



CITIZENS ADVISORY COMMITTEE

January 22, 2014

6:30 – 8:00 p.m.

McCloskey Room (#135)

*Suggested
Time:
6:30pm*

- I. Call to Order and Introductions
- II. Election of Officers
 - a. Chair
 - b. Vice-Chair
- III. Approval of Minutes:
 - a. November 20, 2013
- IV. Communications from the Chair
- V. Reports from Officers and/or Committees
 - a. Project Updates
 - b. MTP Task Force

6:50 pm

- VI. Reports from MPO Staff

- VII. Old Business

- VIII. New Business

- a. TAP Awards
- b. HSIP Awards
- c. Transportation Improvement Program Amendments
 - (1) Bloomington Transit – Mobility Management*
 - (2) INDOT – Surface Treatment of SR 446*
 - (3) INDOT – Surface Treatment of SR 46*
 - (4) City of Bloomington – Downtown Improvements*
 - (5) City of Bloomington – Dunn & Old SR 37*
 - (6) City of Bloomington – 2015 Bikeways Implementation Projects*
 - (7) Monroe County – Karst Farm Trail Phase 2a*
 - (8) Monroe County – Karst Farm Trail Phase 3*

~ 8:00 pm

- IX. Communications from Committee Members (*non-agenda items*)
 - a. Topic suggestions for future agendas

- X. Upcoming Meetings

- a. Policy Committee – February 7, 2014 at 1:30 p.m. (Council Chambers)
- b. Technical Advisory Committee – February 26, 2014 at 10:00 a.m. (McCloskey Room)
- c. Citizens Advisory Committee – February 26, 2014 at 6:30 p.m. (McCloskey Room)

- XI. Topic Suggestions Under Consideration for Future Discussion

Communication & Public Coordination Improvements, Bike/Pedestrian Set Aside Money

Adjournment

(*Recommendations Requested/ *Public comment prior to vote – limited to five minutes per speaker)



Citizens Advisory Committee Meeting Minutes
November 20, 2013 McCloskey Conference Room 135, City Hall

*Citizens Advisory Committee (CAC) Minutes are transcribed in a summarized outline manner.
Audio recordings of the meeting are available in the Planning Department for reference.*

Attendance

Citizens Advisory Committee (Voting Members): Laurel Cornell, Patrick Murray, Anita Douglas, Larry Jacobs, Ross Dybrig, James Reed, Mary Jane Hall, Randy Cassidy, Tamby Cassidy, Ken Campanella, Paul Ash, Ted Miller, Glenn Carter, Morris Buckley, and David Walter.

Others in Attendance (including Non-Voting CAC Members): Sandra Flum (INDOT) and Scott Robinson (MPO Staff)

I. Call to Order and Introductions (~6:33 PM)

II. Approval of Minutes – The October 23, 2013 minutes were approved by the Committee.

III. Communications from the Chair – Ms. Cornell gave a presentation on the AMPO conference she attended in Portland Oregon. There were several conference highlights she discussed. One area was on data collection efforts that focused on the likelihood of walkability as well as GPS mapping of bicyclists to identify new routes. Another focused on public health and transportation. Many are aware of the inverse relationship between overweight/obesity rates and utilitarian trip rates by walking and bicycling. A key aspect to addressing this is getting public health agencies involved. She also discussed a public private partnership with area hospitals and a riverfront development linked to various transportation initiatives. Last she highlighted a program aimed to change behavior in a high crash rate area where traditional efforts may have focused on new infrastructure. The program focused on tailgating, distracted driving, aggressive lane changing, and failure to yield (see <http://www.caremoreargyle.com/>).

IV. Reports from Officers and/or Committees

A. Project Updates – Ms. Flum provided a status report on I69 Section 5. Land acquisition, tree clearing, and construction proposals are forthcoming in the near future. We will see some activity along the corridor with construction commencing sometime in the fall of 2014. She also said the Walnut bridge work will be underway soon and is timed with I69. Mr. Carter asked about public comment opportunities and Flum said public comments will be taken and recorded after bid awards. Ms. Hall said some houses are now being vacated and Flum said they hope to have everyone vacated by February and the homes will be demolished for various safety reasons. Mr. Ash asked about the 17th Street gap between Vernal Pike/I69 and the Arlington/17th Roundabout projects and whether there is coordination for improvements for this section of 17th Street. Mr. Robinson said both INDOT and the City are aware of the needs, but at this point there is no course of action. He said that both projects will likely be completed before anything physically happens along this section of 17th Street. Robinson continued and gave an overview of the project reports given at the TAC meeting from the City and County and there were no additional questions.

B. MTP Task Force – Mr. Robinson reported that the Task Force continues to regularly meet and provide general direction over the development of the Master Transportation Plan. Work

continues on refining goals and objectives with focus shifting to the model and scenarios early next year. The base year model should be ready by the end of this year and there will be opportunities for the public and MPO members to participate as the process continues. Mr. Miller said the Task Force sees an emphasis of the MPO contending with the impacts of I69 which may be a point of contention for some.

V. Reports from MPO Staff

A. Quarterly Tracking Report – Mr. Robinson gave a brief overview of the material included in the meeting packet and said staff is open to suggestions to help further improve the dissemination of project information.

B. MPO Open House December 13 – Mr. Robinson reminded everyone about the annual Open House. There will be light refreshments and food over the lunch hour and welcomed members to come and enjoy some unofficial business and meet other committee members.

C. Chair and Vice-Chair Nominations in January – Mr. Robinson said elections will be held in January and staff will take nominations as well as explain the duties for anyone considering serving as the Chair or Vice Chair.

VI. Old Business – None

VII. New Business

A. Transportation Alternatives Program Committee Nominations – Mr. Robinson said the BMCMPPO issued a call for TAP projects and we will need to commence a selection review committee as part of our local Transportation Alternatives Program. He explained the process and asked for interested individuals. Mr. Murray and Mr. Ash expressed interest and there were no others so both could serve on the committee as CAC representatives. There was no objection and both were fine with serving on this committee.

VIII. Communications from Committee Members

A. Topic Suggestions for Future Agendas – none

IX. Upcoming Meetings

A. Policy Committee – January 10, 2014 (Council Chambers)

B. Technical Advisory Committee – January 22, 2014 at 10:00am (McCloskey Room)

C. Citizens Advisory Committee – January 22, 2014 at 6:30pm (McCloskey Room)

X. Topic Suggestions under Consideration for Future Discussion

Communication & Public Coordination Improvements, Bike/Pedestrian Set Aside Money, and INDOT presentation on innovative financing.

Adjournment (~7:35 PM)

These minutes were _____ by the CAC at their regular meeting held on January 22, 2014.

MEMORANDUM



To: BMCMPO Technical Advisory Committee (TAC) and Citizens Advisory Committee (CAC)
From: Joshua Desmond, AICP
BMCMPO Director
Date: January 15, 2014
Re: FY 2015 Transportation Alternatives Program (TAP) Selection Committee Recommendations

Background

In October 2013, the BMCMPO Policy Committee (PC) approved guidelines for the local Transportation Alternatives Program (TAP), a new funding program authorized by the MAP-21 transportation bill. The approved TAP guidelines defined eligible activities to be considered and established a process to review, select, and award TAP funds to local public agencies.

