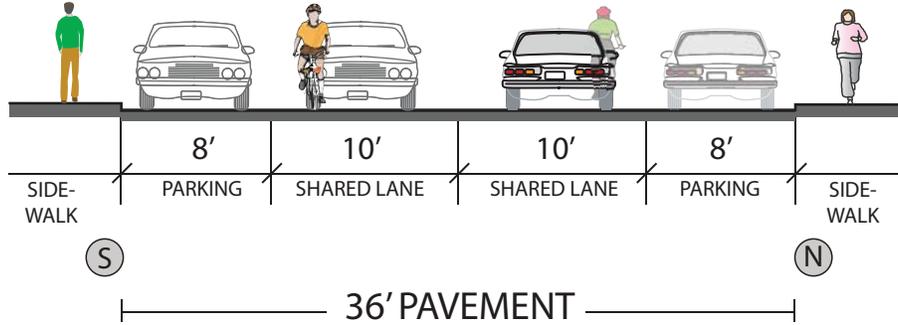


IM4 4th Street: Rogers St to Indiana Ave

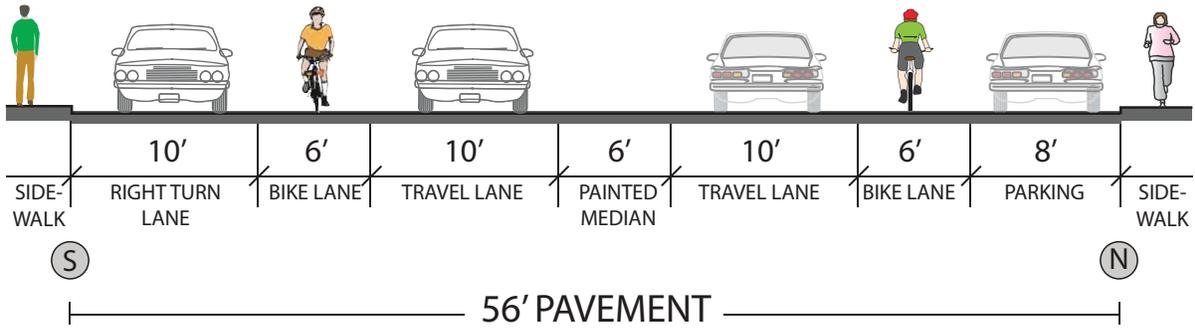
Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012

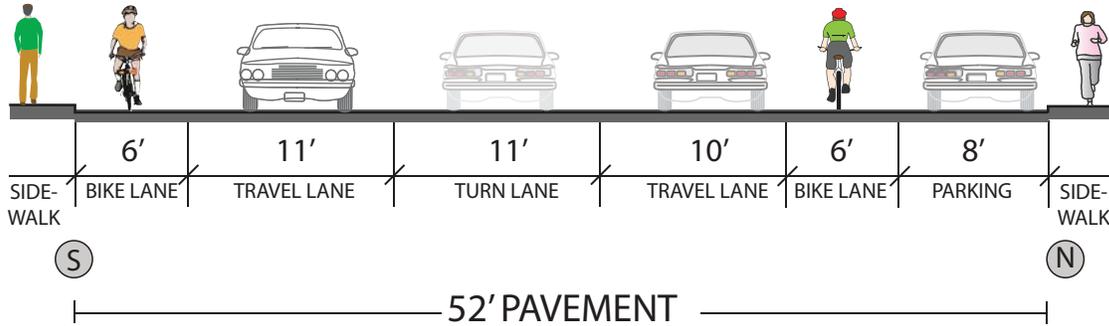
E 4th St - S Rogers St to S Gentry St



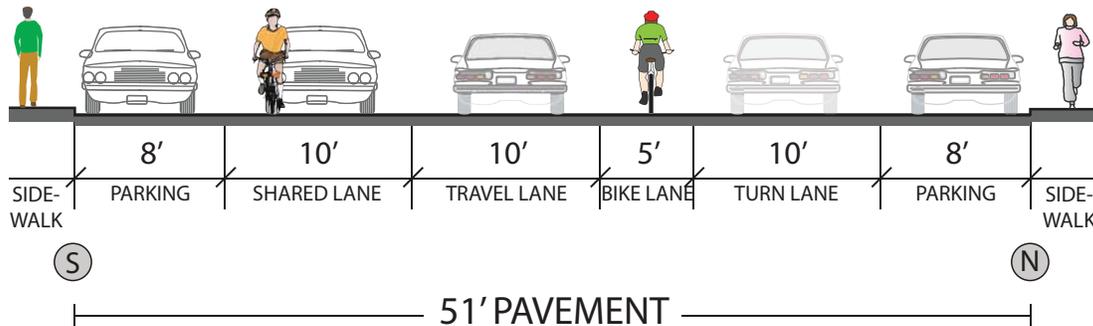
E 4th St - S Gentry St to S College Ave



E 4th St - S College Ave to S Walnut St



E 4th St - S Walnut St to mid-block S Washington



Sheet 1 of 2

IM4 4th Street: Rogers St to Indiana Ave

Bloomington Bikeways Implementation Plan

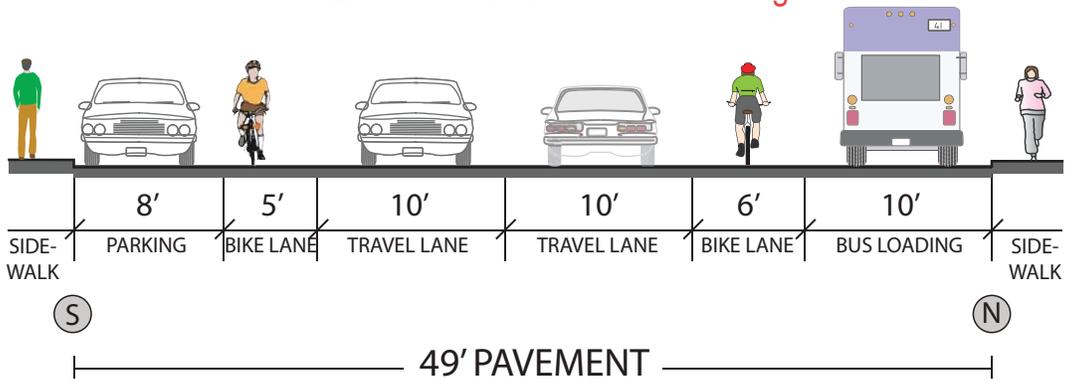
Author: RW
Date: March 2012



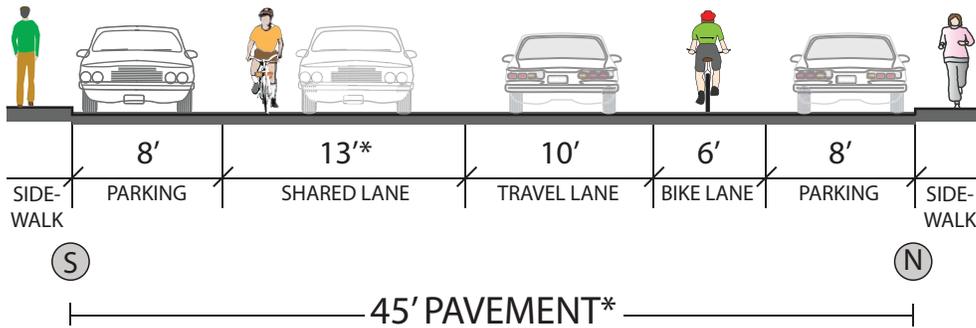
BURGESS & NIPLE
Engineers ■ Architects ■ Planners



E 4th St - mid-block to S Washington

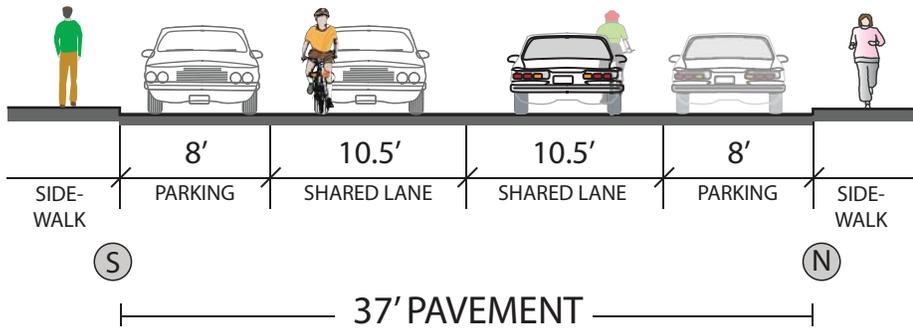


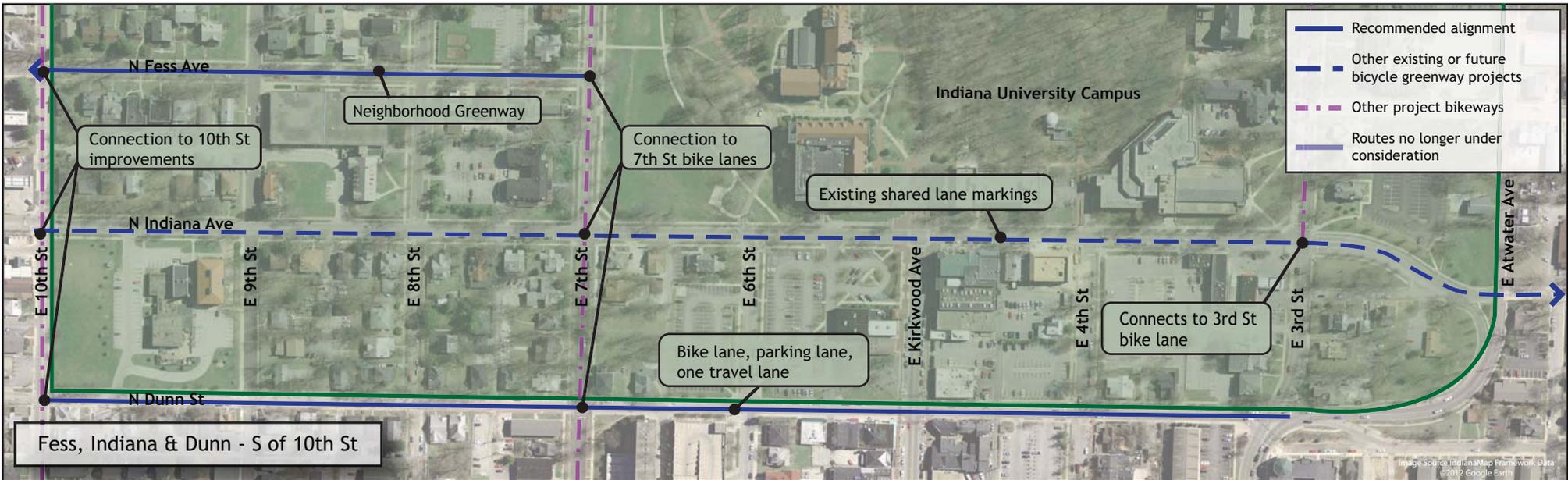
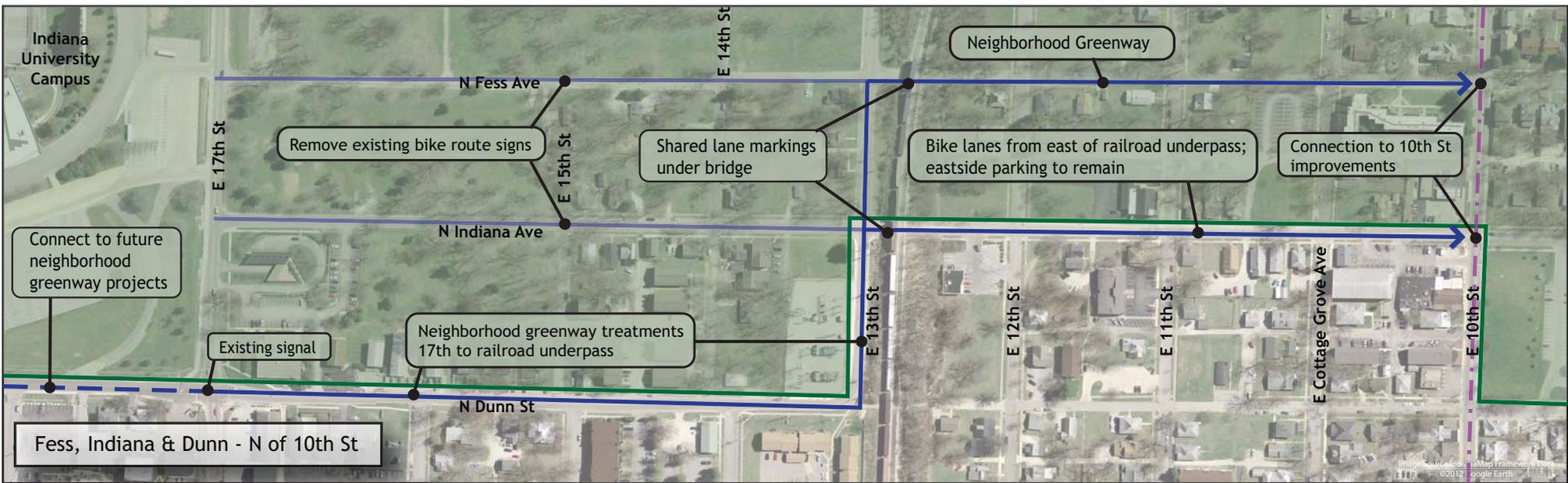
E 4th St - S Washington St to S Grant St



* 43' pavement width between S Lincoln and S Grant; shared lane becomes 11' wide.

E 4th St - S Grant St to S Indiana St



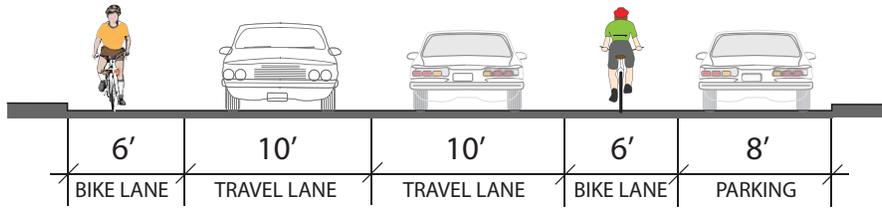


IM5 Fess Ave, IM3A Indiana Ave, IM3B Dunn St: E 17th St to E 3rd St

Bloomington Bikeways Implementation Plan

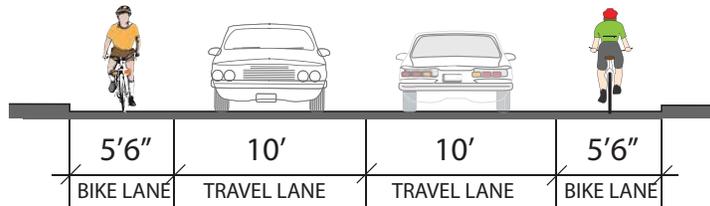
Source: Google Earth Aerial
 Author: RW
 Date: March 2012

N Indiana Ave from 10th to 12th



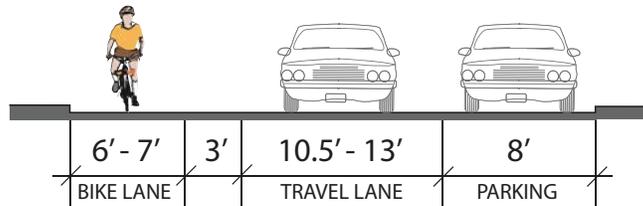
W ————— 40' PAVEMENT ————— E

N Indiana Ave from 12th to 13th



W ————— 31' PAVEMENT ————— E

N Dunn St from 13th to 17th



W ————— 27'-6" - 31' PAVEMENT ————— E

IM5 Fess Ave, IM3A Indiana Ave, IM3B Dunn St: E 17th St to E 7th St

Bloomington Bikeways Implementation Plan

Author: RW
Date: March 2012



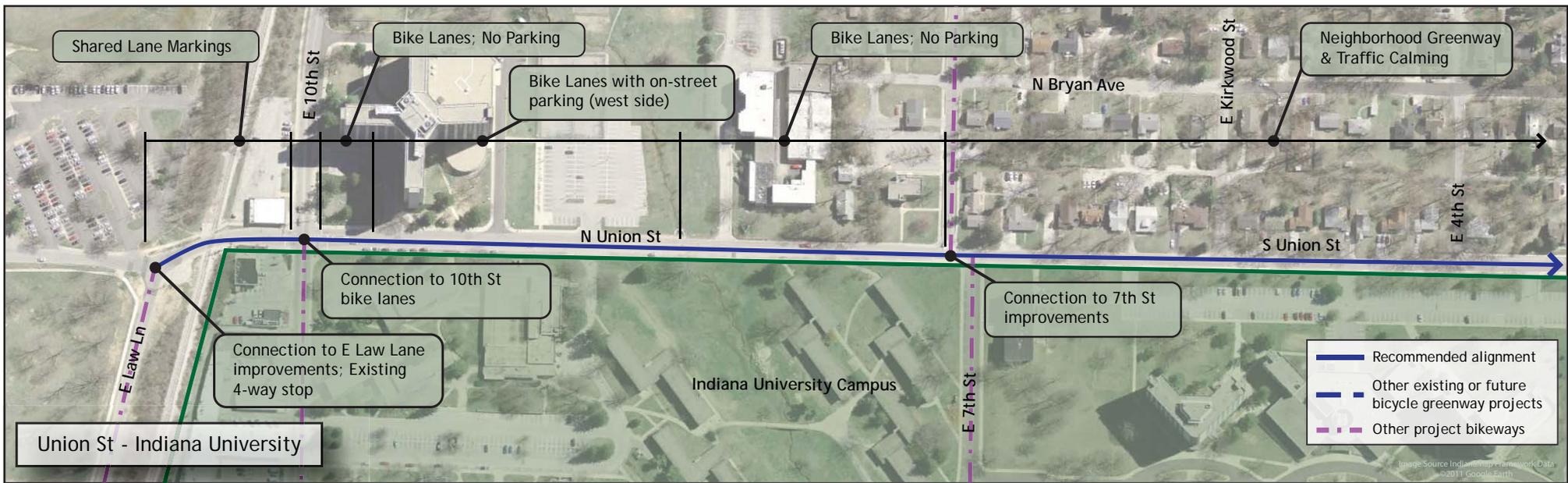
THE CITY OF
BLOOMINGTON



BURGESS & NIPLE
Engineers ■ Architects ■ Planners



PLANNING + DESIGN



IM6 Clifton/Union Neighborhood Greenway: Maxwell Ln to Law Ln

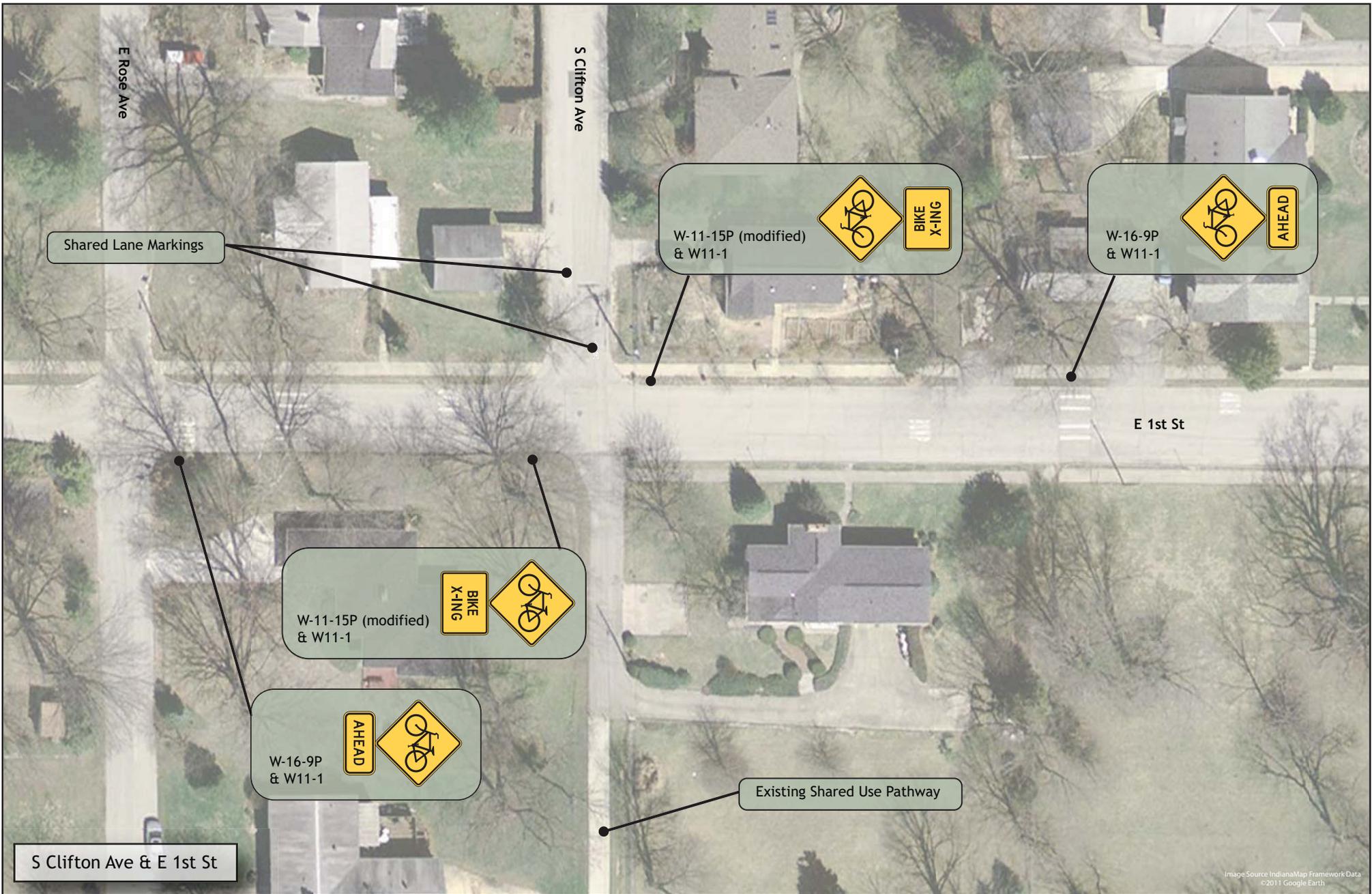
Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012

THE CITY OF BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



IM6 Clifton/Union Neighborhood Greenway: Maxwell Ln to Law Ln

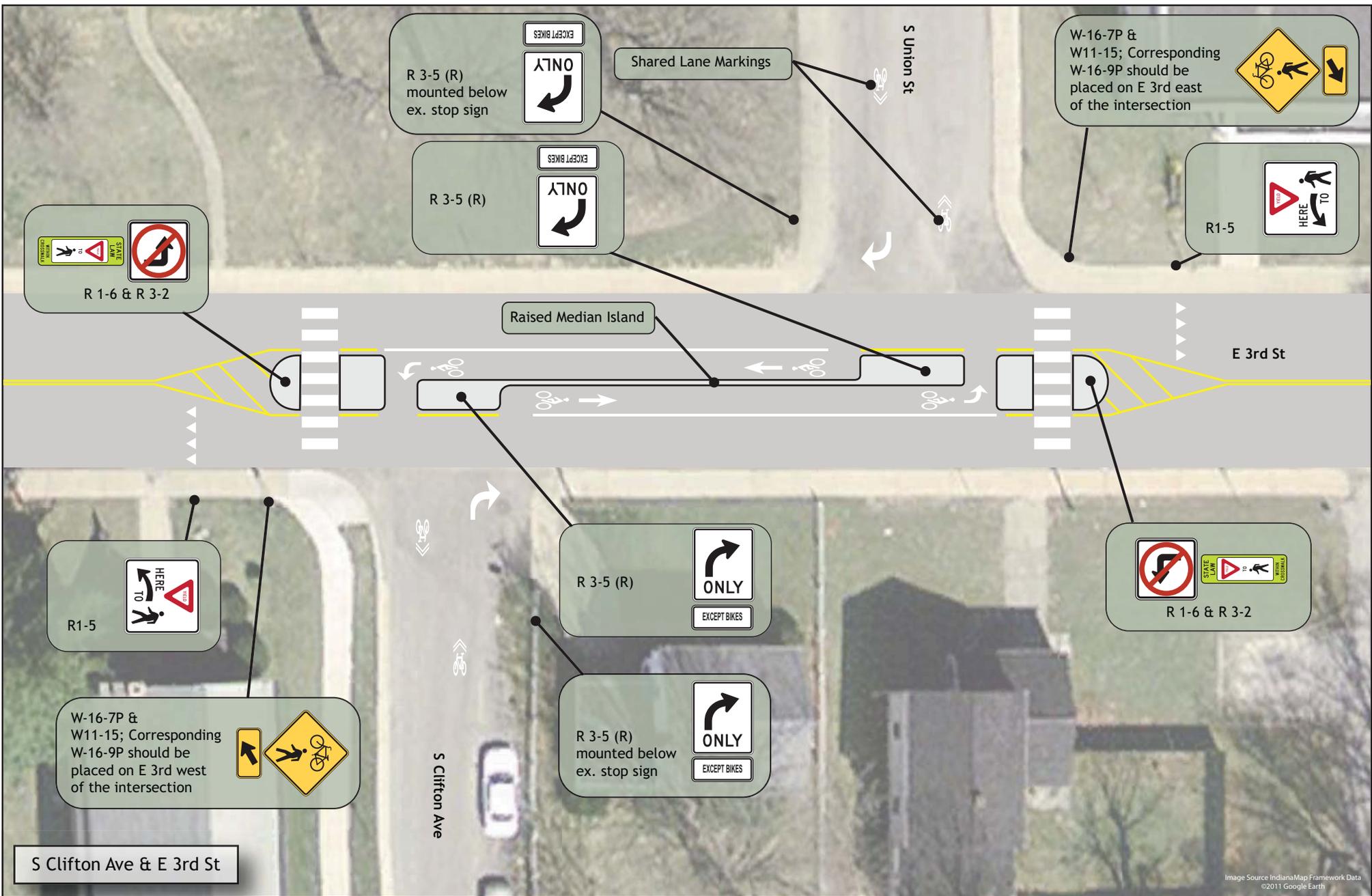
Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012

THE CITY OF BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



IM6 Clifton/Union Neighborhood Greenway: Maxwell Ln to Law Ln

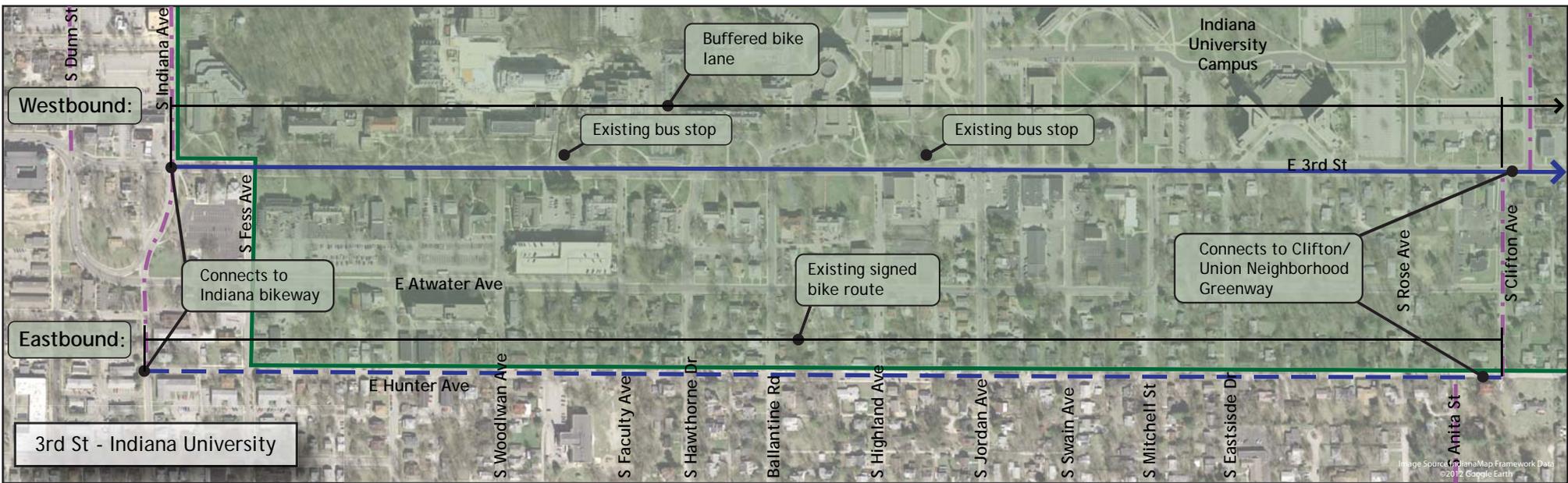
Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012

THE CITY OF BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

alta
 PLANNING + DESIGN



IM7 3rd St: Dunn St to SR45/46

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012

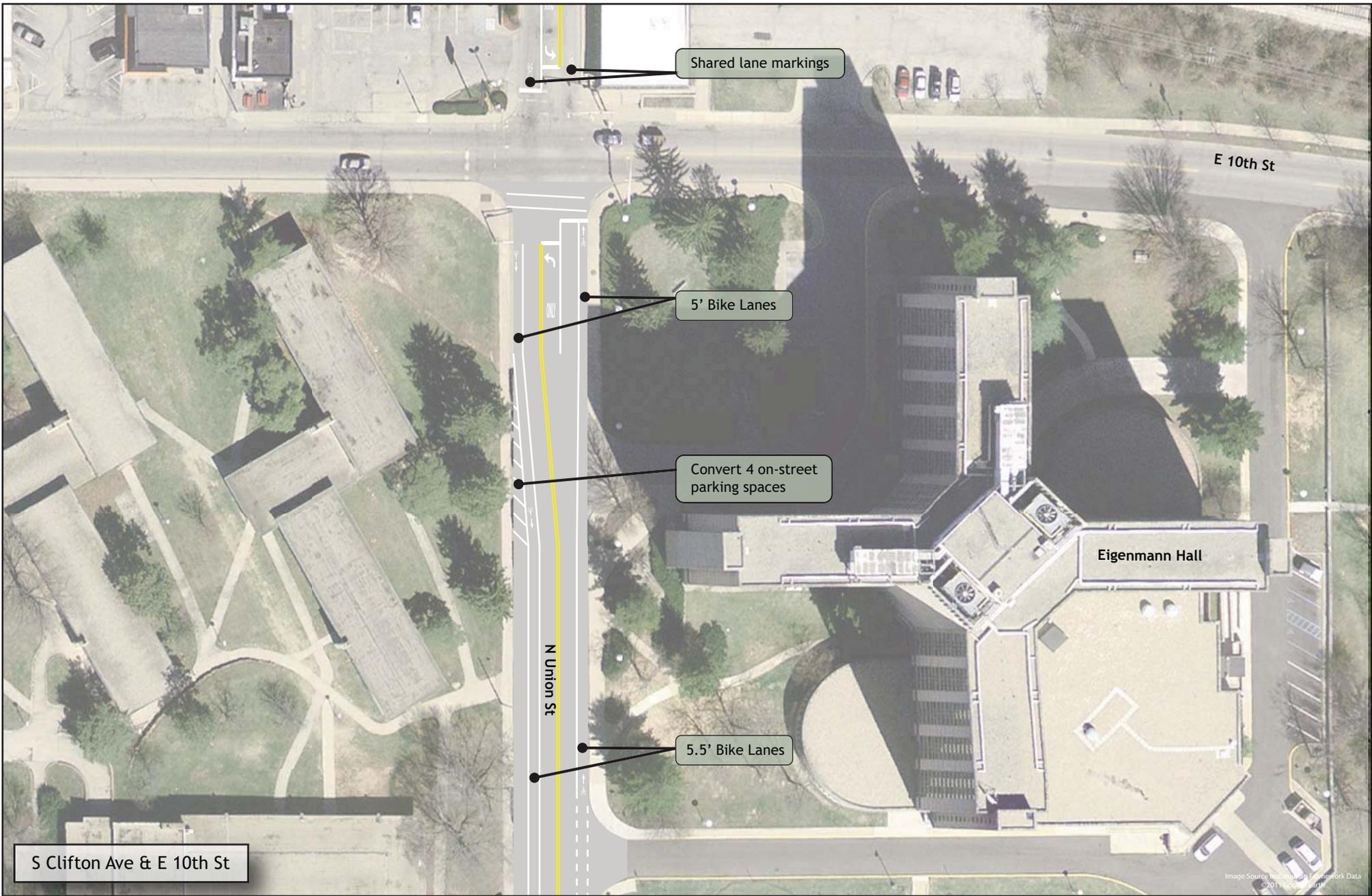


Image Source: Multi-Modal Transportation Network Data ©2011 Google Earth

IM6 Clifton/Union Neighborhood Greenway: Maxwell Ln to Law Ln

Bloomington Bikeways Implementation Plan

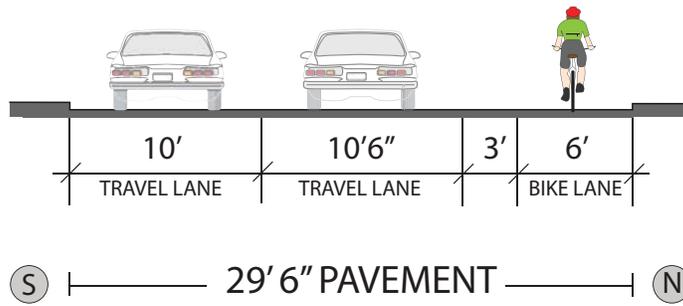
Source: Google Earth Aerial
Author: RW
Date: March 2012



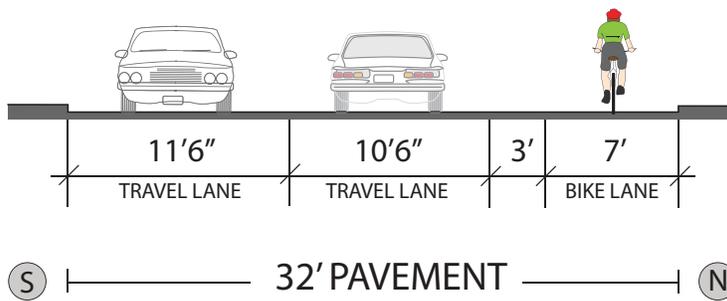
BURGESS & NIPLE
Engineers ■ Architects ■ Planners



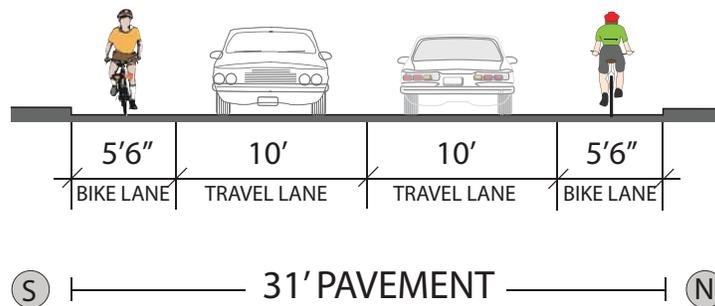
E 3rd St from Dunn to Mitchell



E 3rd St from Mitchell to Clifton



E 3rd St from Clifton to High (Street Enlargement)





IM8 Fee Lane Bike Lanes: 11th St to 13th St; 17th St to SR 45/46

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012


THE CITY OF BLOOMINGTON



BURGESS & NIPLE
 Engineers ■ Architects ■ Planners


alta
 PLANNING + DESIGN

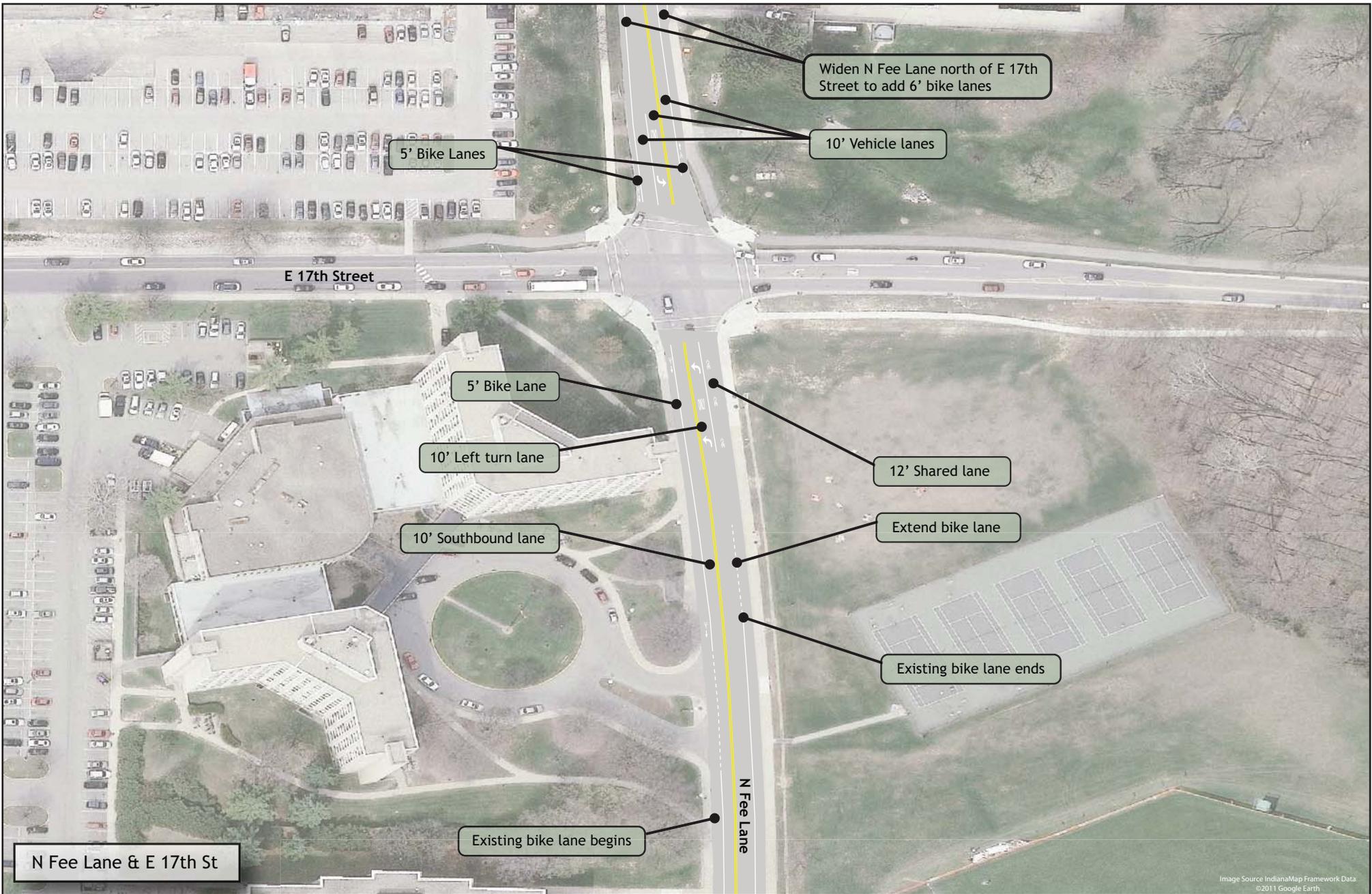


Image Source IndianaMap Framework Data
©2011 Google Earth

IM8 Fee Lane Bike Lanes: 17th St to SR 45/46; 11th St to 13th St

Bloomington Bikeways Implementation Plan

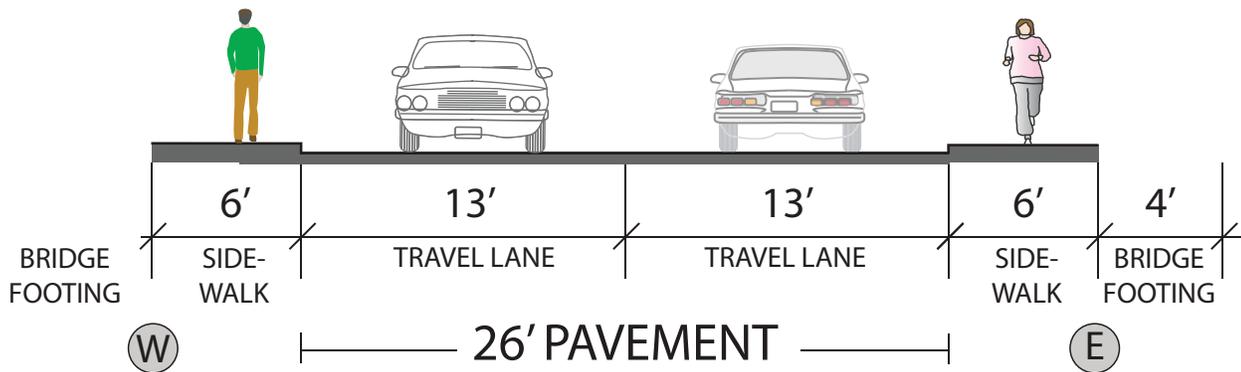
Source: Google Earth Aerial
Author: RW
Date: March 2012

THE CITY OF BLOOMINGTON

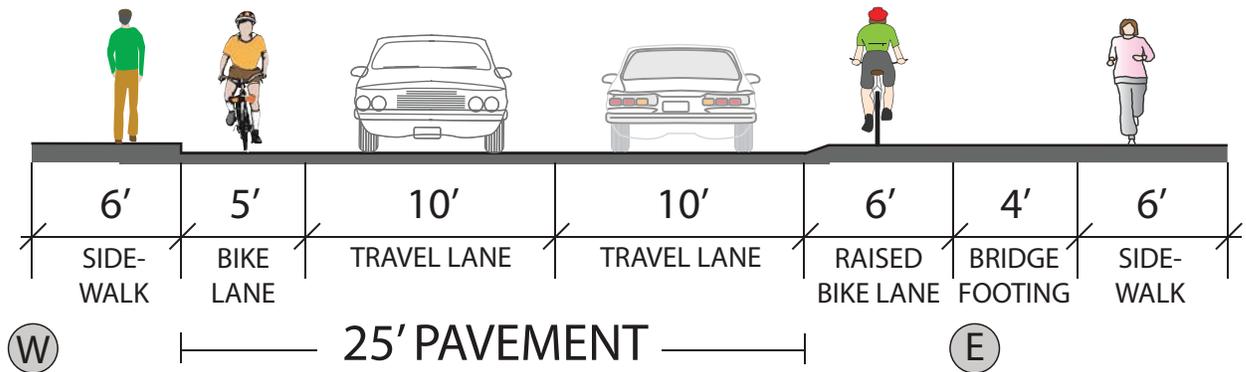
BURGESS & NIPLE
Engineers ■ Architects ■ Planners