The TAP guidelines call for a TAP Selection Committee to review and score all TAP applications, based on prescribed criteria. This memo details the recommendations of the TAP Selection Committee that reviewed applications received during the FY 2015 TAP call for projects.

FY 2015 TAP Call for Projects

The FY 2015 TAP call for projects was announced to local public agencies on November 8, 2013. The total amount of TAP funds available during this period is \$460,717.

Three applications were received by the established deadline of December 13, 2013: 'Karst Farm Greenway, Phase 2a' (Monroe County), 'Karst Farm Greenway, Phase 3' (Monroe County), and '2015 Greenway Implementation Plan' (City of Bloomington). Each application met basic eligibility and application requirements. In total, \$366,800 of TAP funding was requested through FY 2015.

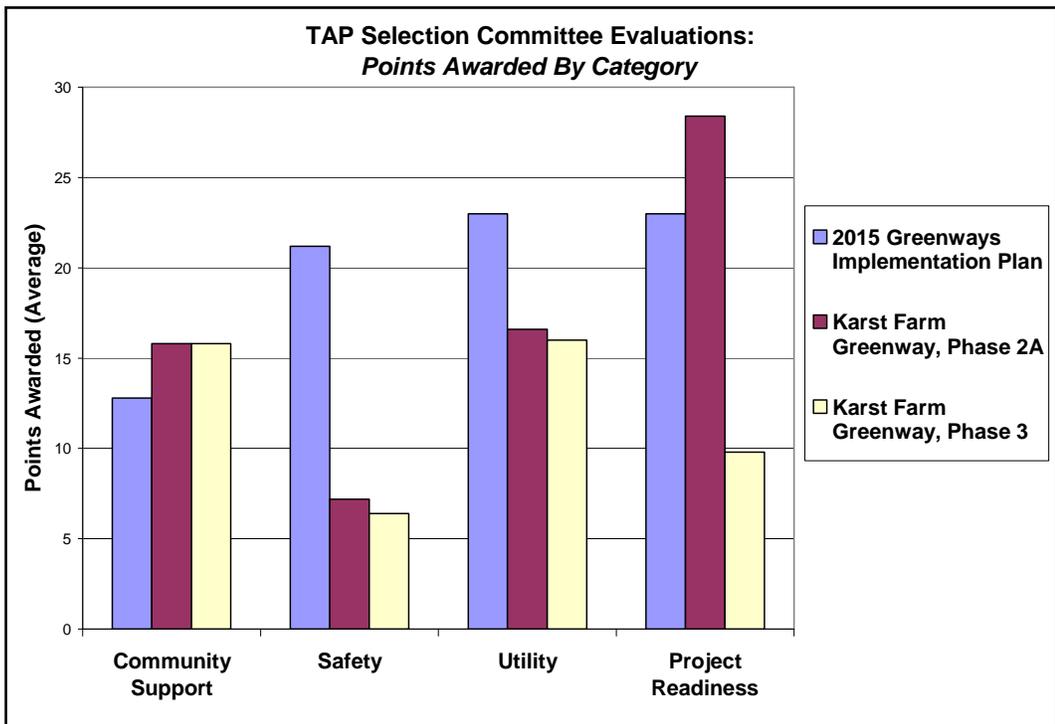
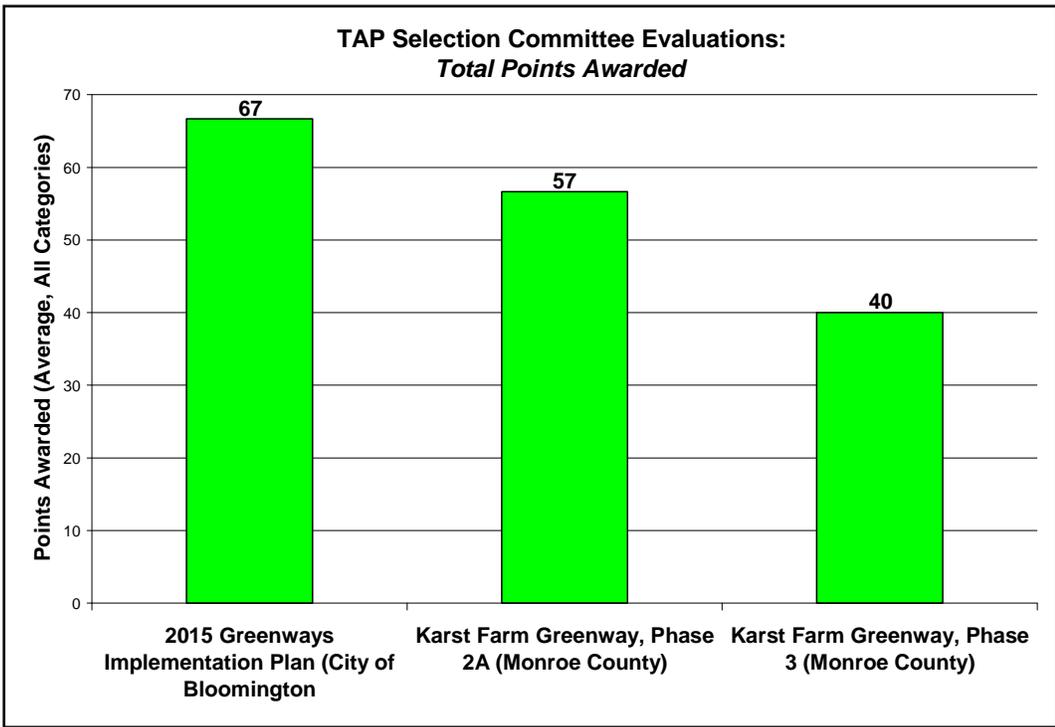
TAP Selection Committee Project Scoring and Recommendations

In 2013, each of the three BMCMPO Committees nominated two members to participate in the TAP Selection Committee: Tom Micuda (TAC), Jane Fleig (TAC), Patrick Murray (CAC), Paul Ash (CAC), Andy Ruff (PC), Kent McDaniel (PC). Each member of the TAP Selection Committee scored project applications based on the criteria established in the approved TAP guidelines. A meeting was held on January 13, 2014 to discuss the project scoring results and to recommend an award of funds. A summary of the project scoring results is provided in the two charts at the bottom of this section, and complete project applications are included in this packet.

Based on the evaluation of project applications and projections of available funding, the TAP Selection Committee made the following recommendations for the award of FY 2015 TAP funds:

1. The TAP Selection Committee recommends awarding \$120,400 in TAP funds to Monroe County for 'Karst Farm Greenway, Phase 2a'.
2. The TAP Selection Committee recommends awarding \$46,400 in TAP funds to Monroe County for 'Karst Farm Greenway, Phase 3'. Construction funding that was requested for FY 2016 could not be awarded at this time, and must be considered during a future call for projects that covers that fiscal year.
3. The TAP Selection Committee recommends awarding \$200,000 in TAP funds to the City of Bloomington for '2015 Greenways Implementation Plan'.

The remaining FY 2015 TAP funds not awarded (\$93,917) will roll over to the FY 2016 TAP call for projects.



Requested Action

The TAC and CAC are requested to adopt the recommendations of the TAP Selection Committee for the award of FY 2015 TAP funds.