alta
PLANNING + DESIGN

N Fee Lane - Existing Condition



N Fee Lane - Proposed Bike Lanes



IM8 Fee Lane Bike Lanes: 17th St to SR 45/46; 11th St to 13th St

Bloomington Bikeways Implementation Plan

Author: RW
Date: March 2012



THE CITY OF
BLOOMINGTON

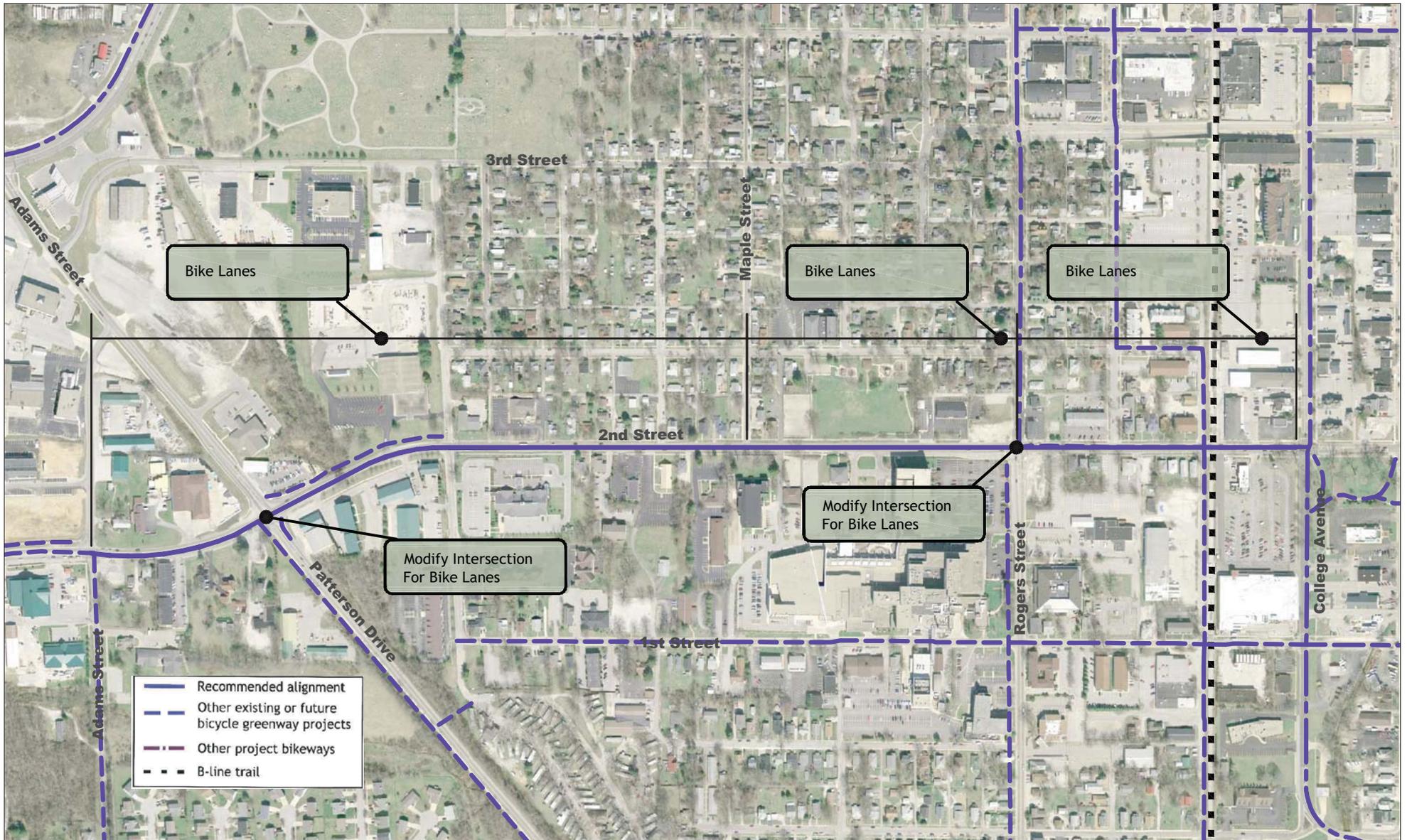


BURGESS & NIPLE
Engineers ■ Architects ■ Planners



Immediate Projects

Number	Project	Limits	Traffic Calming Possible?	Functional Class	Length	Pavement Width	# of Lanes	Speed	Parking Left	Parking Right	Traffic Volume	Bike Facility Type	Cost Estimate	
CST 1	Allen/Covenanter Bike Boulevard	Patterson Drive to College Mall Road	Yes	Primary collector/Local/Secondary collector	14415								\$110,293.44 *	
CST 2	Highland - Hawthorne Bike Boulevard	Highland: Winslow to Miller Dr. (BL), Miller Dr., Olive, Southdowns (BB); Hawthorne: Southdowns Drive (Allen St. Bicycle Boulevard) to 3rd Street	Hawthorne, Yes/South of Miller, No?	Hawthorne =Local; Highland Secondary Collector south of Miller										
IM1	7th Street/Longview Avenue	7th Street - Adams St. to Rogers St.		2nd collector	3100	22' and 27' - 35'	2	25	No	Yes	< 3000	Neighborhood Greenway	\$8,616.52	
		7th Street - Rogers St. to College Ave.		Primary Collector	1085	33' - 37' and 43 - 48'	2 W/ turn lane	25	Yes	Yes	3594 - 3891	Shared Lane Markings	\$3,568.28	
		7th Street - College Ave. to Indiana Ave.		Local	2240	42' - 32'	2	25	Yes	Yes	4000 - 6000	Shared Lane Markings	\$6,549.03	
		7th Street - Indiana Ave. to Woodlawn Ave.		Local	980	32	2	25	No	No	6318 - 6907	Bike Lanes	\$13,274.58	
		7th Street - S. Union St to SR 46 on 7th		Local	2735	18' - 20'	2	25	No	No	1387	Neighborhood Greenway	\$8,940.78	
		7th Street - SR 46 to S. Williamsburg				2						Connect to SR 46 Shared use Path No Work		
		S. Williamsburg - 7th Street to Longview Ave.			1160							Neighborhood Greenway	\$3,635.21	
		Longview Ave. Williamsburg to Pete Ellis		Local	500	22	2	25	No	No		Neighborhood Greenway	\$1,746.21	
		Longview Pete Ellis to Kingston										Existing Bike Lanes No Work		
		Longview/Morningside Kingston to end/Park Ridge Rd.		Local/Collector	5500	23 - 27	2	25	No	No	302 - 4933	Neighborhood Greenway	\$12,708.33	
													\$59,038.94	
IM2A	South Adams	W. 3rd Street to W. Kirkwood Avenue	No	Primary arterial	1170	59'	2	30	No	No	15859	Bike Lanes	\$19,894.14	
		W. Kirkwood Avenue to W. 7th Street			725	19	2	25	No	No		Neighborhood Greenway	\$2,597.01	
IM2B	3rd Street Bike Lanes	Landmark Ave. to S Adams St	No	Primary arterial	1250	60 - 70	5	30	No	No	19743	Bike Lanes	\$21,815.53	
													\$44,306.68	
IM3A	Indiana Avenue Bike Lanes	South of the railroad underpass to 10th Street	No	Secondary arterial	1100	30	2	30	No	Yes	5457	Bike Lane - One way roadway	\$9,081.67	
		13th Street to South of the railroad underpass			215	30	2	30	No	Yes	5457	Shared Lane Markings	\$841.87	
IM3B	Dunn Street Bike Lanes	3rd Street to 10th Street	No	Secondary Arterial	2630	27 - 30	2	25	No	Yes	3464 - 6310	Bike Lane - One way roadway	\$20,697.08	
		13th Street to 17th Street			1350	20 - 38	2	25	No	No	3418	Neighborhood Greenway	\$5,754.77	
	13th Street	Dunn Street to Fess Ave.			700							Neighborhood Greenway	\$2,574.70	
IM5	Fess Bike Boulevard	7th Street to 10th Street	Yes	Local	1150	24	2	25	Y/N	Yes		Bike Lane - One way roadway	\$9,376.29	
		10th Street to South of the railroad underpass			1100	22 - 23	2	25	No	Yes		Bike Lane - One way roadway	\$9,081.67	
		South of the railroad underpass to 13th Street			215	17 - 19	2	25	No	No	471 - 261	Shared Lane Markings	\$841.87	
													\$58,249.92	
IM3C	19th Street Bike Lanes	Walnut Street to Lincoln Street	Yes	Local	800	21	2	25	Yes	Yes	1762	Neighborhood Greenway	\$3,963.94	
		Lincoln Street to Dunn Street			750	21	2	25	No	Yes	1662	Neighborhood Greenway	\$2,619.32	
													\$6,583.26	
IM4	4th Street Bike Lanes	Rogers Street to Gentry Street	Yes	Local	870	36	2	25	Yes	Yes	4084	Neighborhood Greenway	\$13,501.41	
		Gentry Street to Walnut Street			550	52	2	25	Yes	Yes	2955	Bike Lanes	\$10,690.83	
		Walnut Street to Mid Block past Walnut			150	51	2	25	Yes	Yes	4655	N. Bike Lanes, S. Shared Lane	\$2,658.86	
		Mid Block past Walnut to Washington Street			215	51	2	25	Yes	Yes	4655	Bike lanes	\$4,066.87	
		Washington Street to Grant Street			725	42 - 45	2	25	Yes	Yes		N. Bike Lanes, S. Shared Lane	\$9,847.01	
		Grant Street to Indiana Avenue			825	36	2	25	Yes	Yes		Neighborhood Greenway	\$2,686.25	
													\$43,451.23	
IM6	Union	Law Lane to 10th Street	Yes?	Primary Collector	285		2		No	No		Shared Lane Markings	\$2,204.34	
		10th Street to 100' S of 10th Street			100	34	2	30	No	No	5993	Bike Lanes	\$1,739.24	
		100' S of 10th Street to 600' S of 10th Street			500	34	2	30	No	Yes	5993	Bike Lanes w/ Parking West side	\$5,446.21	
		600' S of 10th Street to 7th Street			650	34	2	30	No	No	5996	Bike Lanes	\$8,380.08	
	7th Street to 3rd Street	1400			22 - 30	2	30	No	Yes	4108 - 3214	Neighborhood Greenway	\$4,499.39		
	3rd Street	Union Street to Clifton Avenue			Primary Arterial	200	32	2	25	No	No		Raised Median	\$8,328.48
	Clifton Avenue/Anita Street	3rd Street to 1st Street			Local	2170	25 - 10	2	25	No	No	46	Neighborhood Greenway	\$6,486.56
1st Street to Maxwell Lane		Local	535	8	2	25	No	No		Connect to existing shared use pathway	\$1,777.45			
													\$38,861.75	
IM7	East 3rd St	Dunn St. to Mitchell St.	No	Primary arterial	3950	28 - 34	2	25	No	No	12828 - 13934	Buffered Bike Lane	\$30,425.08	
		Mitchell St. to Clifton Ave.			1300	30 - 44	2	25	No	No	19178	Buffered Bike Lane	\$10,910.15	
		Union St. to High St.			200	32	2	25	No	No	15431	Bike Lanes	\$2,828.48	
		High St. to Jefferson St.			400	31 - 50	2 - 4	30	N/Y	No		Buffered Bike Lanes	\$8,656.97	
		Jefferson St. to SR 46			2450	50 - 56	4	30	No	No	21192 - 21334	Road Diet add Buffered Bike Lanes	\$50,231.44	
													\$103,052.12	
IM8	Fee Lane Bike Lanes	SR 45/46 to 275' N of 17th Street	No	Primary collector	2475	25	2	35	No	No	6803	Widen Road to Add Bike Lanes	\$504,494.62	
		275' N of 17th Street to 365' S of 17th Street			650	25	2	35	No	No	6803	Shared Lane markings	\$9,355.08	
		365' S of 17th Street to 13th Street				40	2	25	No	No	7604	Existing Bike Lanes		
		13th Street to 11th Street			650	25	2	25	No	No	9647	Widen Road to Add Bike Lanes	\$118,260.59	
													\$632,110.29	
Immediate Projects subtotal Construction Cost					66120								\$1,051,640.95	
Contingency (10%)													\$105,164.10	
Immediate Projects total Construction Cost													\$1,156,805.05	



LT1 West Second Street: Adams Street to College Avenue

Bloomington Bikeways Implementation Plan

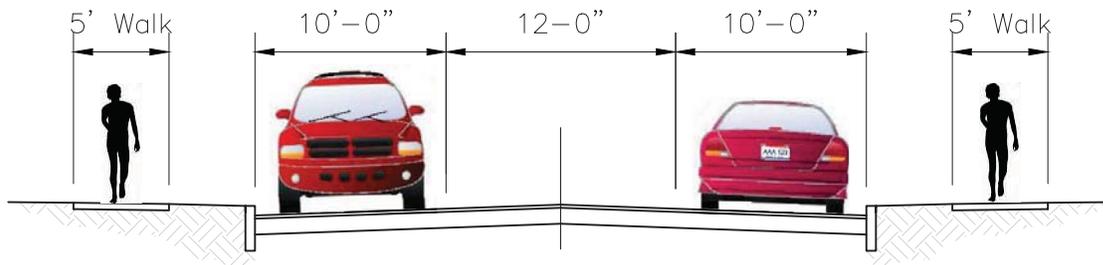
Source Google Earth Aerial
 Author: JRF
 Date: March, 2012



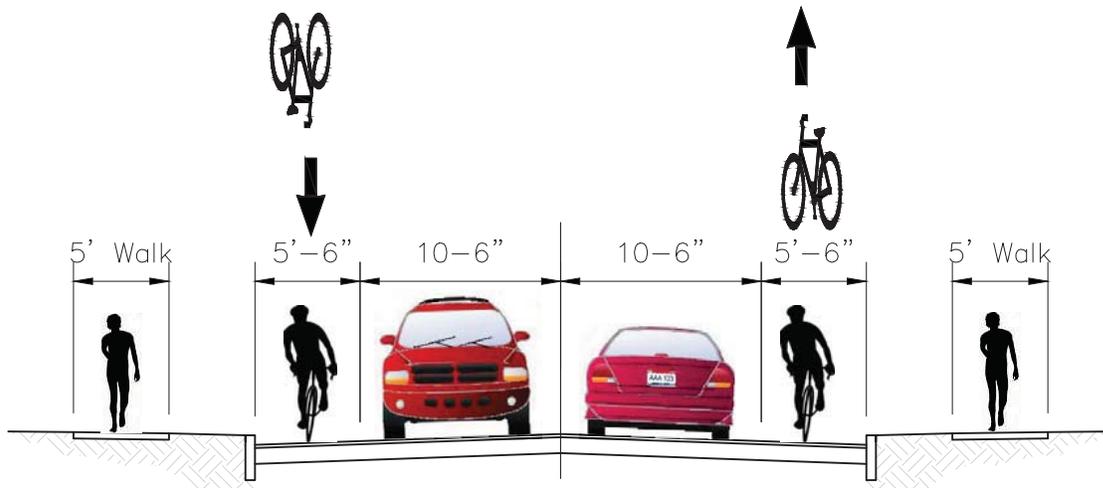
BURGESS & NIPLE
 Engineers ■ Architects ■ Planners



2nd Street



EXISTING TYPICAL
ADAMS STREET TO COLLEGE STREET



PROPOSED TYPICAL
ADAMS STREET TO COLLEGE STREET

LT1 West Second Street: Adams Street to College Avenue

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLE
Engineers ■ Architects ■ Planners





LT1 West Second Street: Adams Street to College Avenue

Bloomington Bikeways Implementation Plan

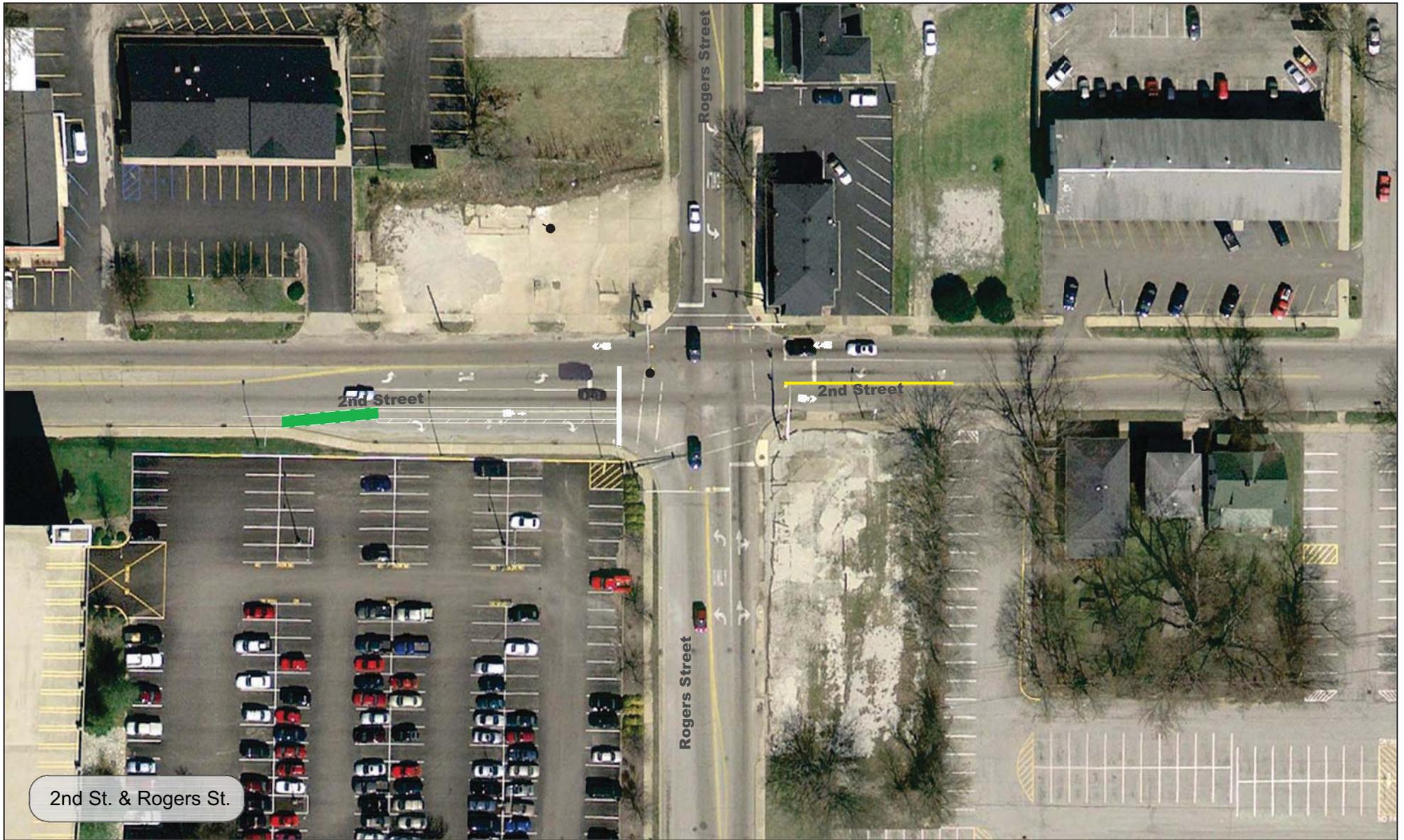
Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLE
Engineers ■ Architects ■ Planners



alta
PLANNING + DESIGN



2nd St. & Rogers St.

LT1 West Second Street: Adams Street to College Avenue

Bloomington Bikeways Implementation Plan

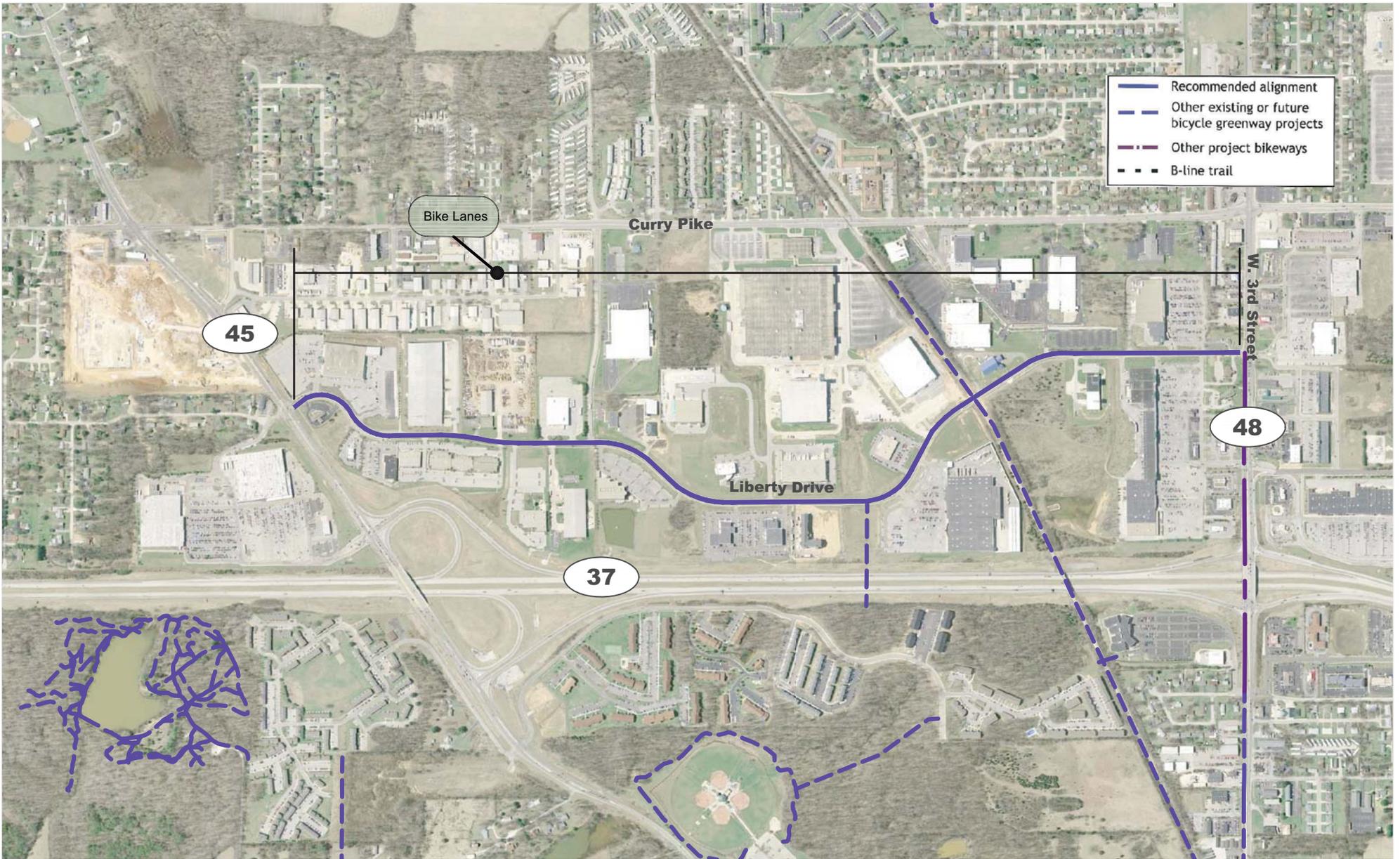
Source: Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLE
Engineers ■ Architects ■ Planners



alta
PLANNING + DESIGN



LT2 Liberty Drive: State Road 45 to State Road 48/ West 3rd Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
 Author: JRF
 Date: March, 2012

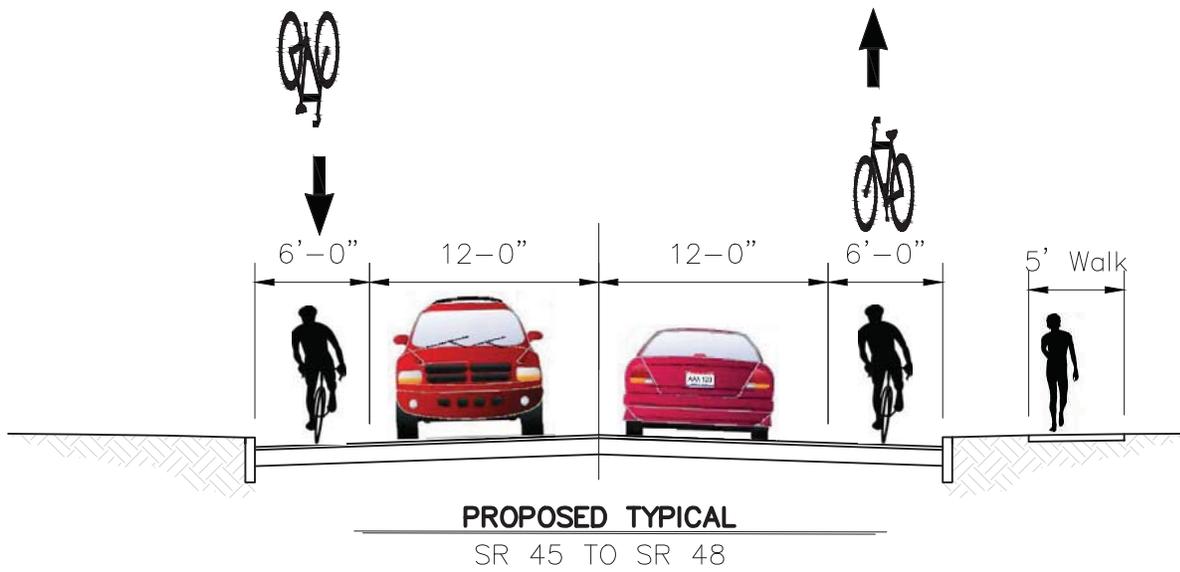
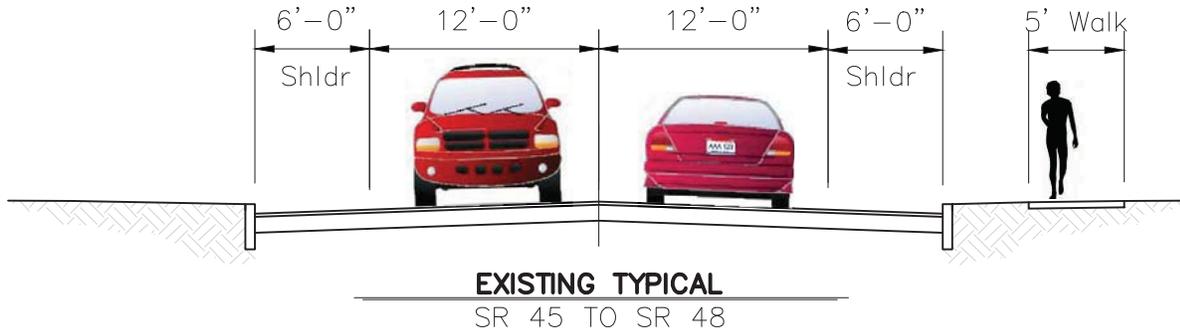


THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners



LIBERTY DRIVE



LT2 Liberty Drive : SR 45 to SR 48

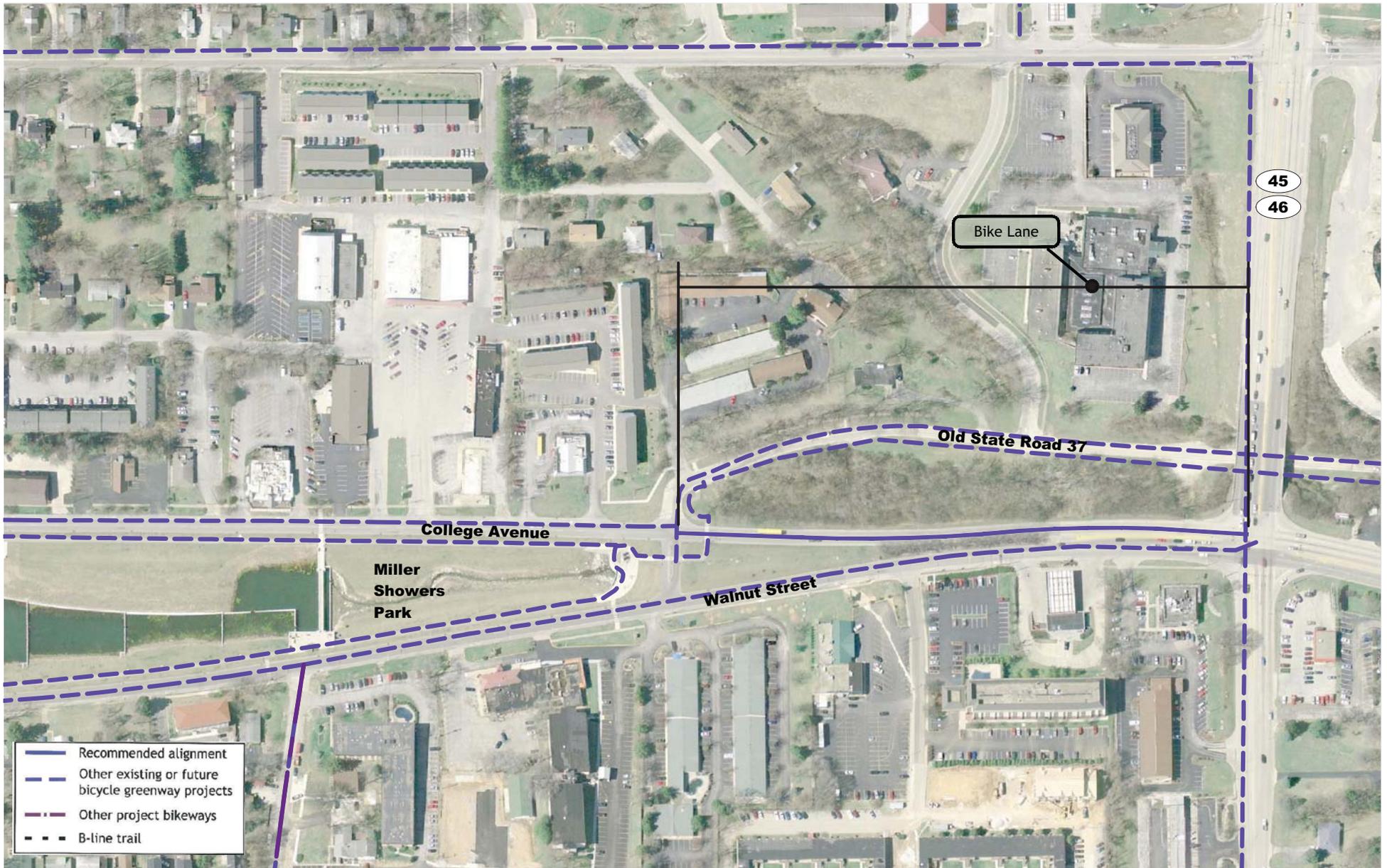
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners



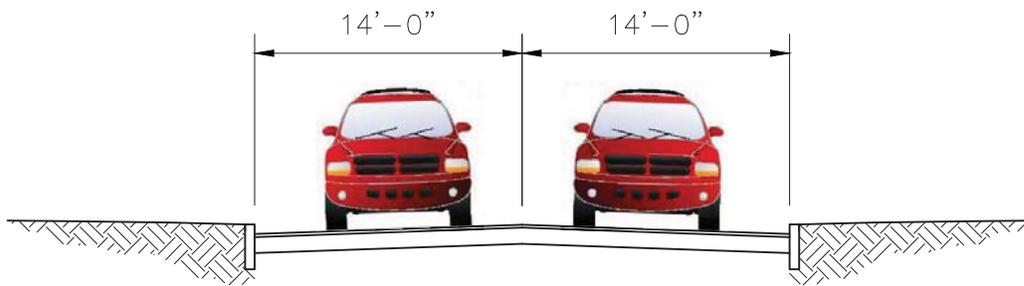


LT3A College Avenue: Old State Road 37 (Miller Showers Park) to State Road 45 & 46

Bloomington Bikeways Implementation Plan

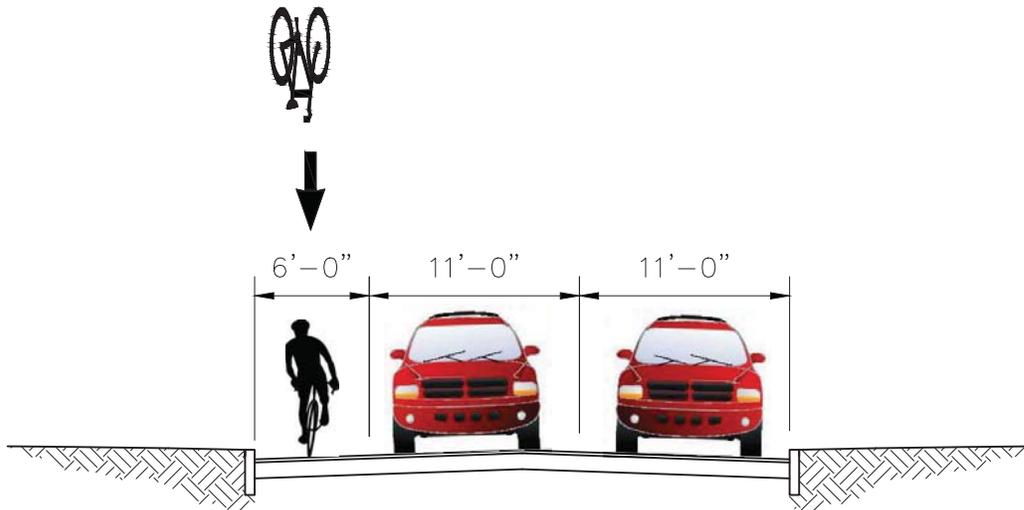
Source: Google Earth Aerial
 Author: JRF
 Date: March, 2012

COLLEGE AVENUE



EXISTING TYPICAL

STATE ROAD 46/45 TO MILLER SHOWERS PARK



PROPOSED TYPICAL

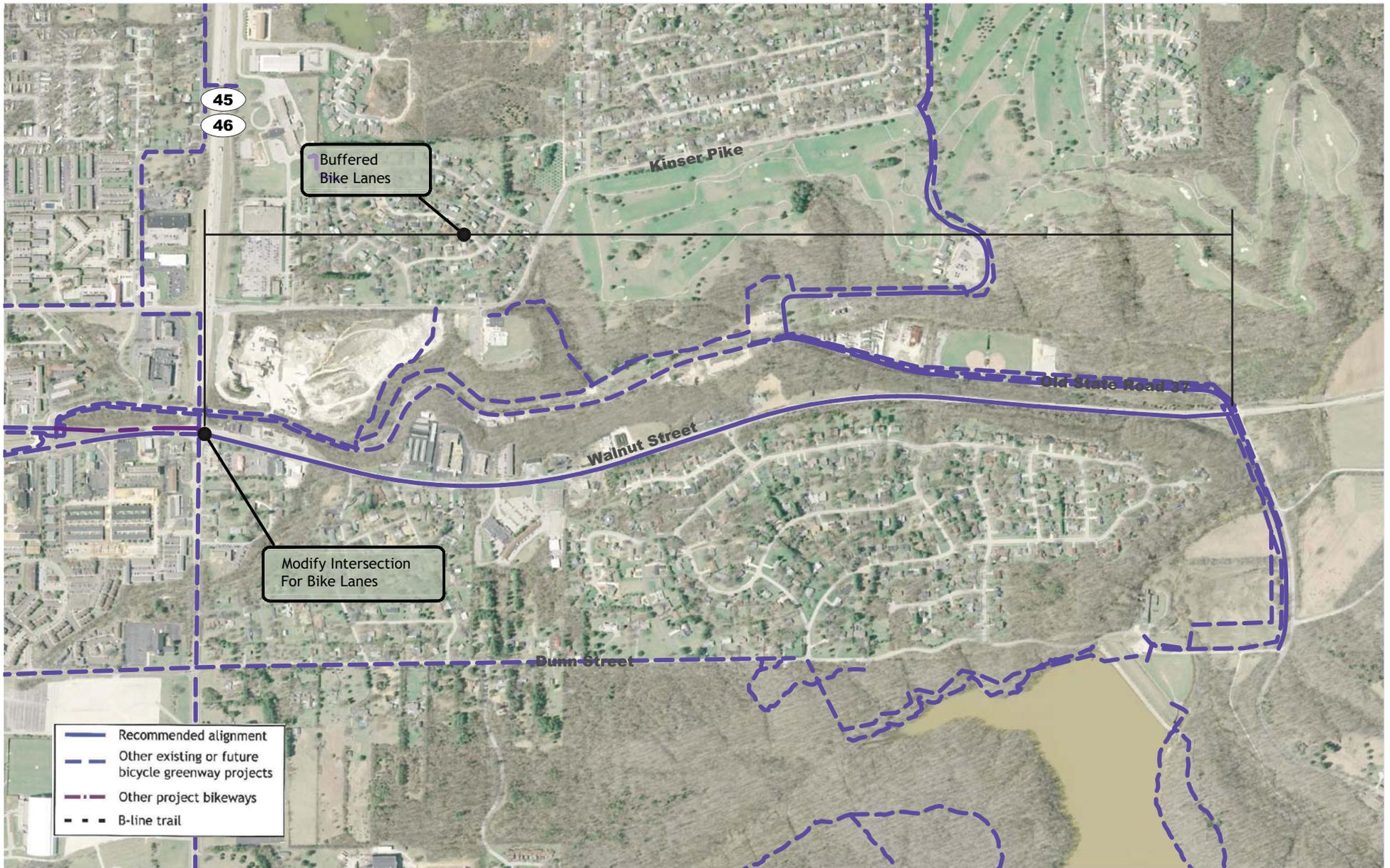
STATE ROAD 46/45 TO MILLER SHOWERS PARK

LT3A College Street : Old SR 37 (Miller Showers Park) to SR 45/46

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012





LT3B Walnut Street: State Road 45 & 46 to Old State Road 37

Bloomington Bikeways Implementation Plan

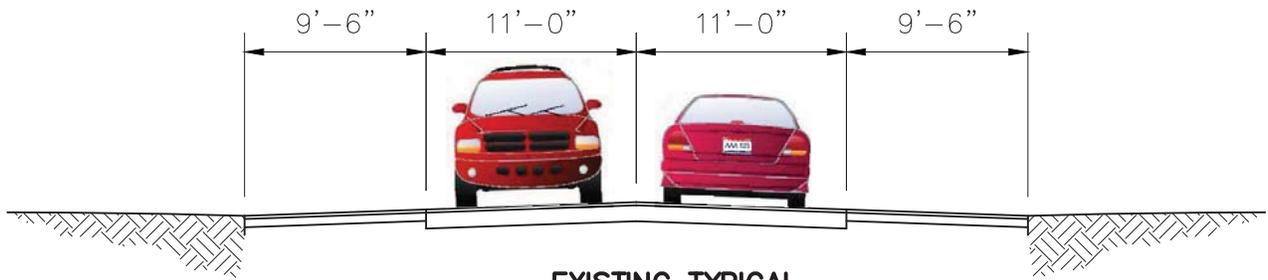
Source: Google Earth Aerial
 Author: JRF
 Date: March, 2012



BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

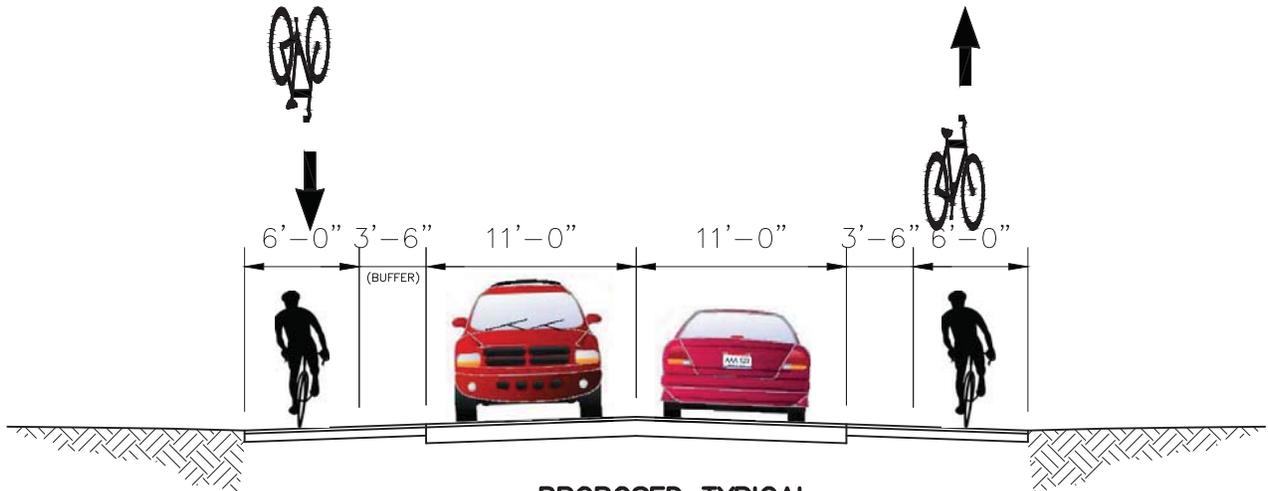


WALNUT STREET – NORTH



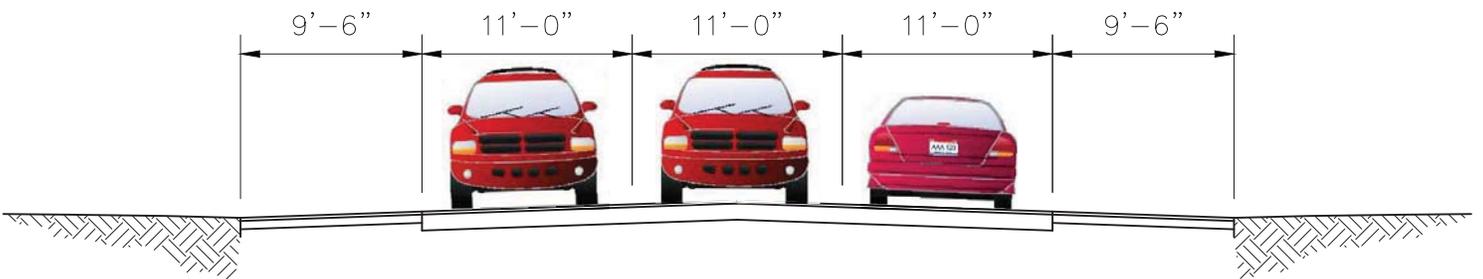
EXISTING TYPICAL

STATE ROAD 46/45 TO BLUE RIDGE DRIVE



PROPOSED TYPICAL

STATE ROAD 46/45 TO BLUE RIDGE DRIVE



EXISTING TYPICAL

BLUE RIDGE DRIVE TO OLD STATE ROAD 37

LT3B Walnut Street : SR 45/46 to SR 37

Bloomington Bikeways Implementation Plan

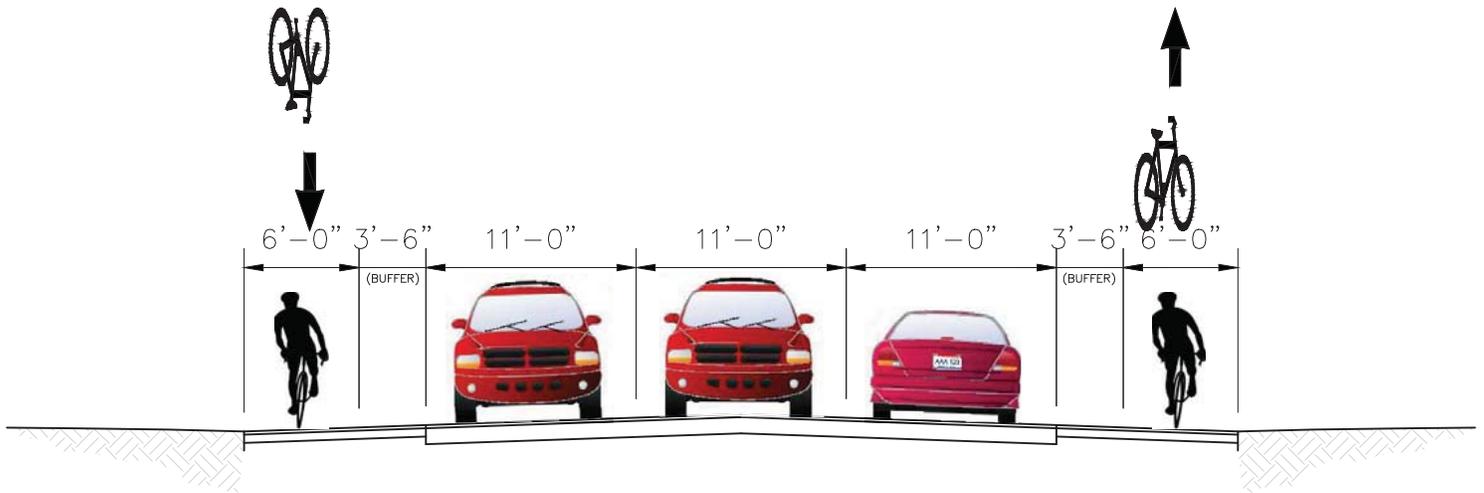
Source Google Earth Aerial
 Author: JRF
 Date: March, 2012



BURGESS & NIPLE
 Engineers ■ Architects ■ Planners



WALNUT STREET – NORTH



PROPOSED TYPICAL
BLUE RIDGE DRIVE TO OLD STATE ROAD 37

LT3B Walnut Street : SR 45/46 to SR 37

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLE
Engineers ■ Architects ■ Planners





LT3A & LT3B Walnut Street: State Road 45 & 46 to Old State Road 37

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012

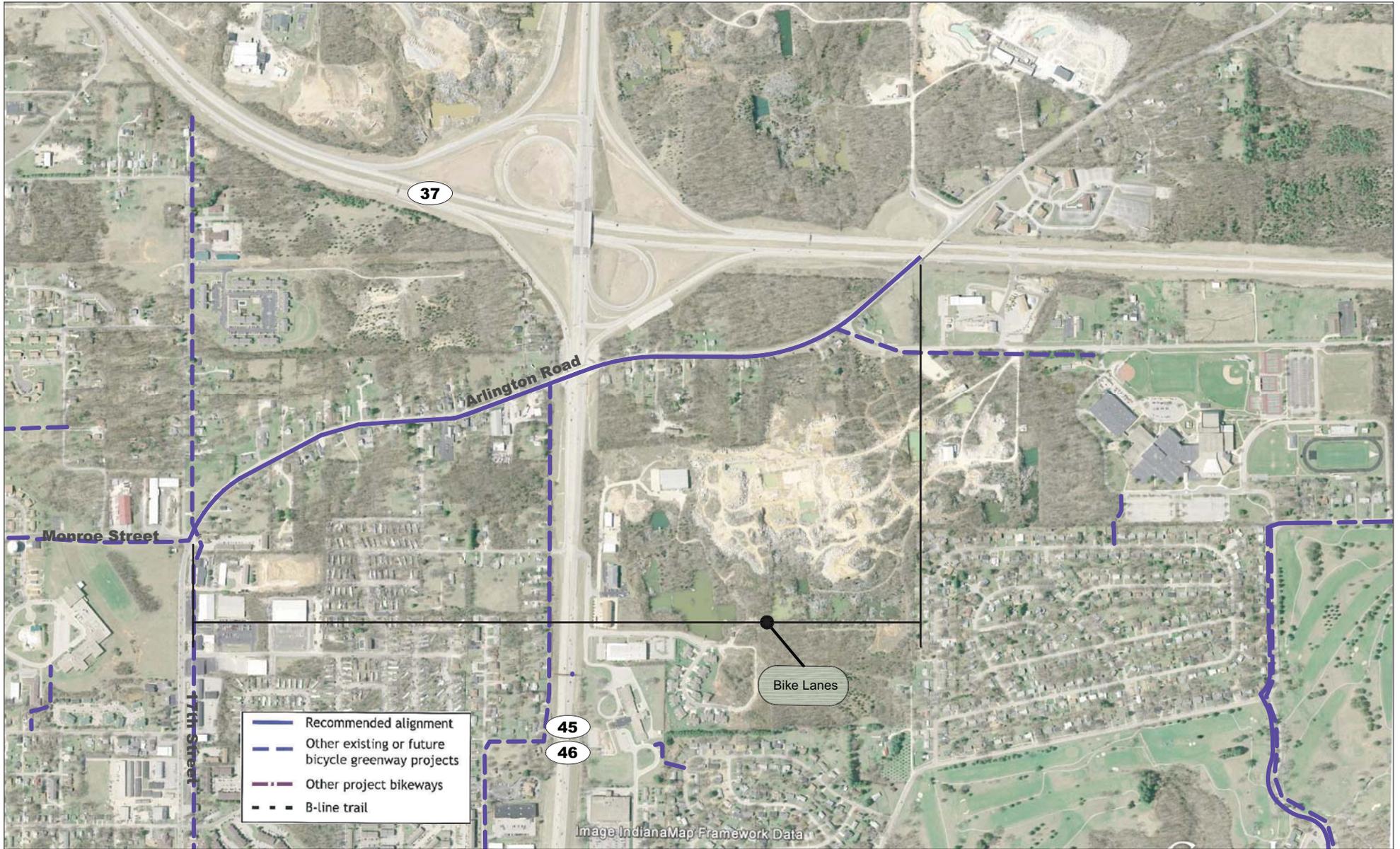


THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
Engineers ■ Architects ■ Planners



PLANNING + DESIGN



LT4 Arlington Road: Monroe Street to State Road 37

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial

Author: JRF

Date: March, 2012

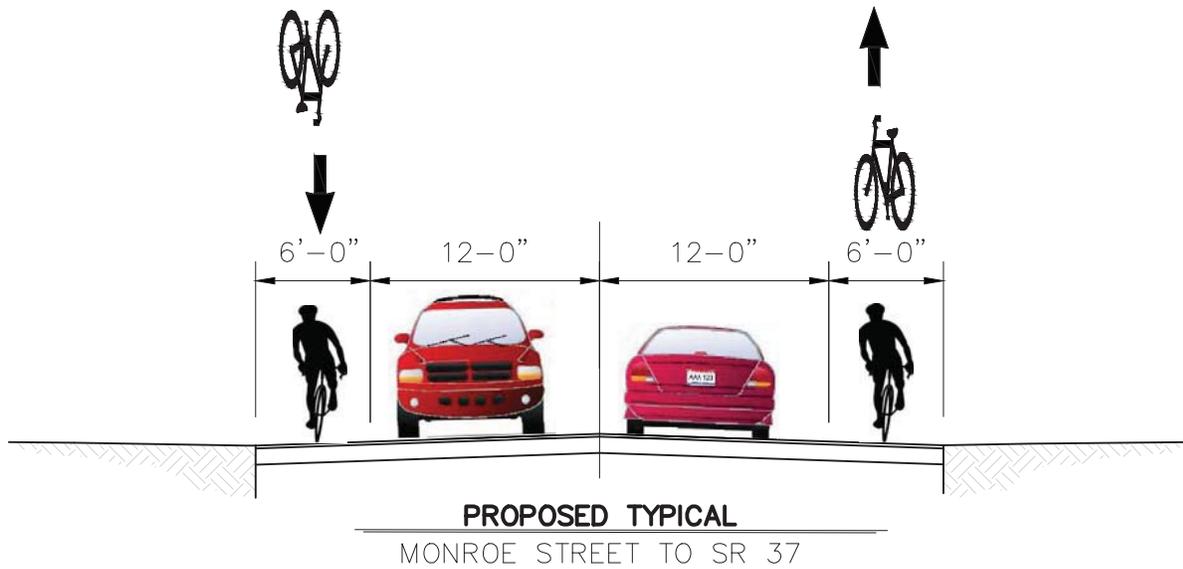
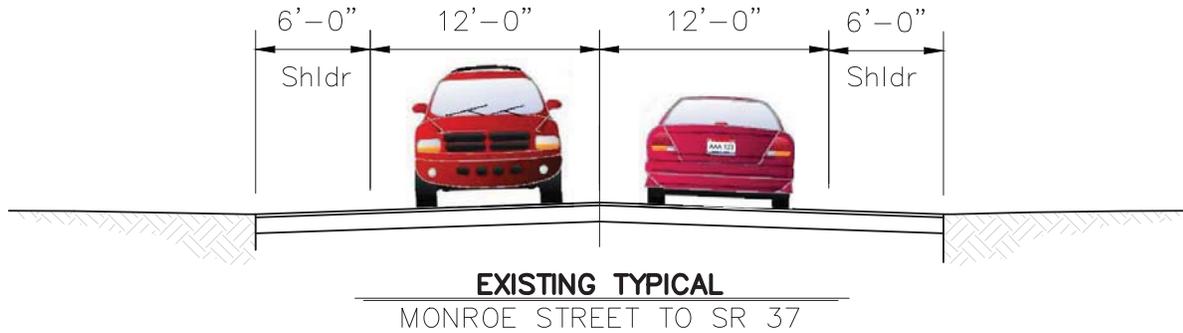


THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
Engineers ■ Architects ■ Planners



ARLINGTON ROAD



LT4 Arlington Road : Monroe Street to SR 37

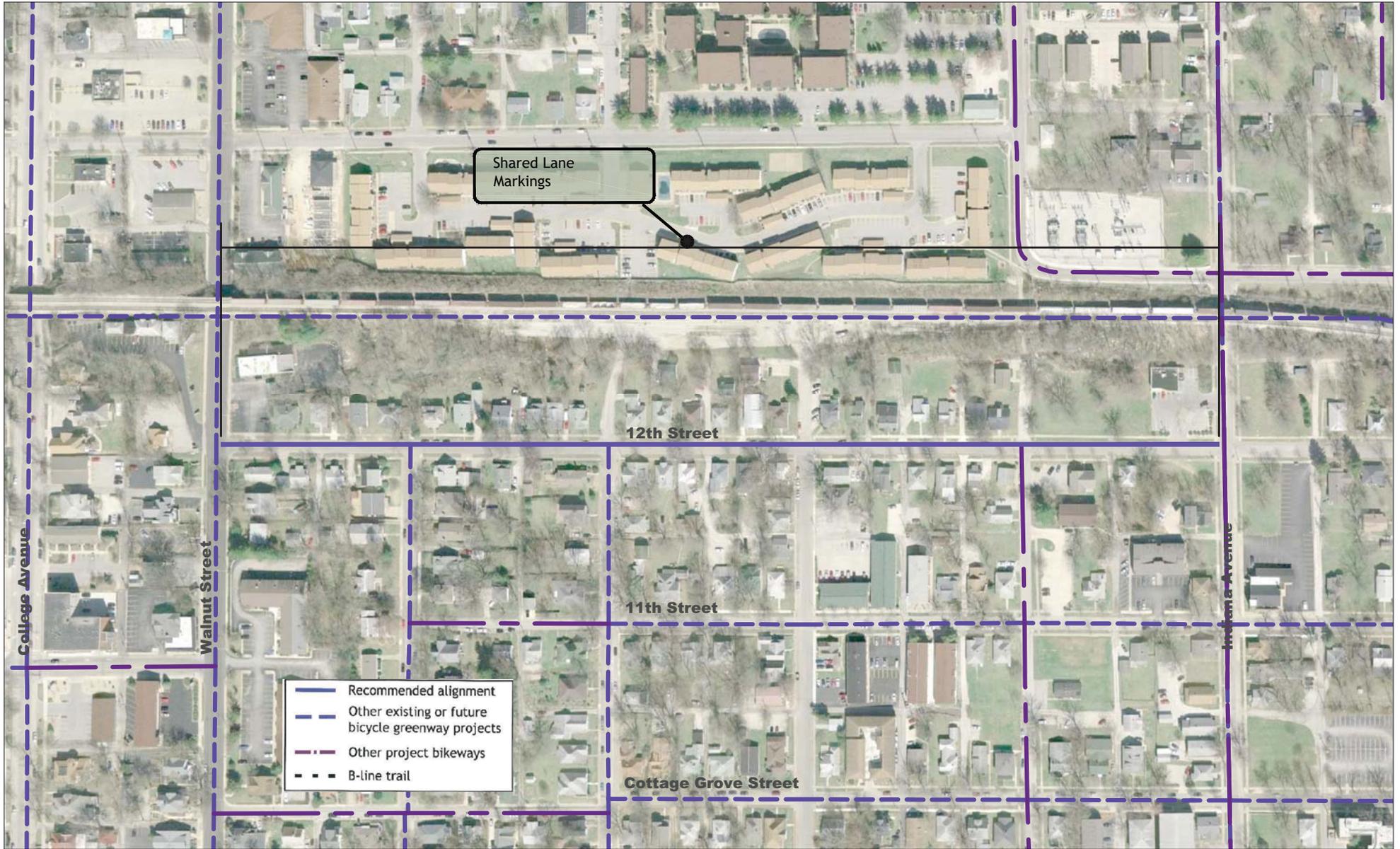
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners





LT5 12th Street: Walnut Street to Indiana Avenue

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial

Author: JRF

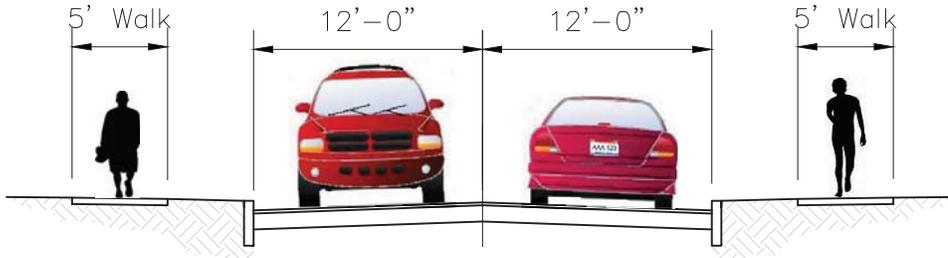
Date: March, 2012



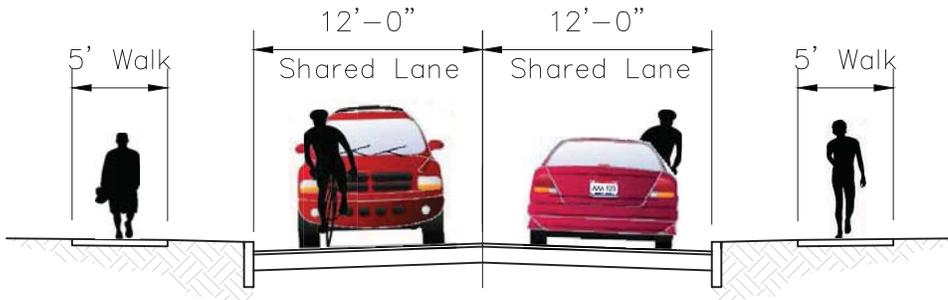
BURGESS & NIPLE
Engineers ■ Architects ■ Planners



12th Street



EXISTING TYPICAL
WALNUT STREET TO INDIANA STREET



PROPOSED TYPICAL
WALNUT STREET TO INDIANA STREET

LT5 12th Street : Walnut Street to Indiana Street

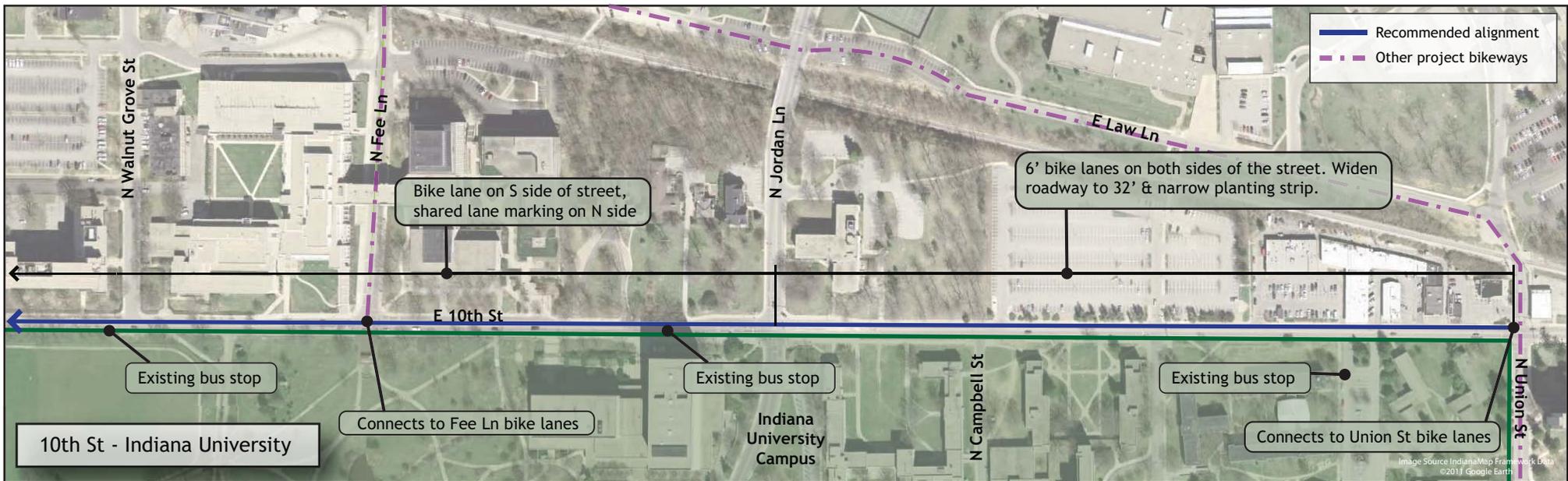
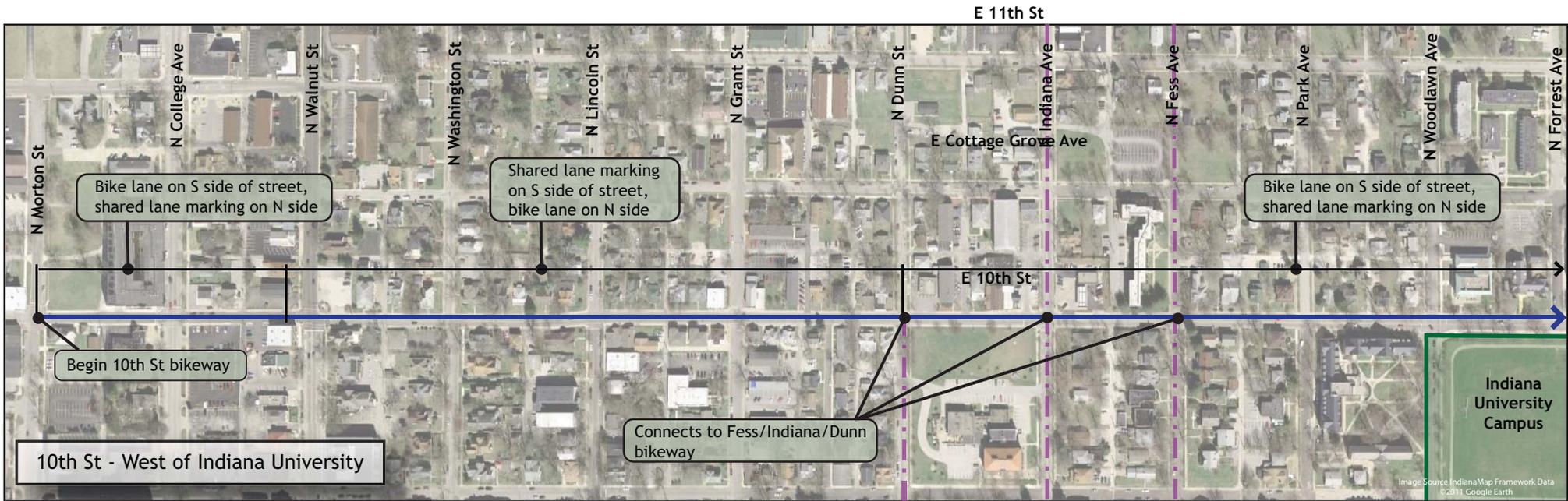
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPL
Engineers ■ Architects ■ Planners

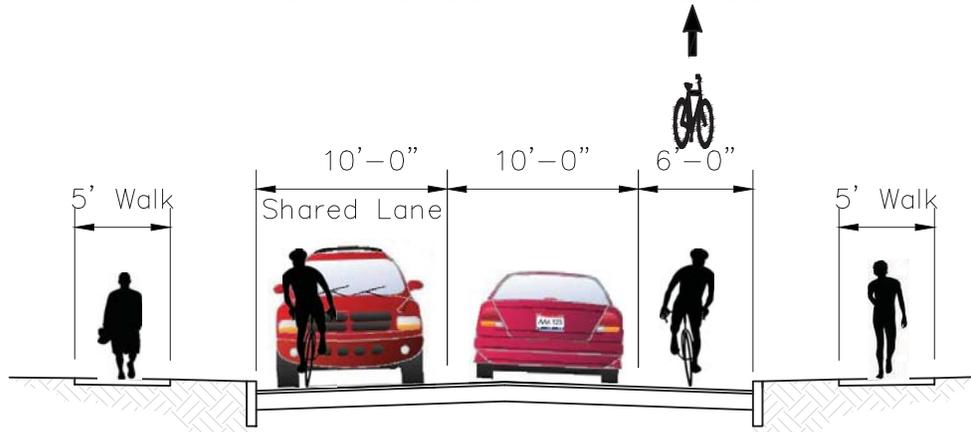
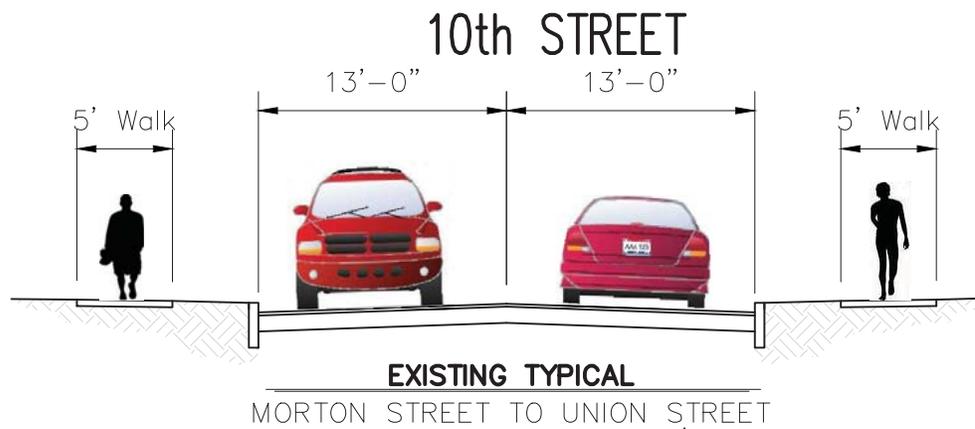




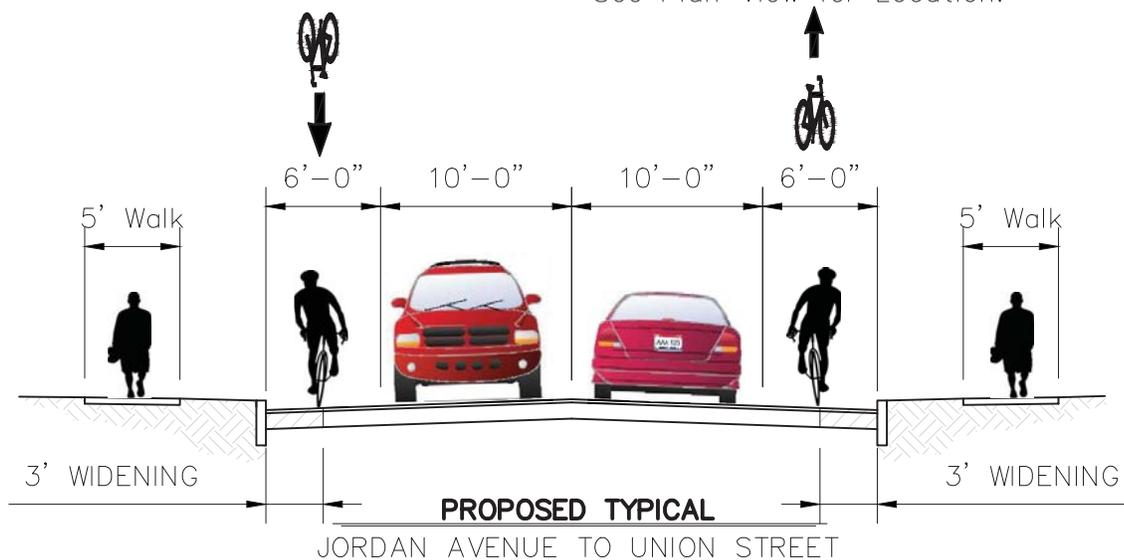
LT6 10th St: Morton St to Union St

Bloomington Bikeways Implementation Plan

Source: Google Earth Aerial
 Author: RW
 Date: March 2012



NOTE: Shared Lane & Bike Lane Location Alternates.
See Plan View for Location.



LT6 10th Street : Morton Street to Union Street





Image Source: Indiana Map Framework Data
© 2011 Google Earth

LT7 Law Lane: N Fee Ln to N Union St

Bloomington Bikeways Implementation Plan

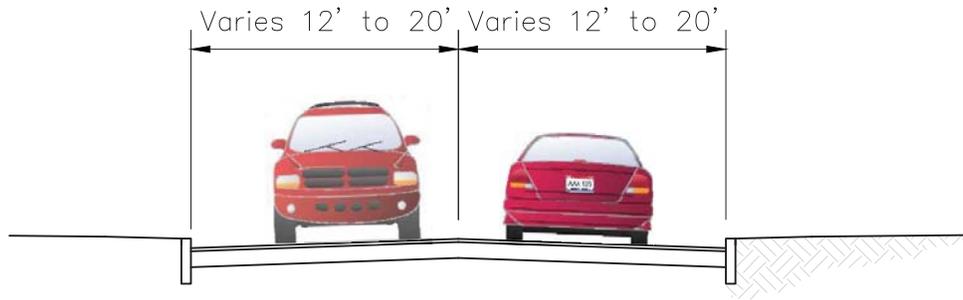
Source: Google Earth Aerial
Author: RW
Date: March 2012

THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

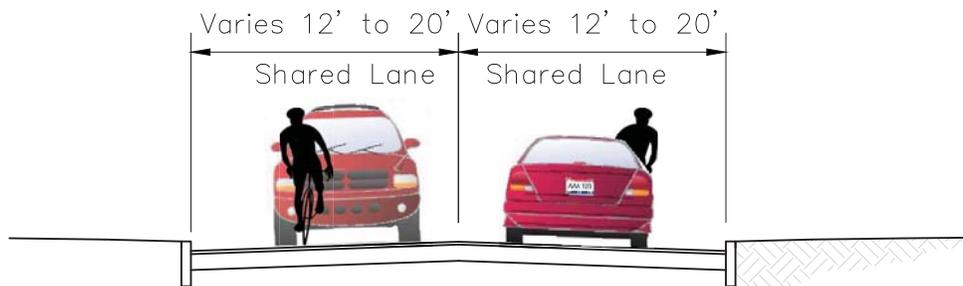
alta
PLANNING + DESIGN

LAW LANE



EXISTING TYPICAL

N. FEE LANE TO UNION STREET



PROPOSED TYPICAL

N. FEE LANE TO UNION STREET

LT7 Law Lane : N Fee Lane to N Union Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012

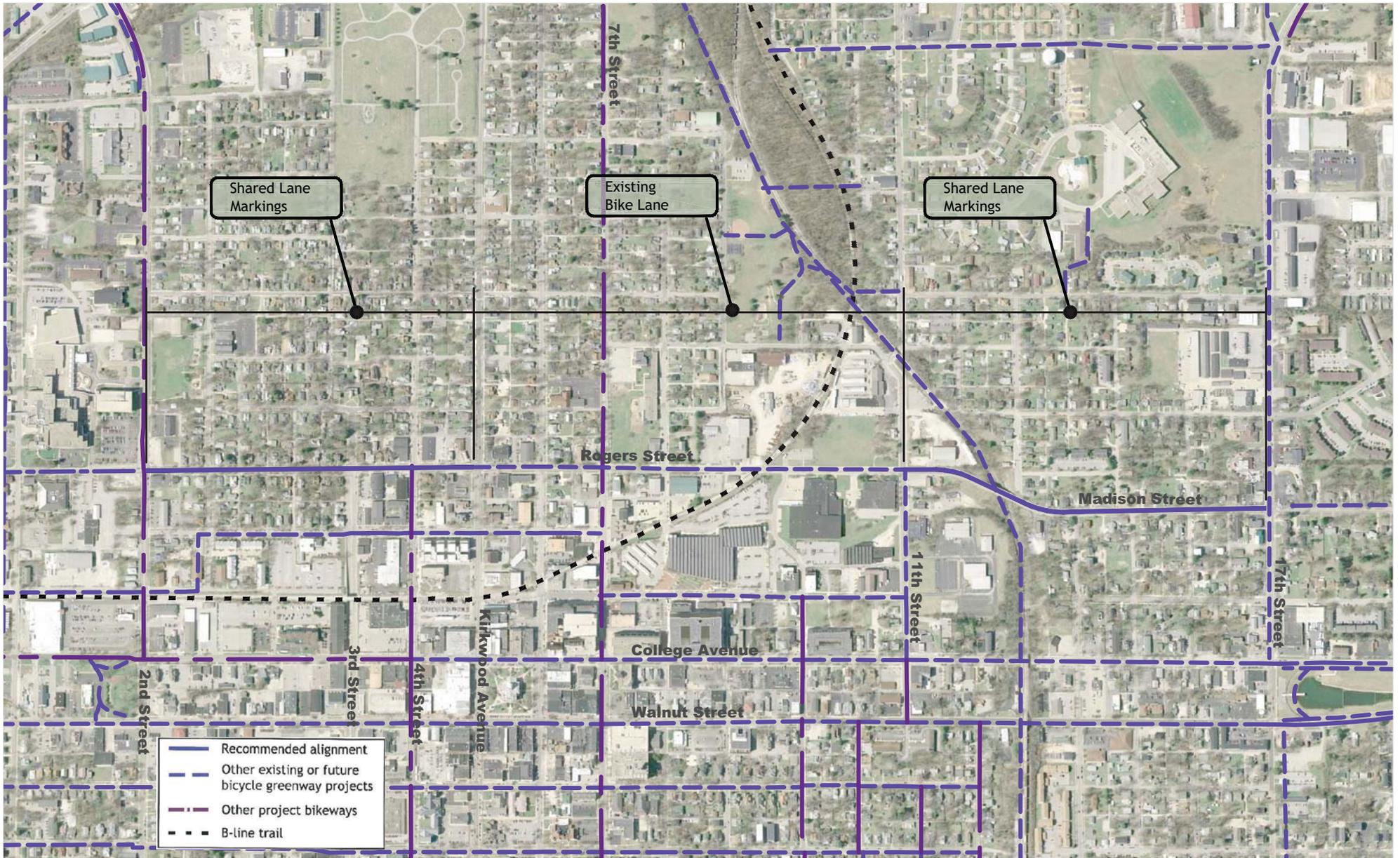


THE CITY OF
BLOOMINGTON



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners





LT8 Rogers & Madison Streets: 2nd Street to Kirkwood Avenue & 11th Street to 17th Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
 Author: JRF
 Date: March, 2012

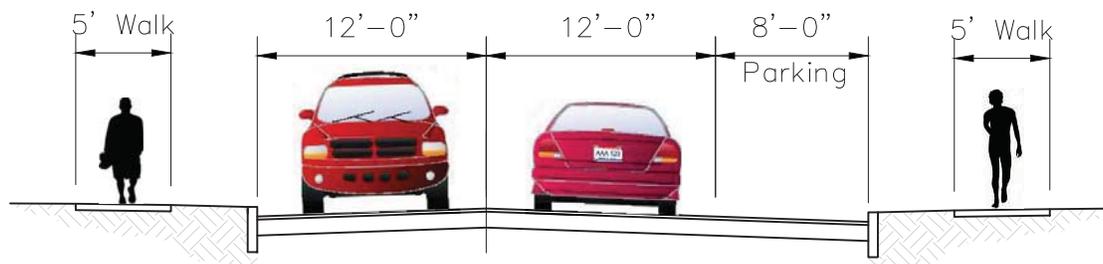


THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

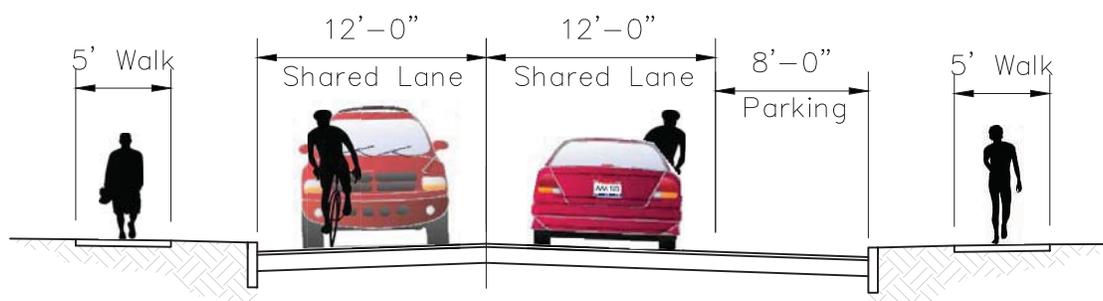


ROGERS STREET



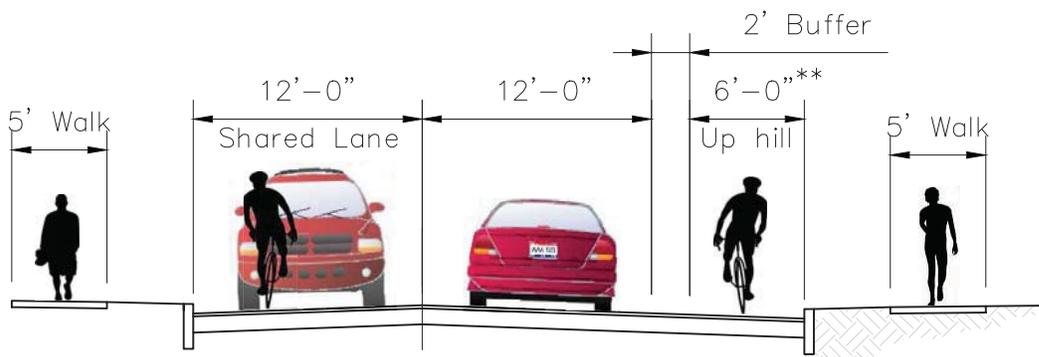
EXISTING TYPICAL

2nd STREET TO KIRKWOOD AVENUE
11th STREET TO 17th STREET



PROPOSED TYPICAL

2nd STREET TO KIRKWOOD AVENUE



PROPOSED TYPICAL

2nd STREET TO KIRKWOOD AVENUE – (Up hill locations)

** Reference 2nd Street to Kirkwood Avenue
except where site investigation determines up hill grade.

LT8 Rogers Street : 2nd Street to Kirkwood Avenue & 11th Street to 17th Street

Bloomington Bikeways Implementation Plan

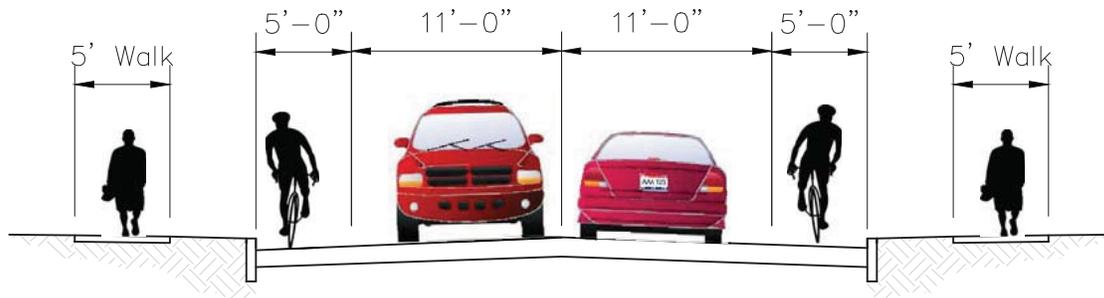
Source Google Earth Aerial
Author: JRF
Date: March, 2012



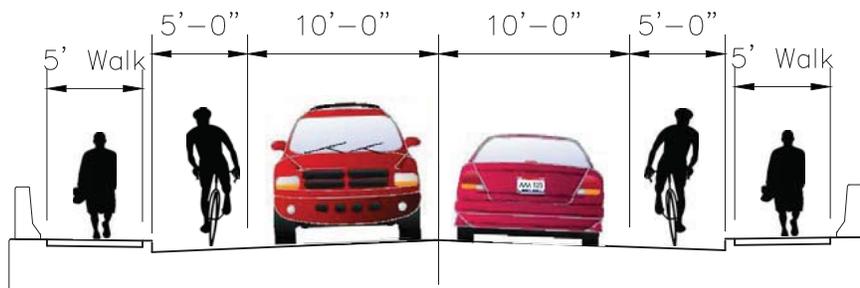
BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners



ROGERS STREET



PROPOSED TYPICAL
11th Street TO BRIDGE



PROPOSED TYPICAL
BRIDGE

LT8 Rogers Street : 2nd Street to Kirkwood Avenue & 11th Street to 17th Street

Bloomington Bikeways Implementation Plan

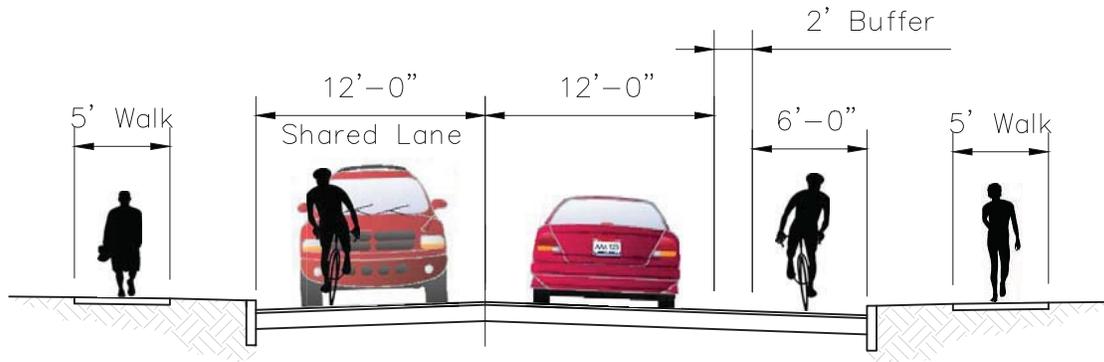
Source Google Earth Aerial
Author: JRF
Date: March, 2012



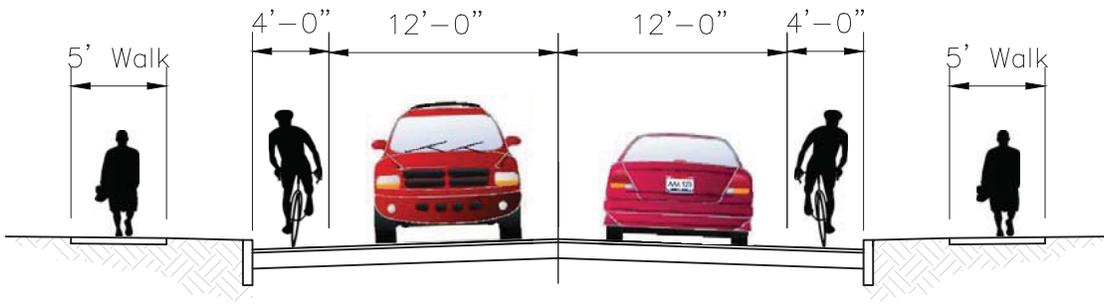
BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners



ROGERS STREET



PROPOSED TYPICAL
BRIDGE to 17th STREET



PROPOSED TYPICAL
INTERSECTION LOCATIONS

LT8 Rogers Street : 2nd Street to Kirkwood Avenue & 11th Street to 17th Street

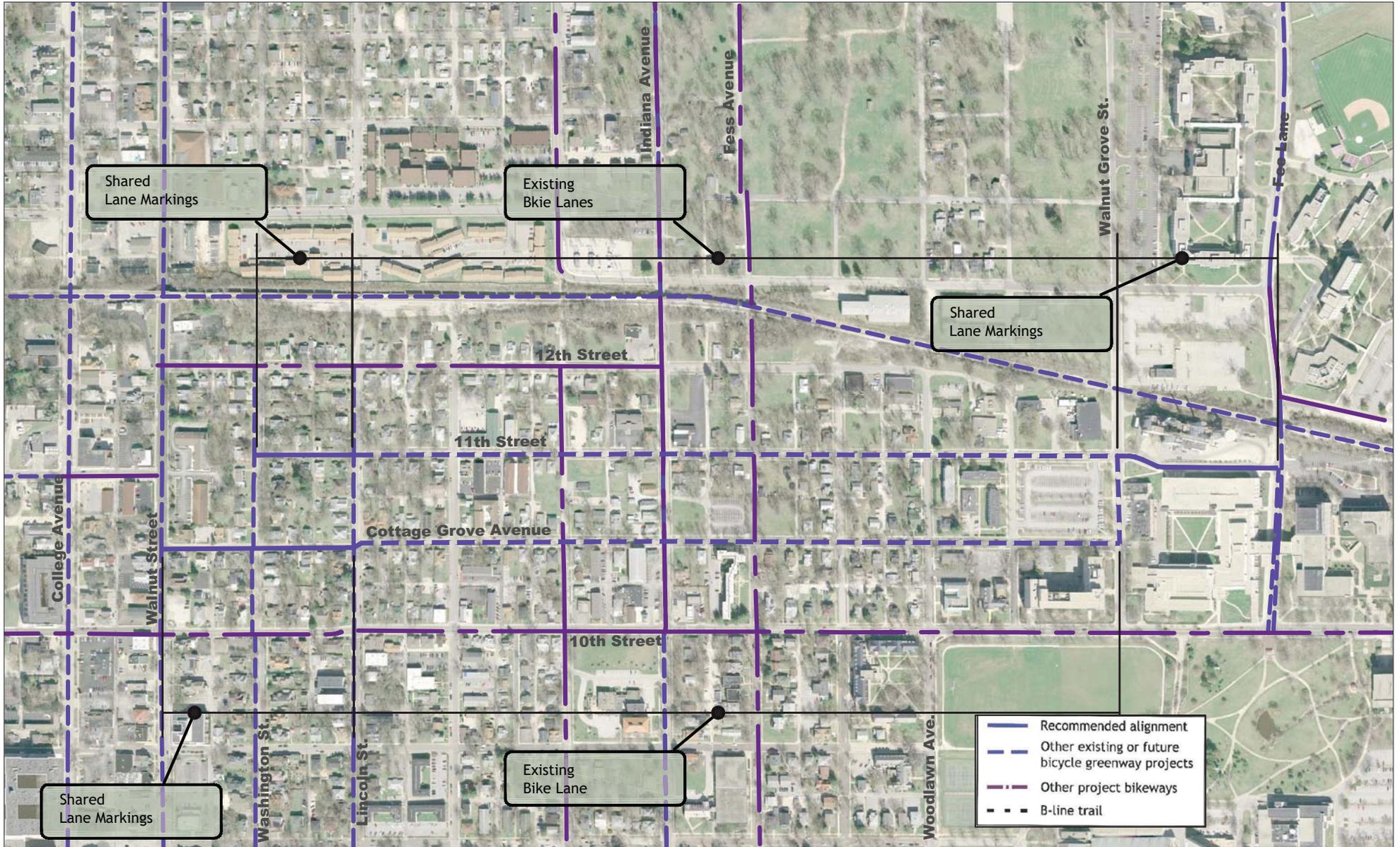
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners





LT9 11th Street: Washington St. to Lincoln St. & Walnut Grove St. to Fee Lane
Cottage Grove Avenue: Walnut Street to Lincoln Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
 Author: JRF
 Date: March, 2012

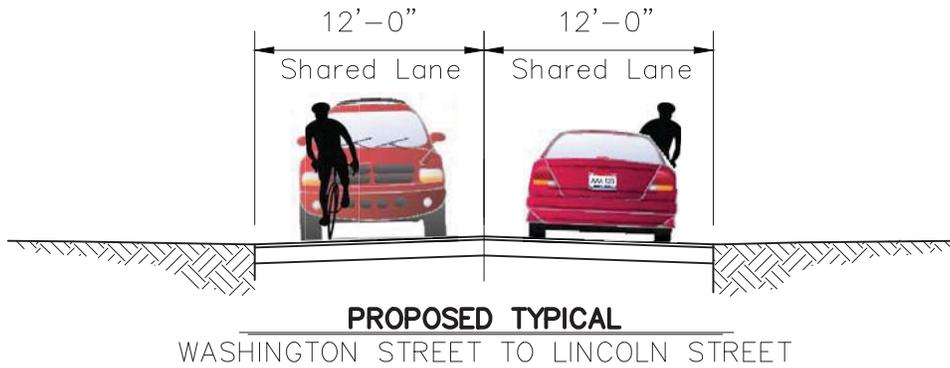
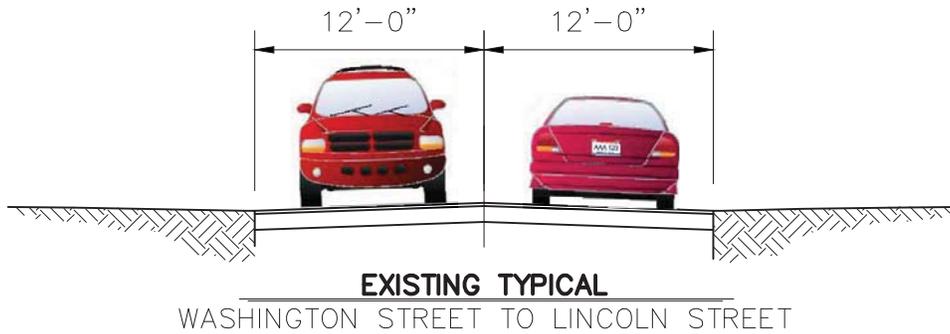



THE CITY OF BLOOMINGTON


BURGESS & NIPLE
 Engineers ■ Architects ■ Planners


alta
 PLANNING + DESIGN

11th STREET



LT9 11th Street : Washington Street to Lincoln Street & Walnut Grove Street to Fee Lane Cottage Grove: Walnut Street to Lincoln Street

Bloomington Bikeways Implementation Plan

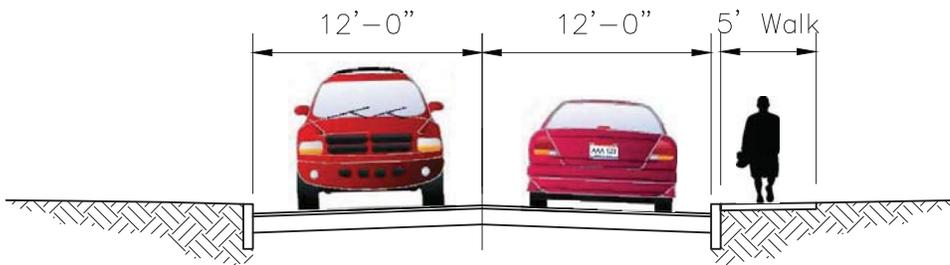
Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners

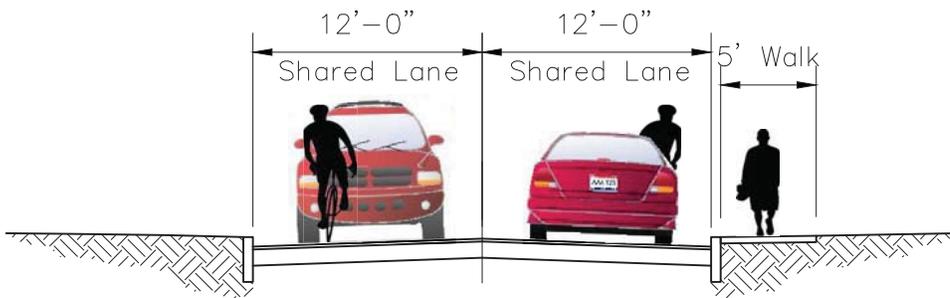


11th STREET



EXISTING TYPICAL

WALNUT GROVE STREET TO FEE LANE



PROPOSED TYPICAL

WALNUT GROVE STREET TO FEE LANE

LT9 11th Street : Washington Street to Lincoln Street & Walnut Grove Street to Fee Lane Cottage Grove: Walnut Street to Lincoln Street

Bloomington Bikeways Implementation Plan

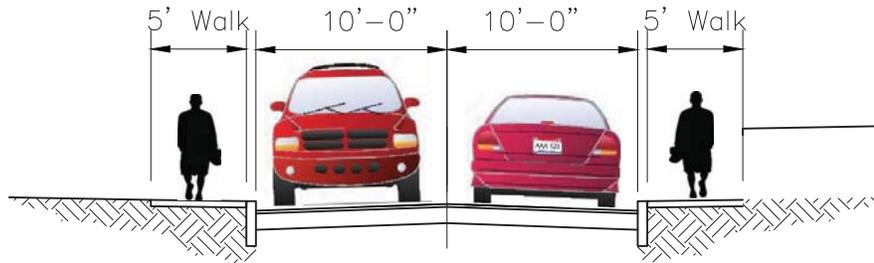
Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners

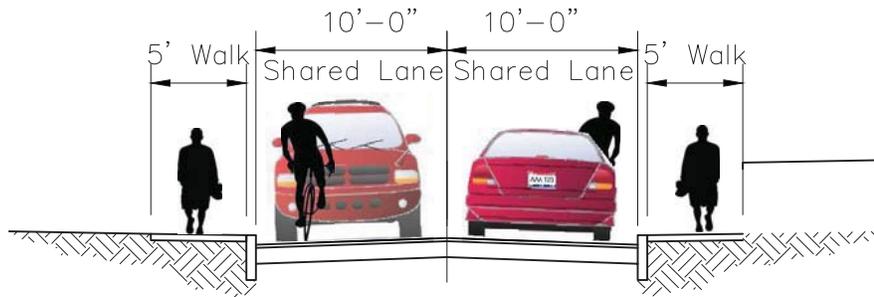


11th STREET



EXISTING TYPICAL

WALNUT STREET TO LINCOLN STREET



PROPOSED TYPICAL

WALNUT STREET TO LINCOLN STREET

LT9 11th Street : Washington Street to Lincoln Street & Walnut Grove Street to Fee Lane Cottage Grove: Walnut Street to Lincoln Street

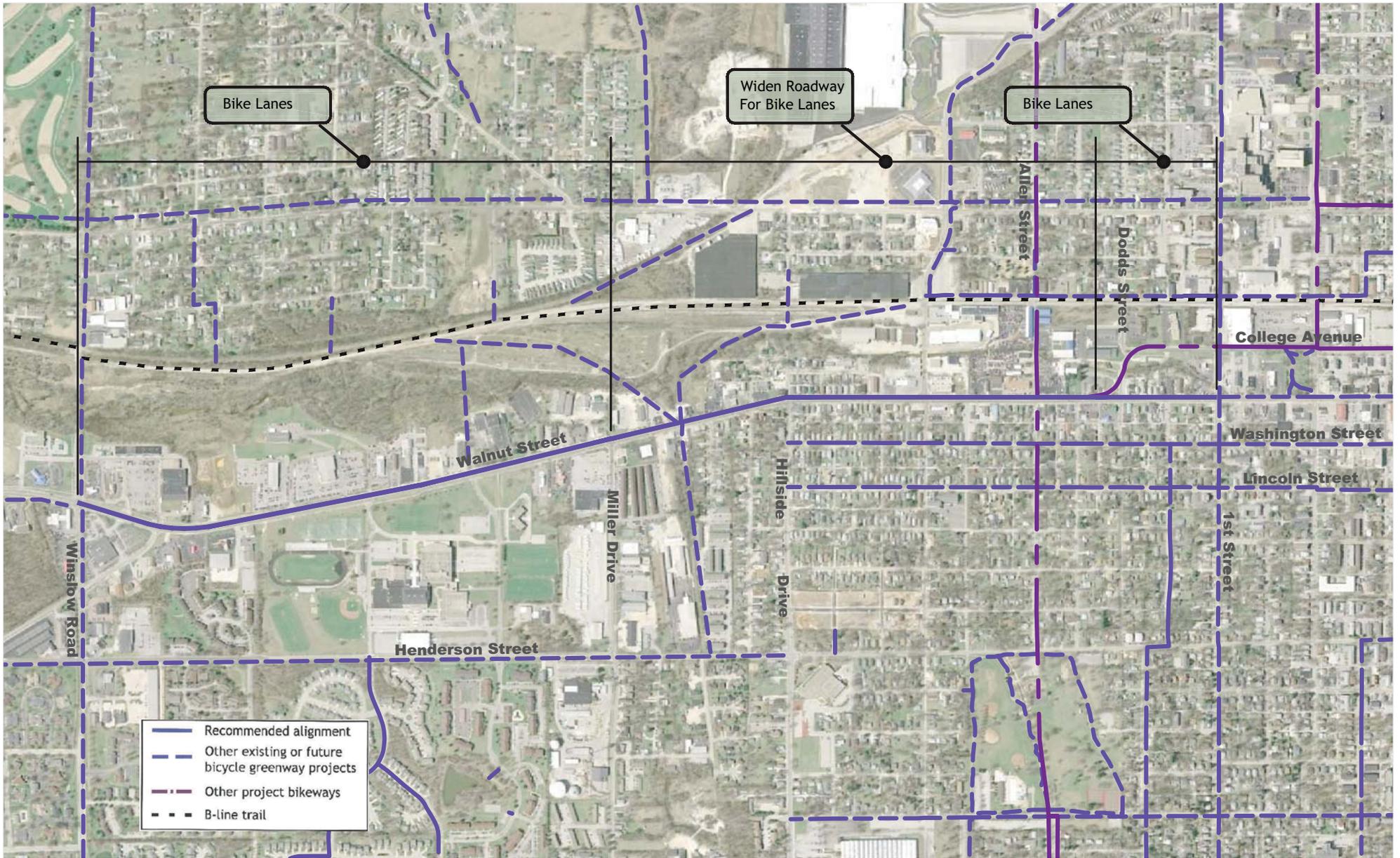
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners





LT10 Walnut Street: Winslow Road to 1st Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial

Author: JRF

Date: March, 2012

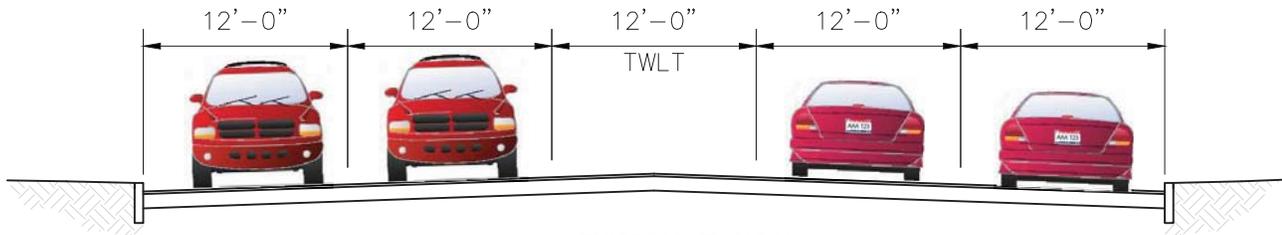


THE CITY OF
BLOOMINGTON

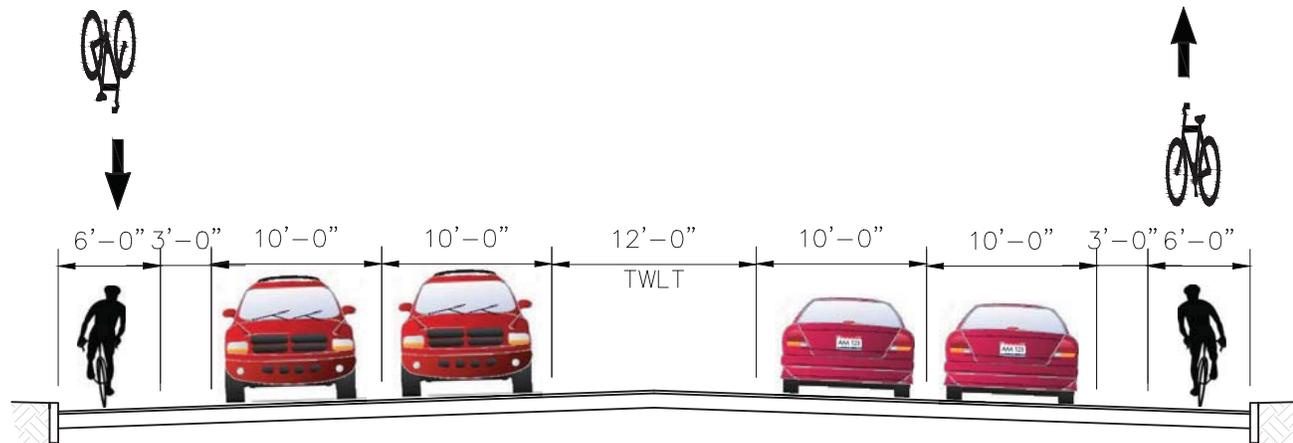
BURGESS & NIPLE
Engineers ■ Architects ■ Planners