OFFICE OF
MONROE COUNTY COMMISSIONERS
100 West Kirkwood Avenue
The Courthouse Room 322
BLOOMINGTON, INDIANA 47404

Telephone 812-349-2550
Facsimile 812-349-7320

Iris F. Kiesling, President *Julie Thomas, Vice President* *Patrick Stoffers, Member*

November 27, 2013

Josh Desmond, Director
Bloomington / Monroe County Metropolitan Planning Organization
401 N. Morton Street, Suite 160, P. O. Box 100
Bloomington, Indiana 47402

RE: Transportation Alternatives (TA) Application;
Karst Farm Greenway, Phase 2a.

Dear Desmond,

Thank you for the opportunity to submit this application for additional funding for Phase 2a of the Karst Farm Greenway. We are excited about the development of the new trail for this community and believe this project will provide both safety and alternative transportation improvements to this part of Monroe County.

Please accept this letter of commitment for the development of the project. If Transportation Alternative funding is approved for this improvement, Monroe County will provide the local match as outlined in the application. This improvement will further our trail project goals by extending the trail north, eventually to tie into the Heritage Trail of the Town of Ellettsville. Furthermore, our personnel will serve as the Employee in Responsible Charge (ERC) for this project on behalf of the Monroe County.

We are very committed to this project and will see it completed. Phase 1 of the Karst Farm Greenway is scheduled to bid in May of 2014.

Therefore, I provide my steadfast and highest support for this project. Please feel free to contact me at your convenience if you have any questions or comments on this matter.

Sincerely,

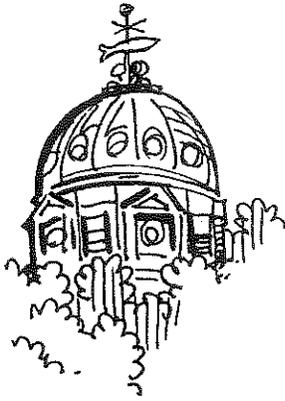
Monroe County Board of Commissioners



Iris F. Kiesling, President

PS/ww

Cc: Bill Williams, Monroe County Public Works Director/Highway Engineer (ERC)



OFFICE OF
MONROE COUNTY AUDITOR
100 West Kirkwood Avenue
The Courthouse Room 209
BLOOMINGTON, INDIANA 47404

Telephone 812-349-2510
Facsimile 812-349-2280

Steve Saulter, Monroe County Auditor

November 27, 2013

Josh Desmond, Director
Bloomington / Monroe County Metropolitan Planning Organization
401 N. Morton Street, Suite 160, P. O. Box 100
Bloomington, Indiana 47402

RE: Transportation Alternatives (TA) Application;
Karst Farm Greenway, Phase 2a.

Dear Mr. Desmond:

Thank you for the opportunity to assist the Monroe County Board of Commissioners on the submittal of the application for additional funding for Phase 2a of the Karst Farm Greenway.

Please be advised that the Monroe County Redevelopment Commission has appropriated an adequate amount of matching funds for this project. The Commission created a line in the Westside Economic Development Area titled "Multi-Use Trail Corridor", line number 4920-000-30.0016 that has a balance of funds that will cover the matching funds for this phase of the Karst Farm Greenway. To date, Monroe County has committed over \$1,700,000 to this project.

Please feel free to contact me at your convenience if you have any questions or comments on this matter.

Sincerely,

Steve Saulter, Monroe County Auditor

SS/ww

Cc: Bill Williams, Monroe County Public Works Director/Highway Engineer (ERC)



Bloomington/Monroe County Metropolitan Planning Organization

FY 2015 Transportation Alternatives Program Application

Please complete all pertinent fields and return an electronic copy to MPO staff at mpo@bloomington.in.gov.

LOCAL PUBLIC AGENCY INFORMATION (check one & fill in all fields):

- Monroe County, City of Bloomington, MCCSC, RBBCSC, Town of Ellettsville

Primary Project Contact: Bill Williams Phone: (812) 349-2577
Address: 501 N. Morton St., Suite 216 Bloomington, IN 47404 Fax: (812) 349-2959 Email: bwilliams@co.monroe.in.us

PROJECT INFORMATION (fill in all applicable fields):

Project Name: Karst Farm Greenway, Phase 2a DES Number: # 0902263

Project Location: Along the west side of Loesch Road, from Vernal Pike to Woodyard Road

Brief Project Description: Construction of multi-use trail for non-motorized use, including site amenities (~1.1 mile) - request for additional funds

Allied Projects (other projects related to this one): Karst Farm Greenway, Phase 1 (Des.No. 0600370); Ellettsville Heritage Trail (Des.No. 1297579); B-Line Trail

Project Cost:

Table with 6 columns: Phase, Funding Source, 2014, 2015, 2016, 2017. Rows include PE, RW, CN, and Totals.

*TE funds were awarded though local transportation enhancements program

Construction Engineering/Inspection: Does the project include an acceptable percentage of construction costs set aside for construction engineering or inspections? [X] Yes [] No [] Not Applicable

Detailed Project Description (not to exceed 250 words) - identify the project scope, overview, objective, and any other relevant project details.

This phase of the Karst Farm Greenway will extend the 12 foot wide multi-use trail approximately 1.1 mile north from Vernal Pike, the north end of Phase 1. The trail will feature amenities such as benches, lighting and a small trailhead (with parking) near the north end of this phase, south of the existing railroad tracks on the north end of the project. This request is for additional funds in the amount of \$120,400 in order to provide an

80%/20% split of TA and Local funds of the construction phase of this segment, as allowed for the project. This would be combined with the previously approved \$430,000 of TE funds for this project. Local funds have been used on all Preliminary Engineering and Right-of-Way activities to date. The project's development is progressing toward a construction letting of April 2, 2014 bid letting. This project may be combined with Phase 1 letting of May 8, 2014 in an effort to conserve revenue resources for both phases of the project. The long range goal of this trail is to connect with the B-Line Trail, via Vernal Pike or another approved route, and the Heritage Trail in Ellettsville.

Primary Purpose (Select one): Please select which description best fits your project. All eligible project types are considered equally during evaluation.

- Construction of Bike/Ped Facilities
- Safe Routes to School
- Multi-use trail project

Project Elements (All that apply):

- Sidewalks
- On-street or off-street bicycle infrastructure
- Pedestrian and bicycle signals
- Maintenance or construction of recreational trail or trailhead facilities
- Traffic calming techniques
- Lighting and other infrastructure that improves bicycle and pedestrian safety
- Infrastructure projects that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs
- Safe Routes to School programming (Education, Encouragement, Enforcement, Evaluation)

Community Support (20 points maximum)

- a. Is the project supported by local planning documents? **(10 points maximum)**
Please list each planning document that supports the project and describe how it provides support..
2030 Long Range Transportation Plan, Monroe County's Alternative Transportation & Greenways System Plan, Bloomington Alternative Transportation Greenways System Plan, support the Karst Farm Greenway construction.
- b. Has the project received letters of support from community organizations? **(5 points maximum)**
Please include a copy of each letter.
Yes. Monroe County's Active Transportation Group, via the Monroe County Planning Department, supports this project.
- c. Has the project been presented at public meetings? **(5 points maximum)**
Please list the name, date, and location of each meeting.
Monroe County Board of Commissioners, Monroe County Council, B/MC MPO, Active Transportation Committee, and coordination with City of Bloomington Parks & Recreation Dept., all in government meetings at various times. Also, a public information meeting was held at the Highland Park Elementary School on July 15, 2009, to receive public comment.