WALNUT STREET – SOUTH



EXISTING TYPICAL
WINSLOW ROAD TO MILLER DRIVE



PROPOSED TYPICAL
WINSLOW ROAD TO MILLER DRIVE

LT10 Walnut Street : Winslow Road to 1st Street

Bloomington Bikeways Implementation Plan

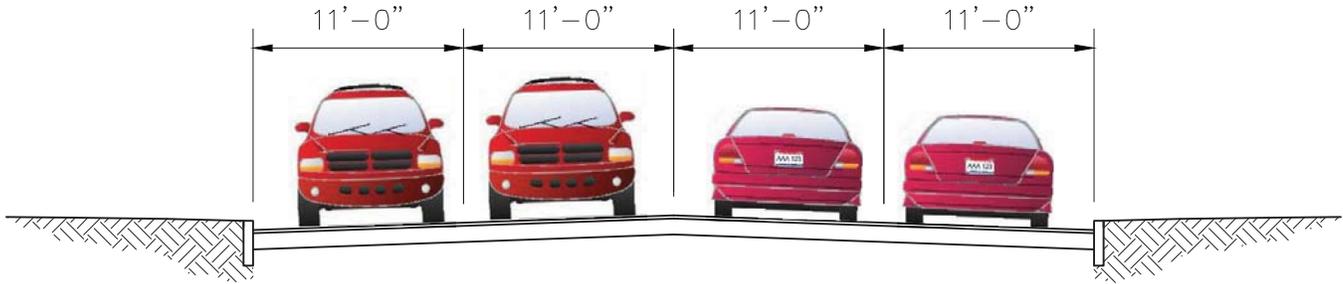
Source Google Earth Aerial
Author: JRF
Date: March, 2012



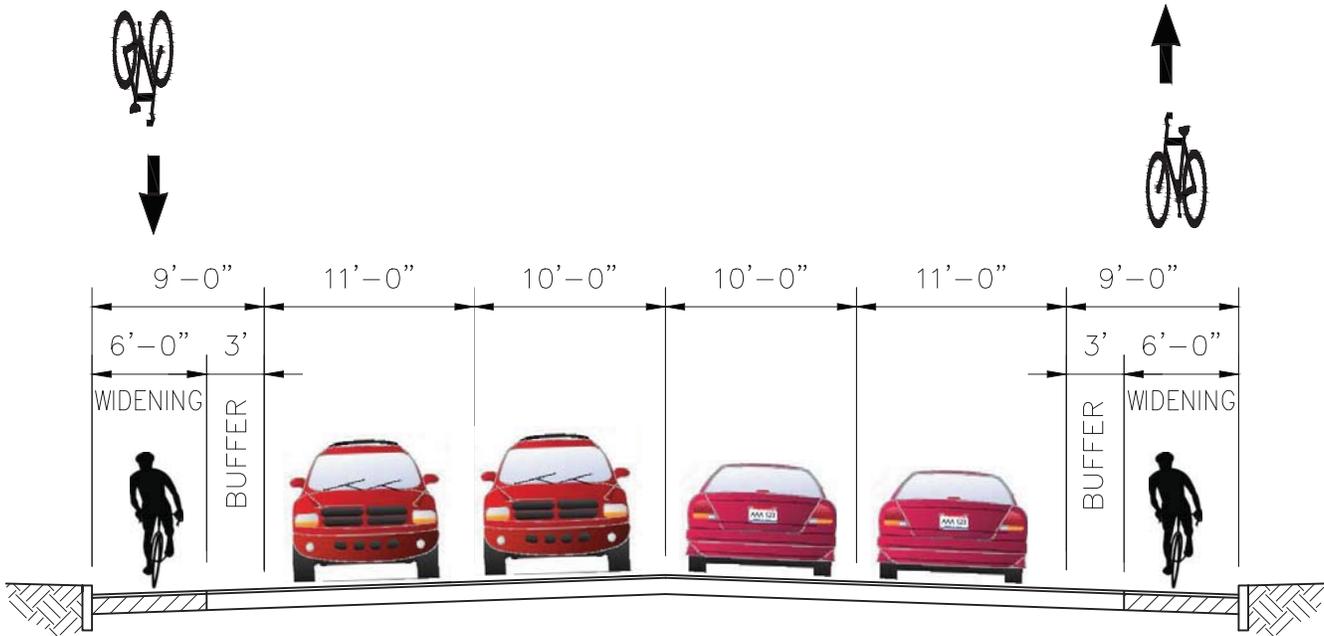
BURGESS & NIPLE
Engineers ■ Architects ■ Planners



WALNUT STREET – SOUTH



EXISTING TYPICAL
MILLER DRIVE TO COLLEGE AVENUE



PROPOSED TYPICAL
MILLER DRIVE TO COLLEGE AVENUE

LT10 Walnut Street : Winslow Road to 1st Street

Bloomington Bikeways Implementation Plan

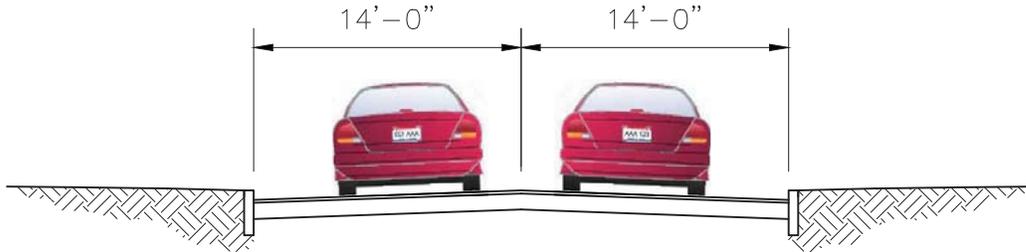
Source Google Earth Aerial
Author: JRF
Date: March, 2012



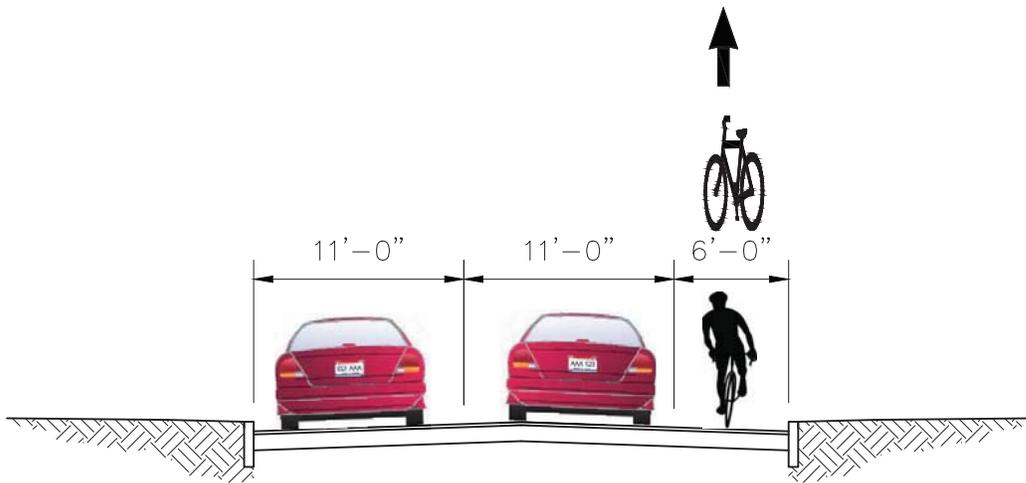
BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners



WALNUT STREET – SOUTH



EXISTING TYPICAL
COLLEGE AVENUE TO 1st STREET



PROPOSED TYPICAL
COLLEGE AVENUE TO 1st STREET

LT10 Walnut Street : Winslow Road to 1st Street

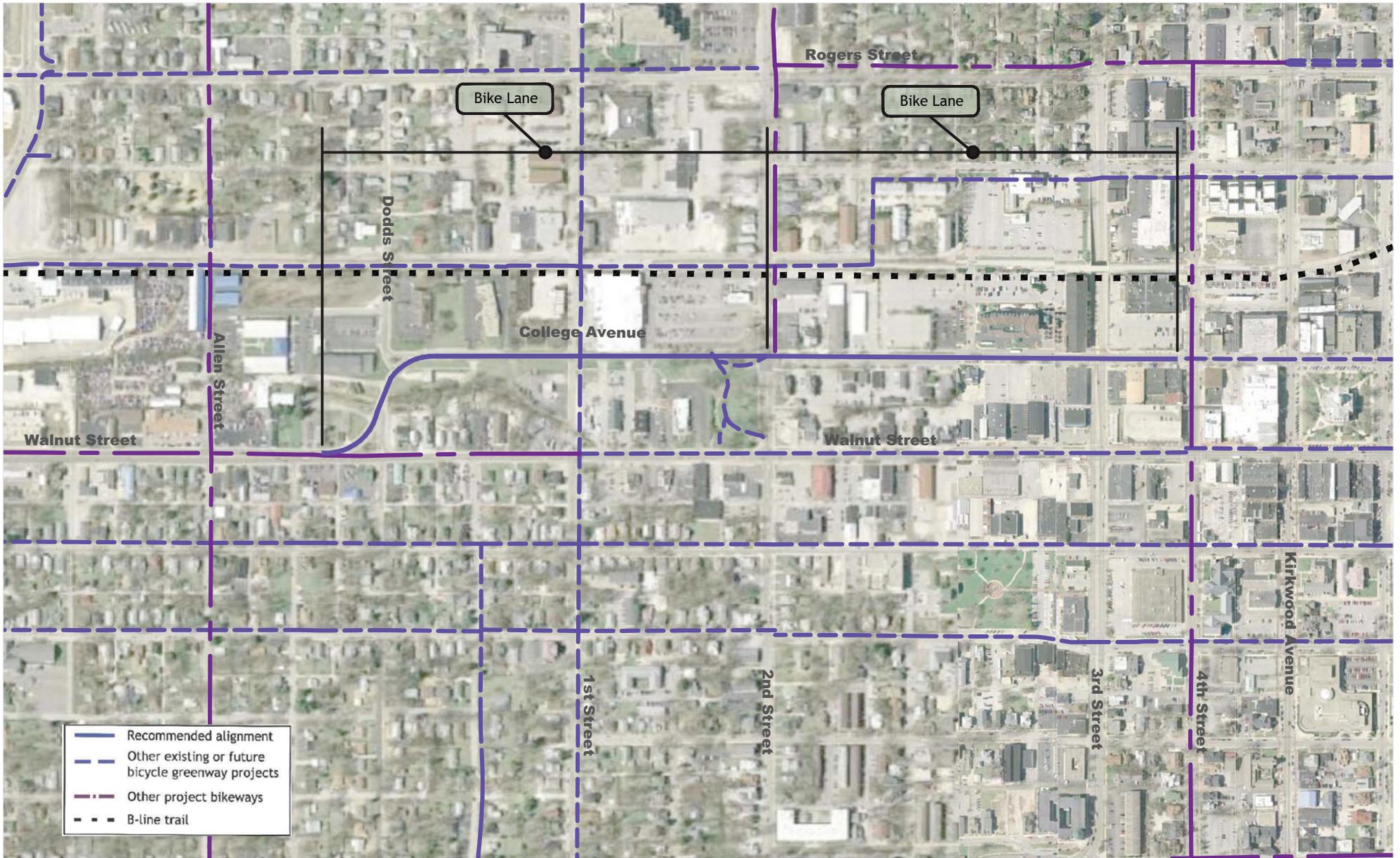
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners





LT11 College Avenue: Walnut Street to 4th Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
 Author: JRF
 Date: March, 2012

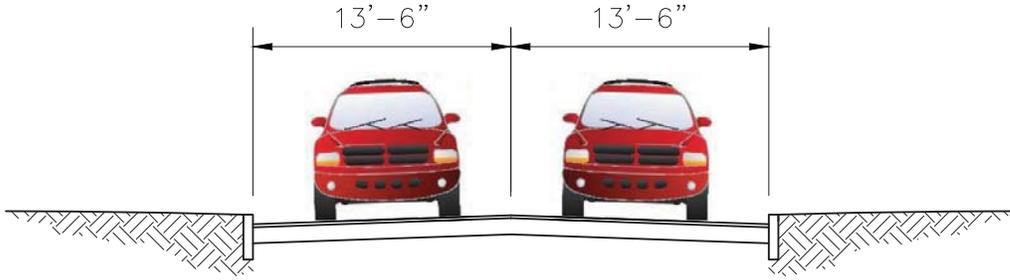


THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

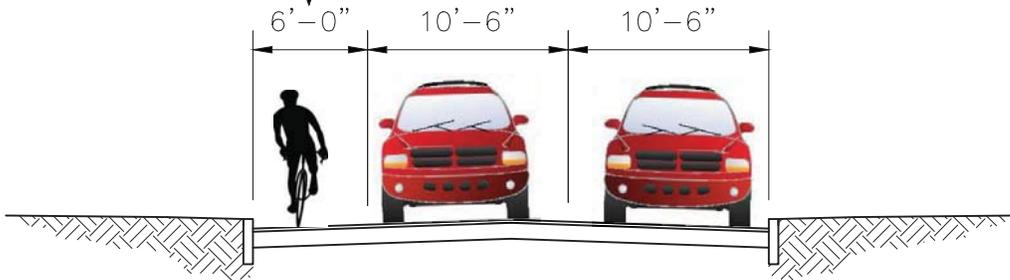


COLLEGE AVENUE



EXISTING TYPICAL

WALNUT STREET TO 2nd STREET



PROPOSED TYPICAL

WALNUT STREET TO 2nd STREET

LT11 College Street : Walnut Street to 4th Street

Bloomington Bikeways Implementation Plan

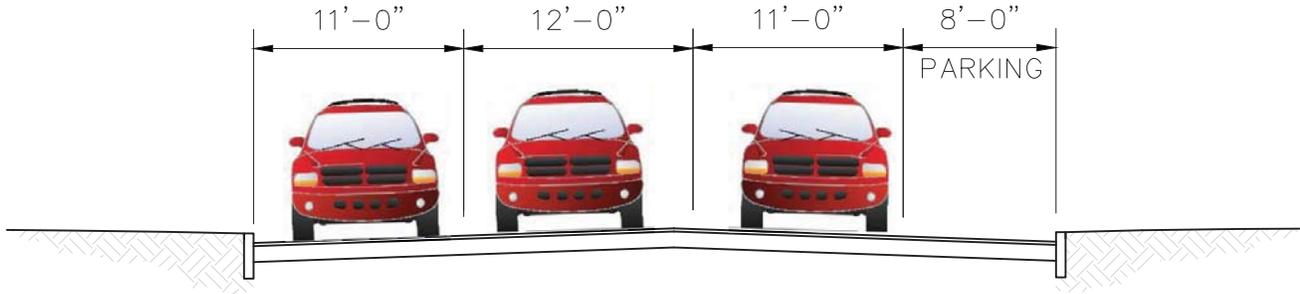
Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners

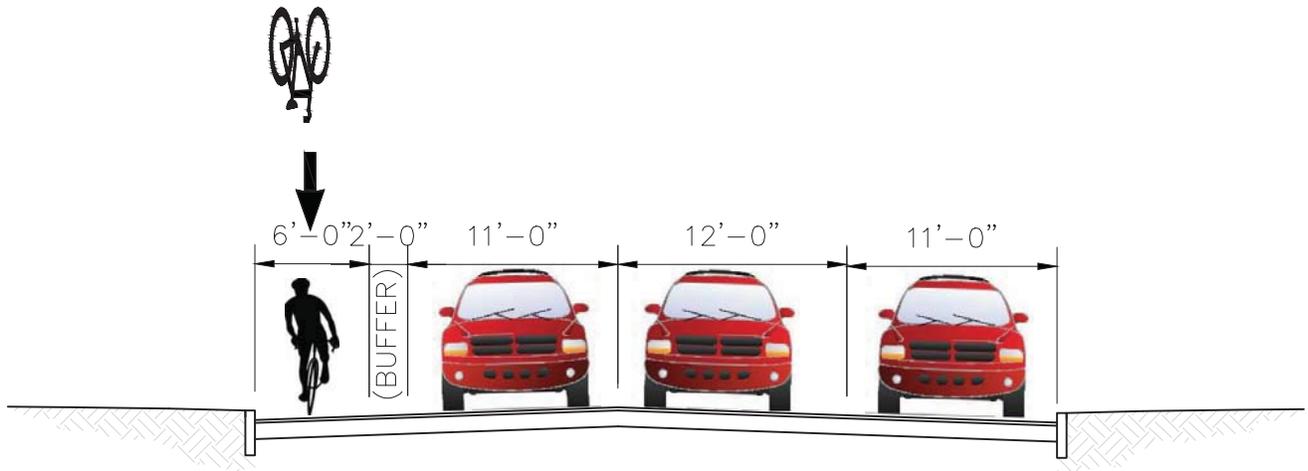


COLLEGE AVENUE



EXISTING TYPICAL

2nd STREET TO 4th STREET



PROPOSED TYPICAL

2nd STREET TO 4th STREET

LT11 College Street : Walnut Street to 4th Street

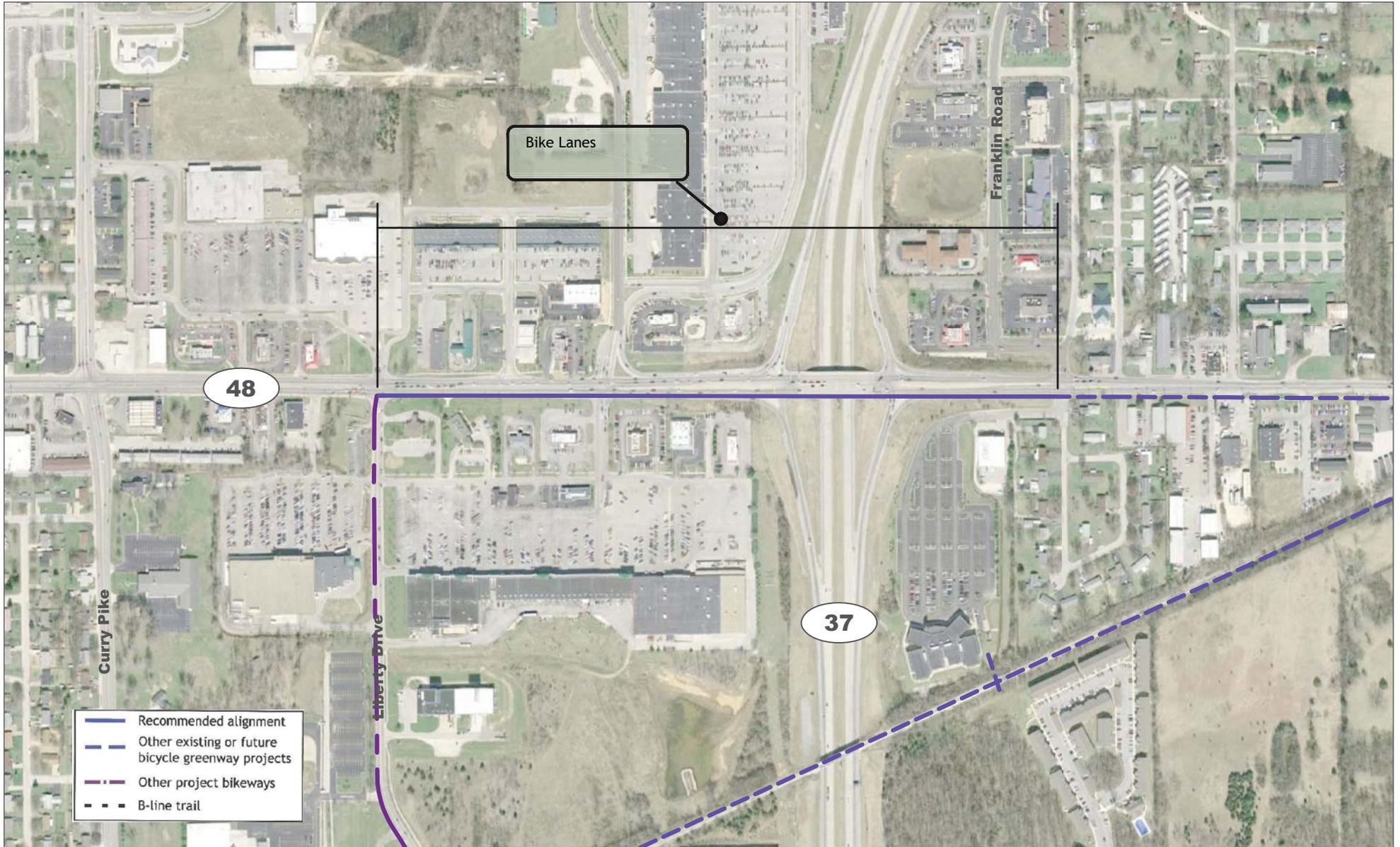
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners





LT12 West Third Street: Liberty Drive to Franklin Road

Bloomington Bikeways Implementation Plan

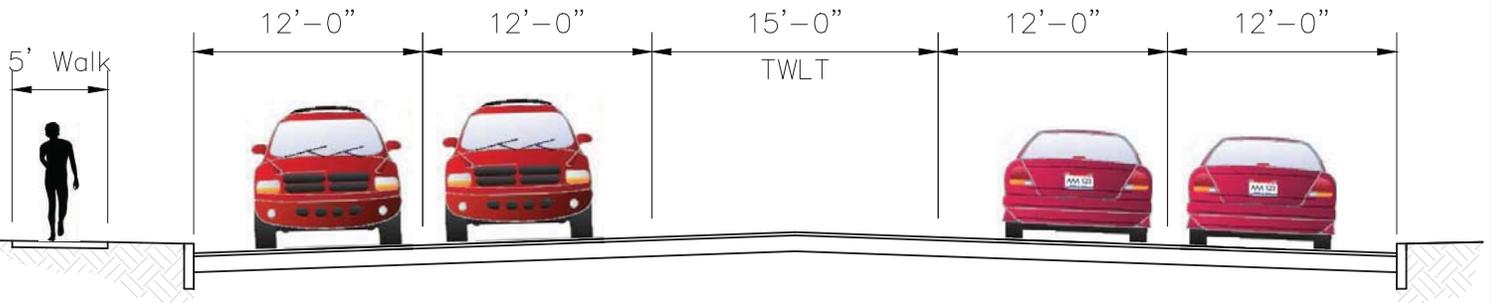
Source: Google Earth Aerial
 Author: JRF
 Date: March, 2012