Safety (25 points maximum)

- a. Does the project location occur on any of the following lists in the MPO's crash reports from the previous 3 years? **(10 points maximum)**

Please check each list on which the project location appears and indicate which year's crash report the list is in.

A review of the Crash Report did not indicate any crashes along the project length.

- 'Top Locations by Crash Total' (Year(s): _____)
- 'Top Locations by Crash Rate' (Year(s): _____)
- 'Top Locations by Crash Severity' (Year(s): _____)
- 'Eligible HSIP Locations' (Year(s): _____)
- 'Top Bicycle and Pedestrian Crash Locations' (Year(s): _____)

b. How many total crashes occurred within ¼ mile of the proposed project in the previous 3 years? **(5 points maximum)**

11; 4 in 2011, 4 in 2012 and 3 in 2013

c. How many fatal or incapacitating injury crashes occurred within ¼ mile of the proposed project in the previous 3 years? **(5 points maximum)**

0

d. Does the proposed project improve safety for multiple user groups? **(5 points maximum)**
 Please check all that apply.

- Pedestrians
- Bicyclists
- Motorists
- Transit users
- Disabled persons

Utility (25 points maximum)

a. Does the project connect to destinations such as parks, schools, libraries, retail centers, or employment centers? **(10 points maximum)**
 Please check all that apply.

- Public Park *Karst Farm Park via Phase 1*
- School *Ivy Tech, Highland Park School and Grand View School, via Phase 1*
- Library *No*
- Employment *Yes. Industrial area (Cook, GE, Baxter, Pliant, USPS, etc.)*
- Retail *No but is within ¾ mile of west side commercial area.*

b. Does the proposed project connect to existing bicycling and walking networks? **(5 points maximum)**
 Please check all that apply.

- Multi-use Trail *Yes. Karst Farm Greenway, Phase 1 on south & Phase 2b on north*
- On-street bikeway



Bloomington/Monroe County Metropolitan Planning Organization

- Sidepath Along Vernal Pike, exists to YMCA and in 2014 to Detmer Park
- Sidewalk Along Vernal Pike and Curry Pike
- Signed bike route

c. How many transit routes and transit stops are located within the proposed project, or are located within ¼ mile of the proposed project? (5 points maximum)

Zero along this specific route but ties into Rural Transit on Phase 1, south of this segment

d. Does the project enhance bicycle and pedestrian access for traditionally underserved populations, as identified in the MPO's Long Range Transportation Plan? (5 points maximum)

Yes. The trail eventually will be constructed to Ellettsville, near Hartstrait Road & SR 46. Monroe County has secured the rail banking rights for construction of a trail on the old Indiana Railroad Co. line south of Woodyard Rd to SR 46. This will allow access to several adjacent subdivisions as well as provide for a connection to the Heritage Trail.

Project Readiness (30 points maximum):

a. What percentage of design work is currently completed for the project? (10 points maximum)

100%

b. What percentage of the project right-of-way is owned by the project sponsor at the time of this application? (10 points maximum)

4 of 5 parcels have been acquired. Currently working with US Postal Service on acquisition of final parcel.

c. Is this project eligible for a categorical exclusion from NEPA reviews? (5 points maximum)

A CE-3 was approved by INDOT in 2009.

d. With the funds requested, will the project be fully funded, or a phase of the project fully funded? (5 points maximum)

Yes, Phase 2a will be fully funded.

PLEASE ATTACH THE FOLLOWING:

- **Cover letter signed by the highest elected local official as well as the highest financial officer of the LPA**
- **Project Map**
- **NEPA Approval Letter (if applicable)**
- **Letters of support (if applicable)**

I hereby certify that the information submitted as part of this application is accurate.

Signature

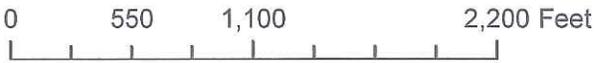
NOVEMBER 27, 2014

Date

KARST FARM GREENWAY, PHASE 2A



Legend
Lakes



PROJECT	DESIGNATION
0902263	0902263
CONTRACT	
R-3372	

**INDIANA
DEPARTMENT OF
TRANSPORTATION**

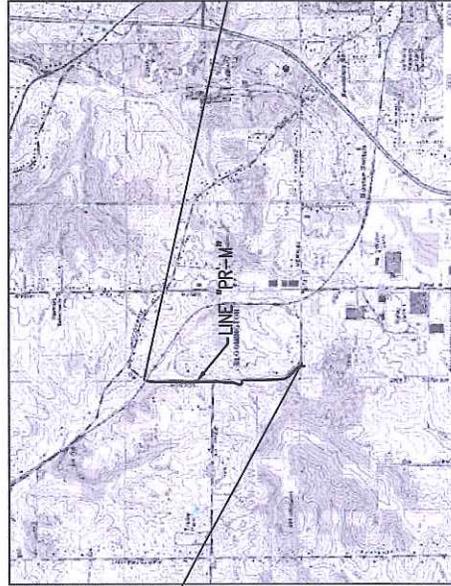
TRAIL PLANS

KARST FARM GREENWAY, PHASE IIa

PROJECT NO. 0902263

BIKE/PEDESTRIAN FACILITIES BETWEEN VERNAL BIKE AND THE INDIANA BALDORO
GREENWAY ARE SET TO CROSS ROAD WITHIN SECTIONS 25, 26 AND
36 OF TOWNSHIP 9 NORTH, RANGE 2 WEST WITHIN RICHLAND TOWNSHIP, MONROE
COUNTY, INDIANA

SCALES:
PLAN 1" = 20'
LONG. 1" = 20'
TRANS. 1" = 5'PROFILLE HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'
GROSS LENGTH 0.93 mi NET LENGTH 0.93 mi
MAXIMUM GRADE = 6.08%



BEGIN PROJECT 0902263
STA. 10+67.99 LINE "PR-M"

APPROVED BY:
MONROE COUNTY
BOARD OF COMMISSIONERS

MARK STOOPS
PRESIDENT

MRS. F. KESJUNG
VICE-PRESIDENT

PATRICK STOFFERS
MEMBER

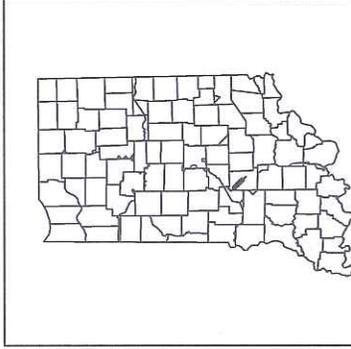
END PROJECT 0902263
STA. 61+13.10 LINE "PR-M"



1" = 1000'

PROJECT LOCATION SHOWN BY

BEGIN: LATITUDE: 39°10'45" LONGITUDE: -86°35'28"
MIDDLE: LATITUDE: 39°11'11" LONGITUDE: -86°35'33"
END: LATITUDE: 39°11'32" LONGITUDE: -86°35'33"



TRAFFIC DATA	
A.A.D.T. (PROJECTED)	N/A - V.P.D.
D.H.V. (PROJECTED)	N/A - V.P.D.
DIRECTIONAL DISTRIBUTION	N/A - V.P.H.
TRUCKS	N/A - % B.V.
	N/A - % A.A.D.T.
	N/A - % A.A.D.T.
DESIGN DATA	
DESIGN SPEED	15 mph
ACCESS CONTROL	NONE
FUNCTIONAL CLASSIFICATION	N/A
TERMINAL LEVEL	N/A
DESIGN CRITERIA	SHARED USE PATHWAY
RURAL / URBAN	RURAL

PLANS PREPARED BY: DYOYE TRAIL & GREENWAYS ENGINEERING, INC.
349 SOUTHWAY COURT
BARGERSVILLE, INDIANA 48108
PHONE NUMBER: (317) 846-0926

CERTIFIED BY: REGISTERED PROFESSIONAL ENGINEER DATE

APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

NOT FOR CONSTRUCTION

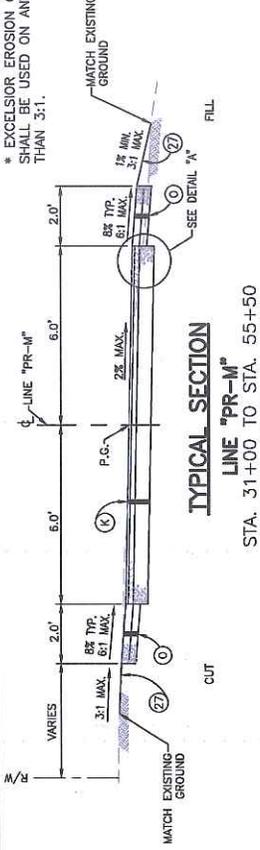
ROAD FILE	
DESIGNATION	0902263
SHEETS	1 of 40
PROJECT	
CONTRACT	R-3372
	0902263

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2012
TO BE USED WITH THESE PLANS

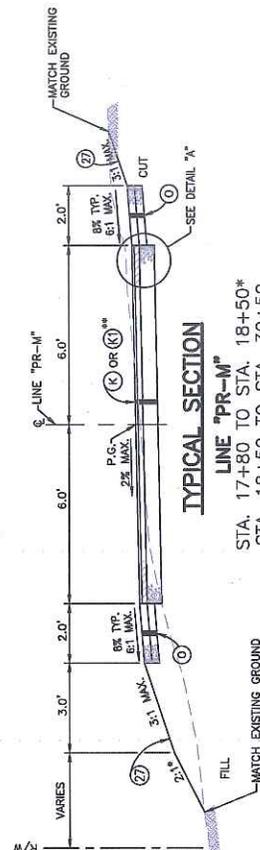


- MONROE COUNTY -

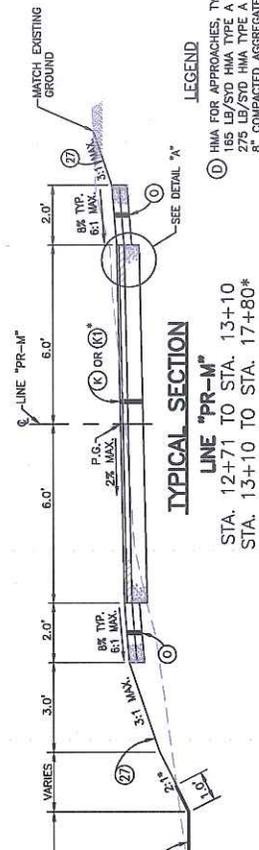
* EXCESSIVE EROSION CONTROL BLANKET SHALL BE USED ON ANY SLOPE STEEPER THAN 3:1.



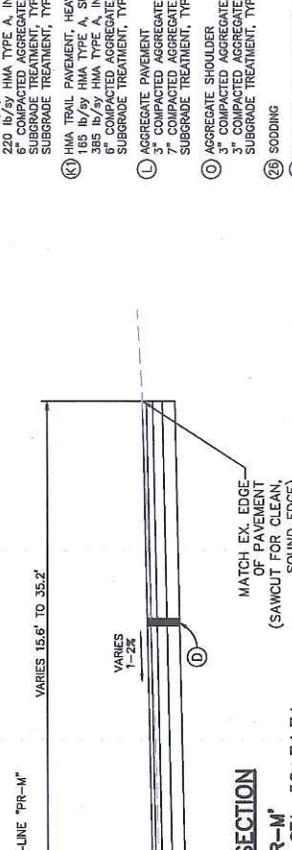
TYPICAL SECTION
LINE "PR-M"
STA. 31+00 TO STA. 55+50
(STA. 32+00 TO 39+00)**



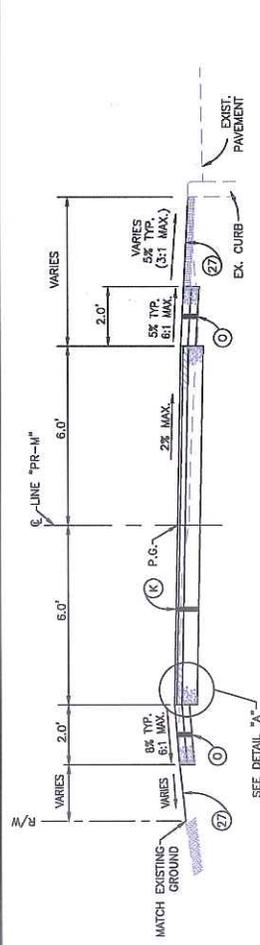
TYPICAL SECTION
LINE "PR-M"
STA. 17+80 TO STA. 18+50*
STA. 18+50 TO STA. 30+50
STA. 56+00 TO 58+28.74



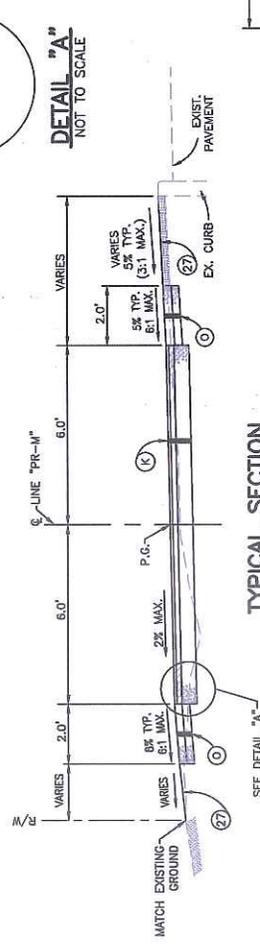
TYPICAL SECTION
LINE "PR-M"
STA. 12+71 TO STA. 13+10
STA. 13+10 TO STA. 17+80*



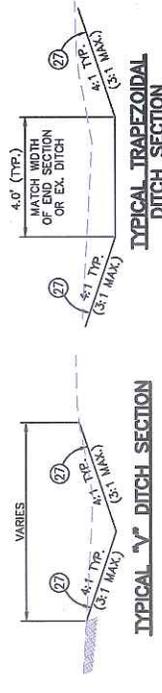
TYPICAL SECTION
LINE "PR-M"
STA. 58+28.74 TO STA. 58+74.74