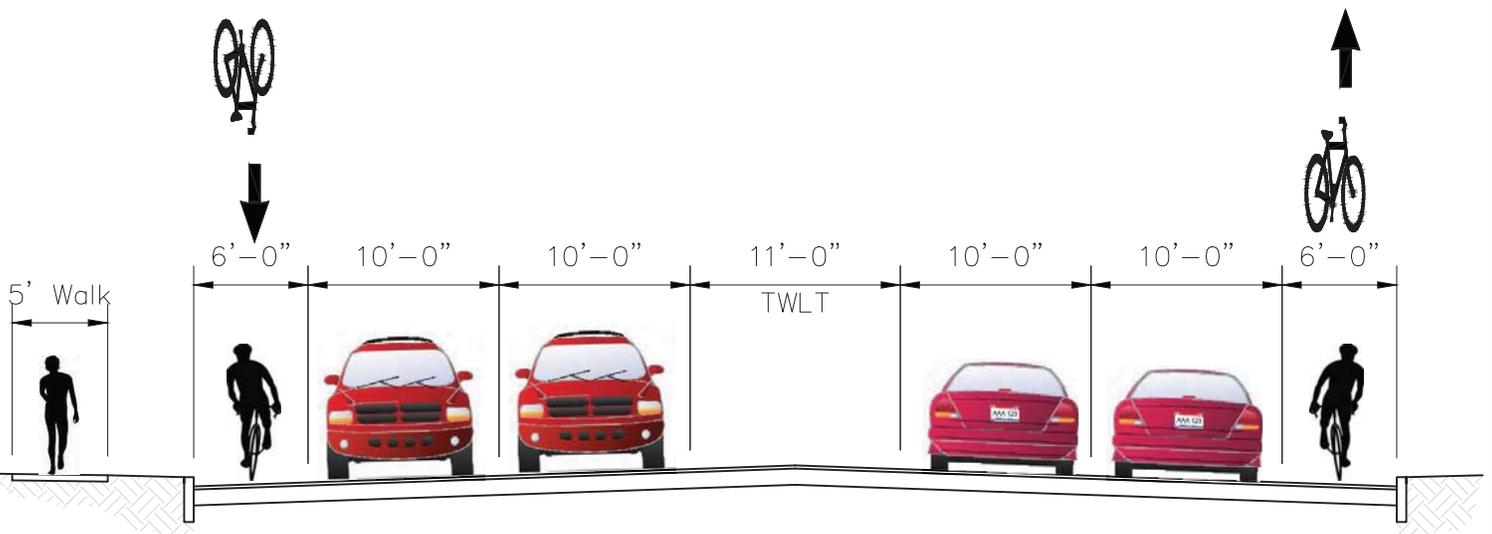
BURGESS & NIPLE
 Engineers ■ Architects ■ Planners



3rd STREET



EXISTING TYPICAL
LIBERTY DRIVE TO FRANKLIN ROAD



PROPOSED TYPICAL
LIBERTY DRIVE TO FRANKLIN ROAD

LT12 3rd Street : Liberty Drive to Franklin Road

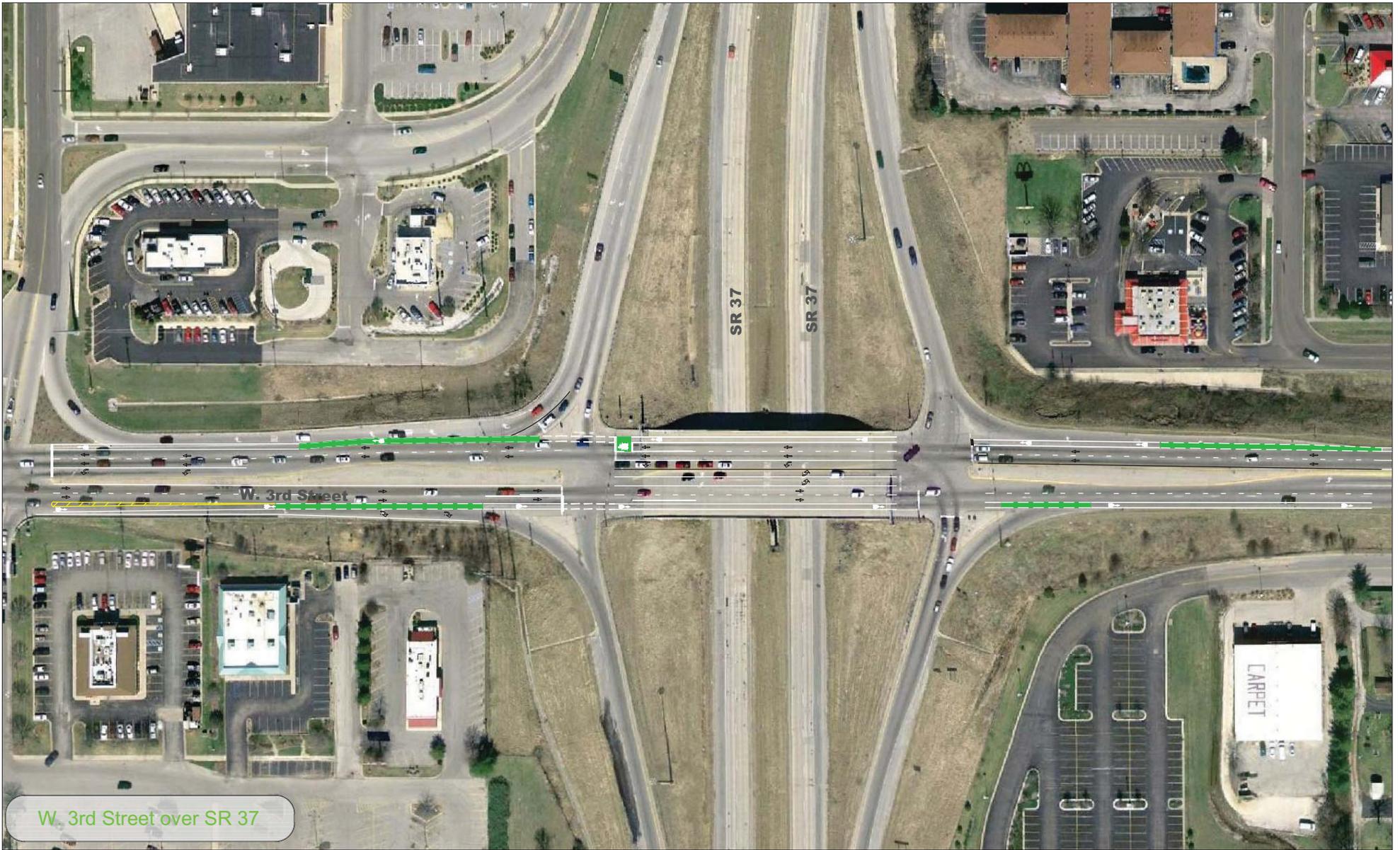
Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners





W. 3rd Street over SR 37

LT12 W. 3rd Street: Liberty Drive to Franklin Road

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial

Author: JRF

Date: March, 2012

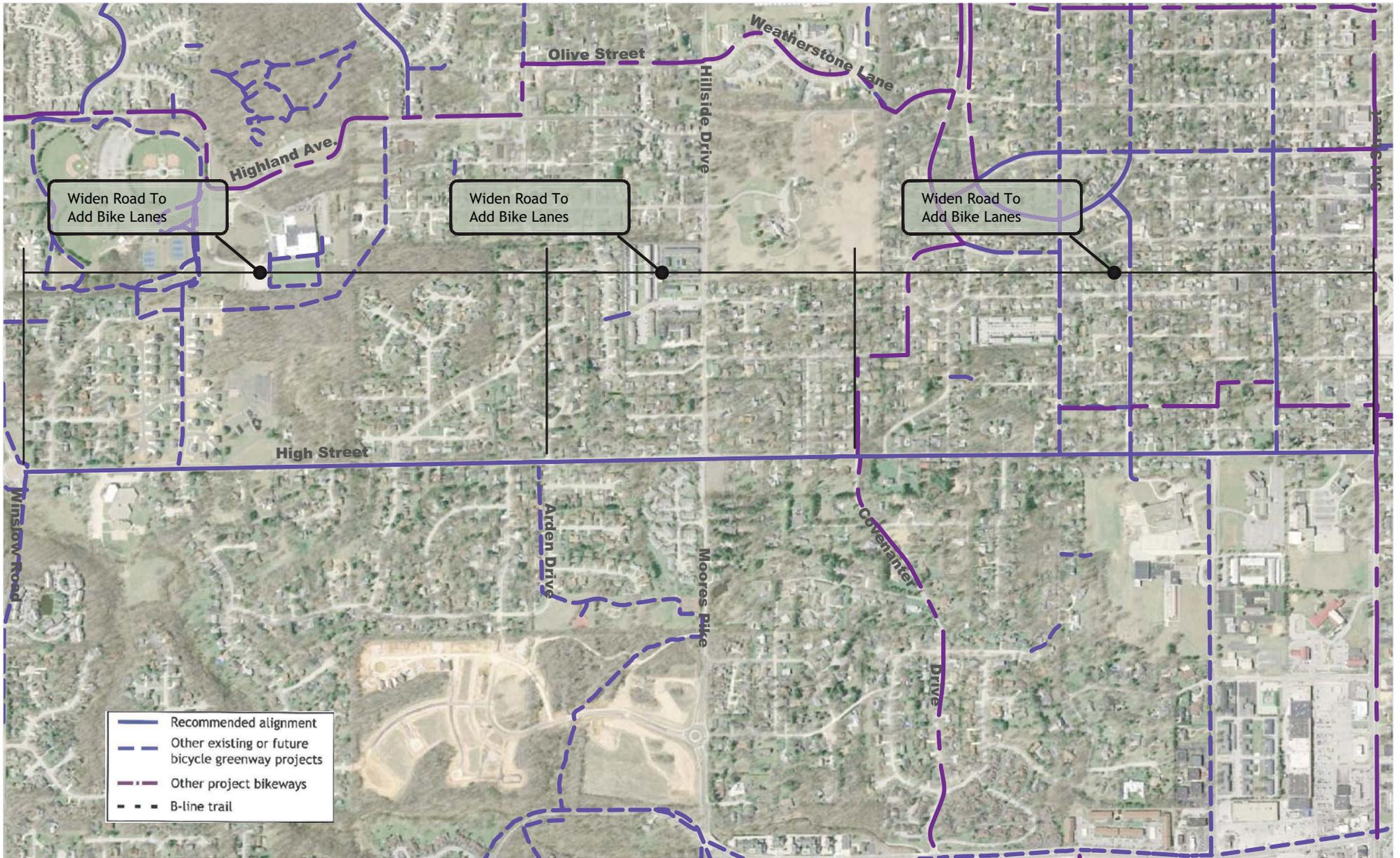


THE CITY OF
BLOOMINGTON



BURGESS & NIPLE
Engineers ■ Architects ■ Planners

alta
PLANNING + DESIGN



LT13 High Street: Winslow Road to 3rd Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
 Author: JRF
 Date: March, 2012

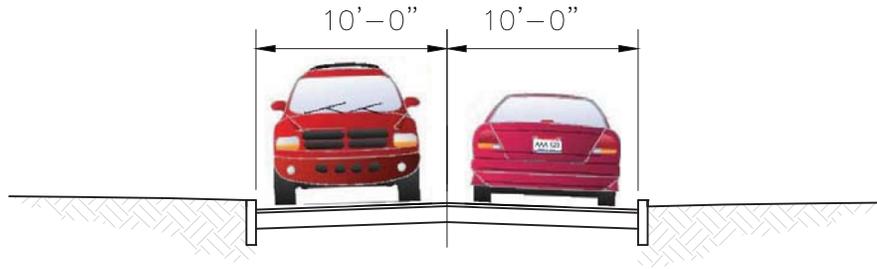


THE CITY OF
BLOOMINGTON

BURGESS & NIPLE
 Engineers ■ Architects ■ Planners

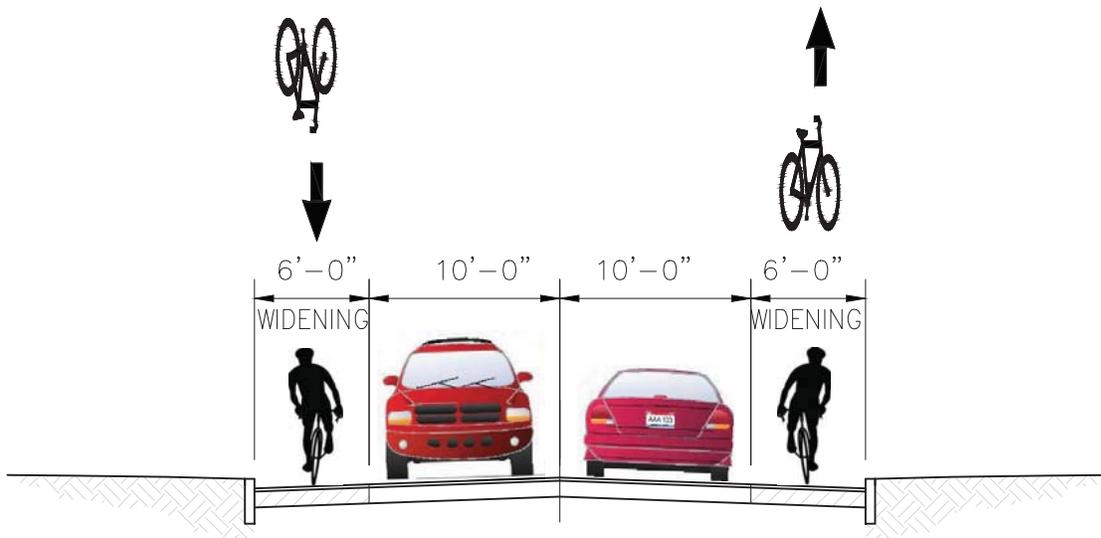


HIGH STREET



EXISTING TYPICAL

WINSLOW STREET TO ARDEN DRIVE



PROPOSED TYPICAL

WINSLOW STREET TO ARDEN DRIVE

LT13 High Street : Winslow Road to 3rd Street

Bloomington Bikeways Implementation Plan

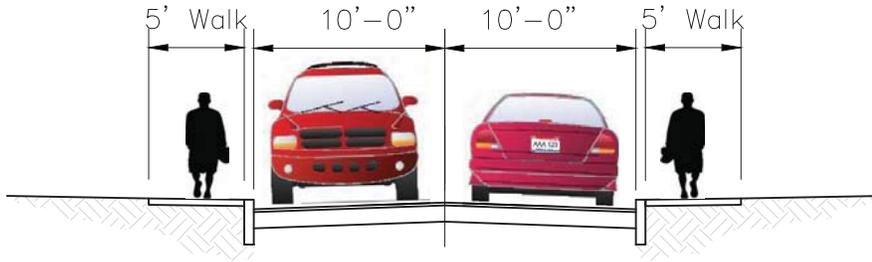
Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners

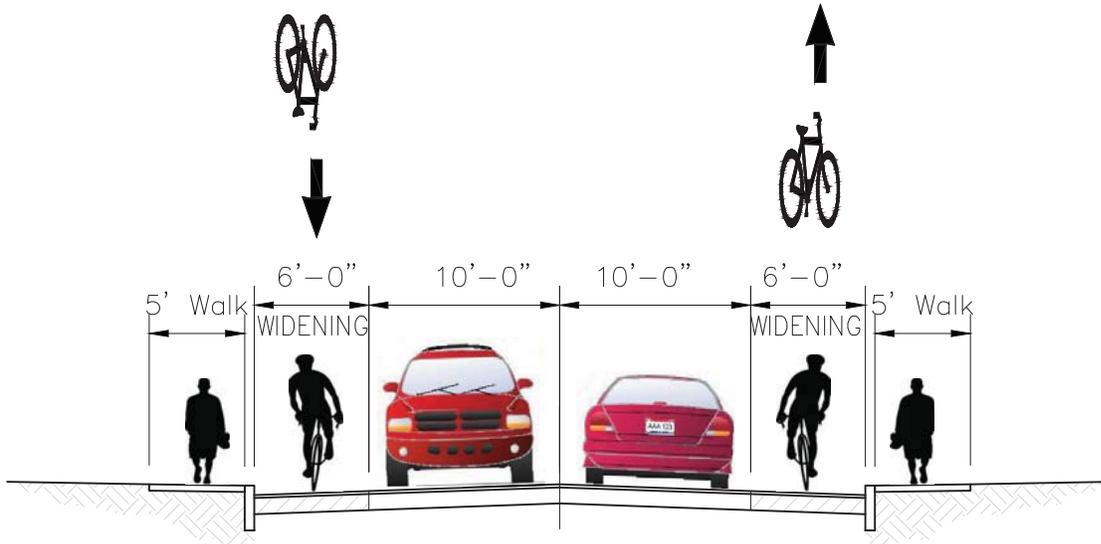


HIGH STREET



EXISTING TYPICAL

ARDEN DRIVE TO CONVENANTER DRIVE



Proposed Widening/Curb/Sidewalk
Both Sides

PROPOSED TYPICAL

ARDEN DRIVE TO CONVENANTER DRIVE

LT13 High Street : Winslow Road to 3rd Street

Bloomington Bikeways Implementation Plan

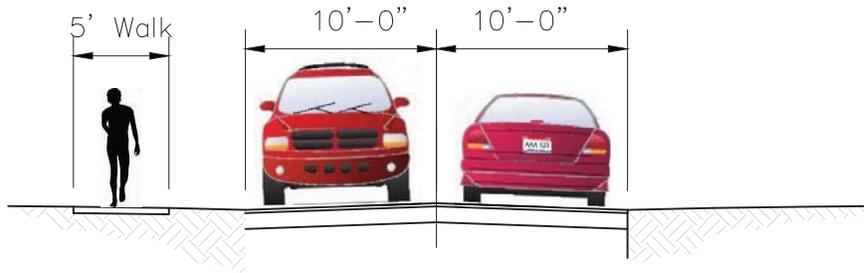
Source Google Earth Aerial
Author: JRF
Date: March, 2012



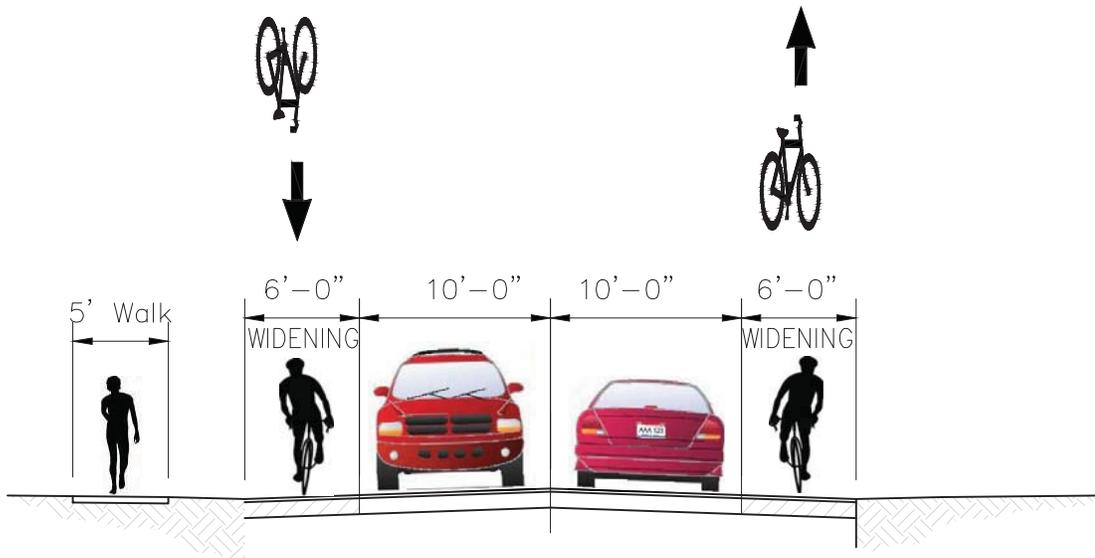
BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners



HIGH STREET



EXISTING TYPICAL
CONVENANTER DRIVE TO 3rd STREET



Proposed Widening & Sidewalk, LT.

PROPOSED TYPICAL
CONVENANTER DRIVE TO 3rd STREET

LT13 High Street : Winslow Road to 3rd Street

Bloomington Bikeways Implementation Plan

Source Google Earth Aerial
Author: JRF
Date: March, 2012



BURGESS & NIPLÉ
Engineers ■ Architects ■ Planners



Longer Term Projects

Number	Project	Limits	Traffic Calming Possible?		Length	Pavement Width	# of Lanes	Speed	Parking Left	Parking Right	Traffic Volume	Bike Facility Type	Cost Estimate
LT1	2nd St.	S. Adams St. to College Ave.	No	Primary Arterial	4425	23 - 38	3 & 2	30	No	No	12450 - 16605	Bike Lanes	\$54,470.00
LT2	Liberty Drive Bike Lanes	SR 45 to SR 48	No	Primary collector	7775	35 - 45	2	25	No	No	10802 - 11808	Bike Lanes	\$86,710.00
LT3A	College Avenue Bike Lanes	Old SR 37 (Miller Showers Park) to SR 45/46	No	Primary Arterial	1075	28	2	30	No	No	8772	Bike Lanes	\$10,442.50
LT3B	Walnut Street Bike Lanes	SR 45/46 to Old SR 37	No	Primary Arterial	7690	41	4 & 2	40	No	No	16145	Buffered Bike Lanes	\$123,226.00
LT4	Arlington Road Bike Lanes	Monroe Street to SR 37	No	Secondary arterial	6020	24 - 40	2	40	No	No	4954 - 5761	Bike Lanes	\$70,408.00
LT5	12th Street Bike Lanes	Walnut Street to Indiana Avenue	Yes	local	1850	24	2	25	Yes	No		Shared Lane Markings	\$5,940.00
LT6	10th Street Bike Lanes*	Morton Street to Union Street	Yes	Local	7550	26 - 30	2	30	No	No	6199 - 13270	Bike Lane one side, Shared Markings other	\$79,370.00
LT7	Law Lane Bike Lanes*	Fee Lane to Union Street	No	Secondary Arterial	2635	24 - 40	2	25	Yes	Yes	4963	Shared Lane Markings	\$4,954.00
LT8	Rogers Street Bike Lanes	2nd Street to Kirkwood Ave	No	Primary Arterial	1905	30 - 36	2	30	No	Yes	9710 - 10213	Shared Lane Markings	\$16,137.00
		11th Street to 17th Street			2110	29 - 36	2	30	N/Y	N/Y	7902	Bike Lanes	\$27,794.00
													\$43,931.00
LT9	11th St./Cottage Grove	Cottage Grove: N. Walnut to N. Lincoln	Yes	Local	710	20	1	25	No	Yes		Shared Lane Markings	\$2,884.00
		11th: N. Washington to N. Lincoln			350	20	1	25	No	Yes		Shared Lane Markings	\$2,090.00
		11th: Walnut Grove Street to N. Fee			585	24	1	25	No	No		Shared Lane Markings	\$2,184.00
													\$7,158.00
LT10	Walnut Street Bike Lanes	Winslow Road to Miller Drive	No	Primary arterial	4080	45 - 60	4	30	No	No	18644 - 20414	Widen Road to Add Buffered Bike Lanes	\$1,574,799.08
		Miller Drive to S. College Avenue			3660	46 - 60	4	30	No	No	20414 - 27052	Widen Road to Add Buffered Bike Lanes	\$971,046.77
		S. College Avenue to 1st Street			925	29 - 47	2	30	No	No	13487	Bike Lane	\$9,907.50
													\$2,555,753.35
LT11	College Avenue Bike Lanes	Walnut Street to W. 2nd Street	No	Primary arterial	1850	26 - 28	2	30	No	No	10938	Bike Lanes or Buffered Bike Lanes	\$19,815.00
		W. 2nd Street to 4th Street			1530	42	3	30	No	No	13556	Bike Lanes or Buffered Bike Lanes	\$19,162.00
													\$38,977.00
LT 12	W. 3rd Street Bike Lanes	Liberty Drive to Franklin Road	No	Primary Arterial	2520		4	35	No	No	12834	Bike Lanes	\$43,358.00
LT 13	High Street	Winslow Street to E. Arden Drive	No	Primary collector	3905	20	2					Widen Road to Add Bike Lanes	\$881,422.44
		E. Arden Dr to Covenanter Drive			2300	20	2	30	No	No	5382 - 5740	Widen Road to Add Bike Lanes	\$518,663.47
		Covenanter Drive to 3rd Street			3875	20 - 36	2	20	No	No	5605 - 7721	Widen Road to Add Bike Lanes	\$876,009.66
													\$2,276,095.57

Immediate Projects subtotal Construction Cost					69325								\$5,357,435.42
Contingency (10%)													\$535,743.54
Immediate Projects total Construction Cost													\$5,893,178.96



THE CITY OF
BLOOMINGTON



BURGESS & NIPLE
Engineers ■ Architects ■ Planners