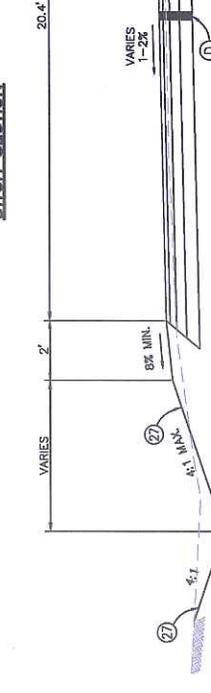
TYPICAL SECTION
LINE "PR-M"
STA. 11+34 TO STA. 11+50



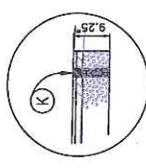
TYPICAL SECTION
LINE "PR-M"
STA. 11+75 TO STA. 12+71



TYPICAL "V" DITCH SECTION



TYPICAL TRAPEZOIDAL DITCH SECTION



DETAIL "A"
NOT TO SCALE

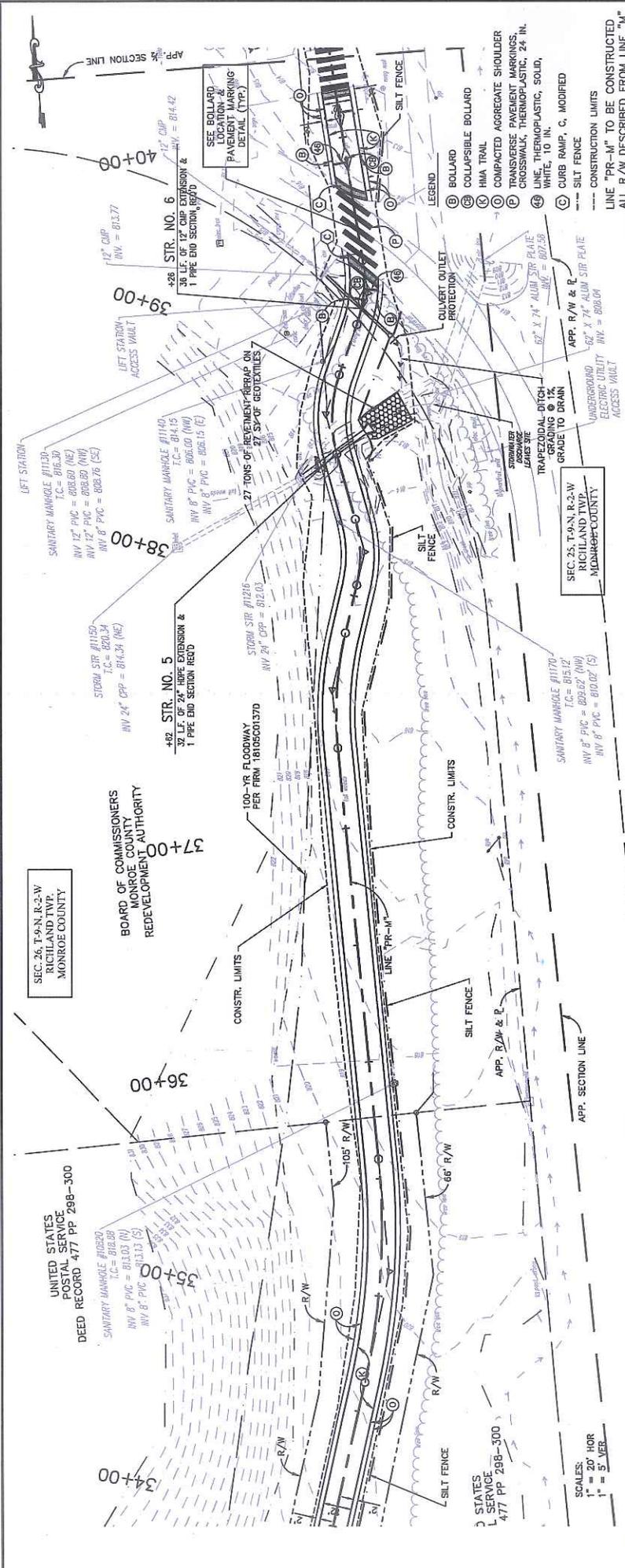
LEGEND

- (D) HMA FOR APPROACHES, TYPE A
165 LB/SD HMA TYPE A SURFACE ON
275 LB/SD HMA TYPE A INTERMEDIATE, ON
SUBGRADE TREATMENT, TYPE III
SUBGRADE TREATMENT, TYPE III
- (K) HMA TRAIL PAVEMENT
140 LB/SD HMA TYPE A, SURFACE ON
220 LB/SD HMA TYPE A, INTERMEDIATE ON
SUBGRADE TREATMENT, TYPE III OR
SUBGRADE TREATMENT, TYPE III*
- (K1) HMA TRAIL PAVEMENT, HEAVY DUTY
165 LB/SD HMA TYPE A, SURFACE ON
385 LB/SD HMA TYPE A, INTERMEDIATE ON
SUBGRADE TREATMENT, TYPE III
SUBGRADE TREATMENT, TYPE III
- (L) AGGREGATE PAVEMENT
3" COMPACTED AGGREGATE, NO. 53, BASE ON
SUBGRADE TREATMENT, TYPE III
- (O) AGGREGATE SHOULDER
3" COMPACTED AGGREGATE, NO. 53, BASE ON
SUBGRADE TREATMENT, TYPE III
- (25) SODDING
- (27) MULCHED SEEDING, TYPE "U"

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE		INDIANA		BRIDGE FILE	
DESIGNED:	RNC	DRAWN:	RNC			DEPARTMENT OF TRANSPORTATION		DESIGNATION	
CHECKED:	ALC	CHECKED:	ALC			TYPICAL CROSS SECTIONS		VERTICAL SCALE	
								1"=2'	
								HORIZONTAL SCALE	
								1"=2'	
								SHEET NO.	
								0802/83	
								PROJECT NO.	
								R-33972	
								SHEET TOTAL	
								OF CONTRACT	
								0	
								0802/83	



NOT FOR CONSTRUCTION



Station	Vertical Curve Data	Elevation	Notes
825	P.V.I. STA. = 38+44.34 ELEV. = 815.13 V.C. = 0.00'	815.2	FACE OF PP #159-188 +/-1' ABOVE GR. +/-15' E. OF E. OF LOSCH RD. +/-400' N. OLD VERNAL PIKE
820	P.V.I. STA. = 39+73.65 ELEV. = 815.04 V.C. = 0.00'	815.2	OLD VERNAL PIKE
815	P.V.I. STA. = 39+44.34 ELEV. = 815.13 V.C. = 0.00'	815.2	PAVING SCHEDULE
810	P.V.I. STA. = 39+40.00 ELEV. = 815.60 V.C. = 30.00'	815.2	EXISTING GROUND
805	P.V.I. STA. = 39+05.00 ELEV. = 815.65 V.C. = 30.00'	815.2	PROPOSED GRADE
800	P.V.I. STA. = 39+05.00 ELEV. = 815.65 V.C. = 30.00'	815.2	PROPOSED GRADE
795	P.V.I. STA. = 39+05.00 ELEV. = 815.65 V.C. = 30.00'	815.2	PROPOSED GRADE

UNITED STATES POSTAL SERVICE
DEED RECORD 477 PP 288-300

SEC. 26, T-9-N, R-2-W
RICHLAND TWP.
MONROE COUNTY

BOARD OF COMMISSIONERS
MONROE COUNTY
REDEVELOPMENT AUTHORITY

100-YR FLOODWAY
PER FIRM 1810500137D

CONSTR. LIMITS

SILT FENCE

APP. R/W & R

APP. SECTION LINE

LEGEND

- (B) BOLLARD
- (C) COLLAPSIBLE BOLLARD
- (D) HMA TRAIL
- (E) COMPACTED AGGREGATE SHOULDER
- (F) TRANSVERSE PAVEMENT MARKINGS
- (G) CROSSWALK, THERMOPLASTIC, 24 IN. WHITE, 10 IN. LINE, THERMOPLASTIC, SOLID, 10 IN.
- (H) CURB RAMP, C, MODIFIED
- (I) SILT FENCE

CONSTRUCTION LIMITS

LINE "PR-M" TO BE CONSTRUCTED FROM LINE "M"

SCALE: 1" = 20' HOR, 1" = 5' VER

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
LINE "PR-M"

DESIGNED: RNC
CHECKED: ALC

DRAWN: RNC
CHECKED: ALC

DATE

DESIGN ENGINEER

FOR APPROVAL

NOT FOR CONSTRUCTION

HOYLE
Trail & Greenway Engineering, Inc.

ROAD FILE

DESIGNATION

9902253

SURVEY BOOK

ELECTRONIC

CONTRACT

10 of 40

SHEET

9902253

FLOODWAY NOTES:
 THE INDIANA DEPARTMENT OF NATURAL RESOURCES (DNR) HAS DETERMINED THAT A CONSTRUCTION IN A FLOODWAY PERMIT IS NOT REQUIRED FOR THIS PROJECT, STATING:

THE DRAINAGE AREAS OF BOTH JACK'S DEFEAT CREEK AND UNNAMED TRIBUTARY TO JACK'S DEFEAT CREEK THROUGH THE PROJECT LIMITS ARE LESS THAN ONE (1) SQUARE MILE. THE DNR, DIVISION OF WATER DOES NOT PROVIDE ENGINEERING SERVICES TO PROJECTS WITH LOCATIONS WITHIN A DRAINAGE AREA OF LESS THAN ONE SQUARE MILE.

APPROVAL FOR CONSTRUCTION FROM THE DNR DIVISION OF WATER UNDER THE FLOOD CONTROL ACT (IC 14-28-1) IS NOT REQUIRED FOR WATERWAY STRETCHES WITH A DRAINAGE AREA OF LESS THAN ONE SQUARE MILE UNLESS THE CONSTRUCTION PROJECT IS A PROPOSED DAM THAT IS REGULATED BY 16-14-27-7.5.

Monroe County, Indiana Wetlands			
Wetland Designation	Wetland Code	Acres to AAS	Percent of AAS
UIC	UIC	1.4	22.3%
UIC	UIC	4.3	59.6%
UIC	UIC	1.4	18.6%
Totals for Area of Interest			100%

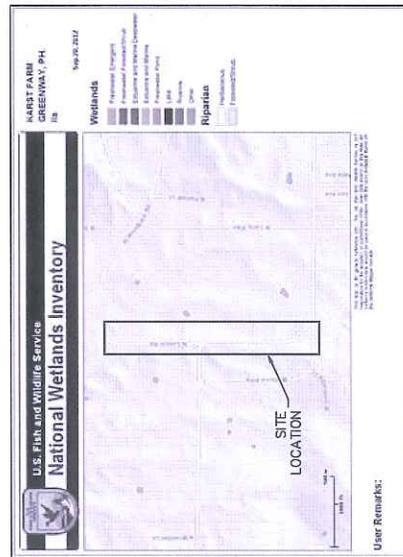
CONSTRUCTION DETAIL & SPECIFICATIONS SHALL BE UTILIZED FOR EROSION CONTROL MEASURE DETAILS.

- E-205-TECD-01, RIPRAP CHECK DAM
- E-205-TECD-03, SEDIMENT TRAP
- E-205-TECP-01, INLET PROTECTION GRAVEL RING
- E-205-TECP-03, INLET PROTECTION SLOTTED BARREL
- E-205-TECP-04, INLET PROTECTION SLOTTED BARREL
- E-205-TECP-01, CONSTRUCTION ENTRANCE
- E-205-TECP-02, SILT FENCE

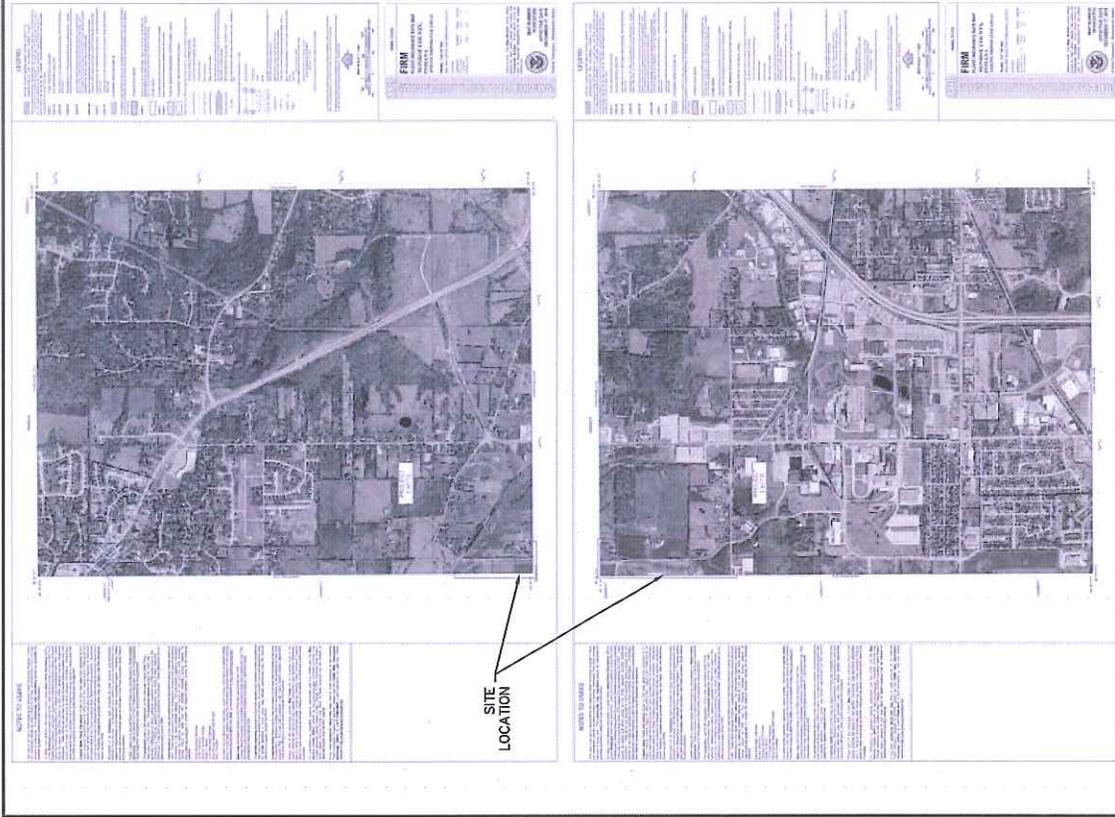
2. THE LATEST VERSION OF THE INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SHALL BE UTILIZED FOR EROSION CONTROL MEASURE CONSTRUCTION AND MATERIAL SPECIFICATION.



MONROE COUNTY SOIL SURVEY SITE INFORMATION



WETLAND MAP DATA



FEMA FLOOD INSURANCE MAP DATA

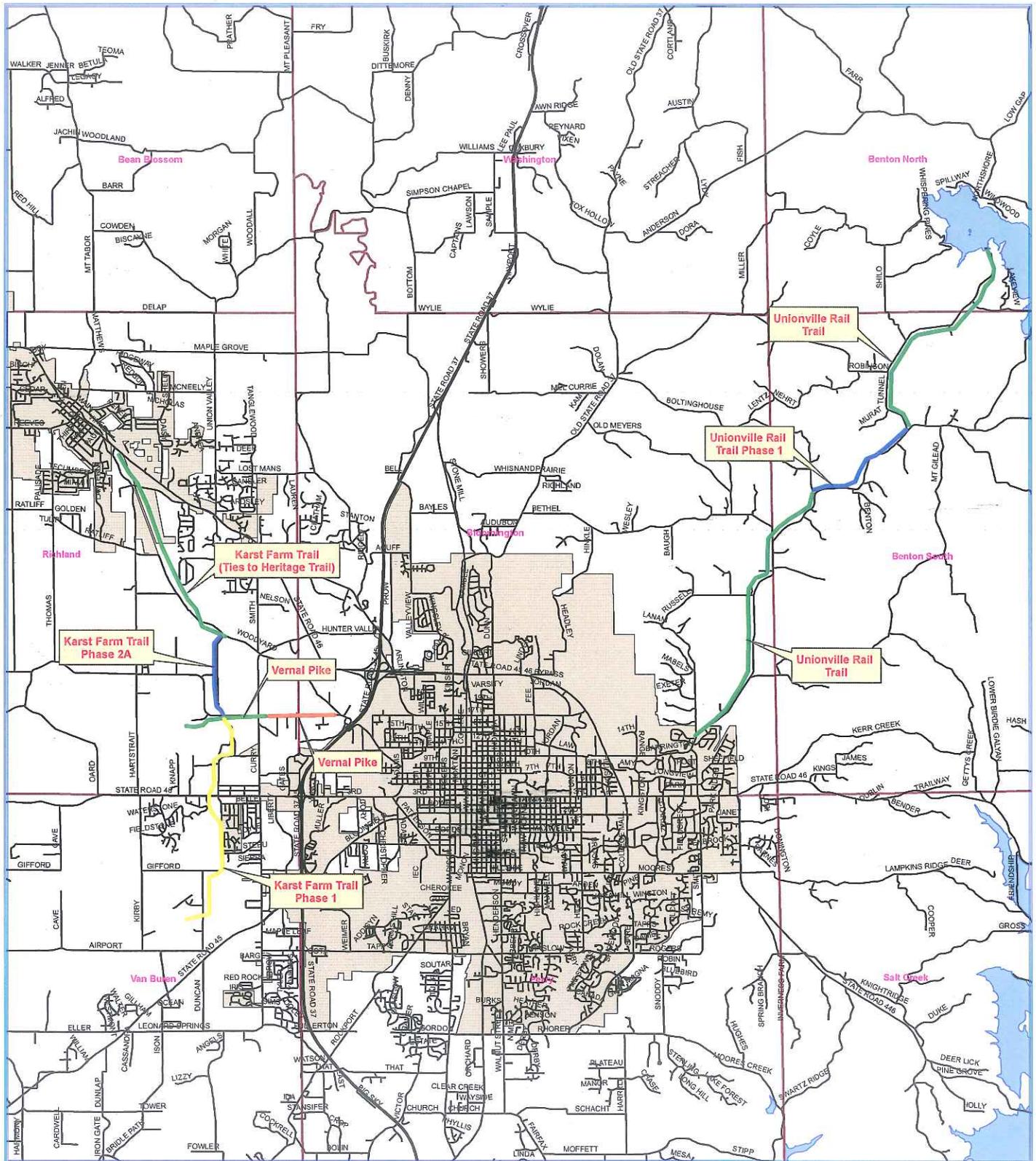
NOT FOR CONSTRUCTION



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: RNC	DRAWN: RNC	
CHECKED: ALC	CHECKED: ALC	

INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	ROAD FILE
EROSION & SEDIMENT CONTROL INFORMATION	VERTICAL SCALE	DESIGNATION
	SURVEY BOOK	0602263
	ELECTRONIC	SHEETS
	CONTRACT	17 of 40
	PROJECT	0602263
	DATE	10-20-2011

Monroe County Trails



Legend

- Partial FHWA Funded (in R-O-W Acquisition)
- Partial FHWA Funded in Design
- Future Phase
- Under Construction
- City Boundaries

©2014 APR 14
 This map was prepared by the Monroe County Government, a political subdivision of the State of Indiana. It is not intended to be used for any other purpose. The Monroe County Government is not responsible for any errors or omissions in this map. The Monroe County Government is not responsible for any damages or injuries resulting from the use of this map. The Monroe County Government is not responsible for any claims or liabilities resulting from the use of this map. The Monroe County Government is not responsible for any claims or liabilities resulting from the use of this map.



CATEGORICAL EXCLUSION LEVEL 3

**Construction of Karst Farm Greenway
From Karst Farm Park to Jacks Defeat
Approximately 1,000 feet North
Of Woodyard Road/Ratliff Road split**

**Monroe County, Indiana
Des. No. 0600370**

December 29, 2008

PREPARED BY:



LEGAL NOTICE
OF
PLANNED IMPROVEMENT

The Monroe County Board of Commissioners proposes the development and engineering of Karst Farm Greenway from Karst Farm Park to a point approximately 1,340 feet north where Woodyard Road turns westerly to become Ratliff Road. The project is located approximately 50 miles southwest of Indianapolis, Indiana and approximately 2 miles west of Bloomington, Indiana. The project is also located in Sections 2 and 11, Township 9 North, Range 2 West, in Van Buren Township and Sections 23, 24, 25, and 36, Township 9 North, Range 2 West in Richland Township all in the U.S.G.S. Bloomington, Indiana Quadrangle, Monroe County, Indiana. The project will be constructed in two sections, Phase 1 and Phase 2. Federal funds have been secured for the completion of Phase 1, which proposes new trail construction between Karst Farm Park and Vernal Pike. Federal assistance will be applied for on the subsequent phase.

Phase 1 is approximately 3.8 miles in length and Phase 2 is approximately 2.5 miles in length to create 6.3 total miles of new trail. The entire project (both phases) will require up to 36.98 acres of permanent right-of-way. The land use along Phase 1 is agricultural and residential with two elementary schools and one county park. The trail alignment is primarily along roadsides and fence rows, thus not creating isolated parcels or fragmented farmland. The land use along Phase 2 is comprised of agricultural land, residential land, and abandoned railroad corridor. The alignment is along the roadside or on the old railroad line, thus minimizing impacts to farming operations and avoiding tree clearing. There will be no road closures or detour routes required during construction of the project. Phase 1 is anticipated to cost \$1,200,000 for construction and \$260,000 for right-of-way acquisition.

This project falls within the guidelines of a Statewide Categorical Exclusion and was approved as such on January 7, 2009. The environmental document, graphics, and other information are being made available for review in the following offices:

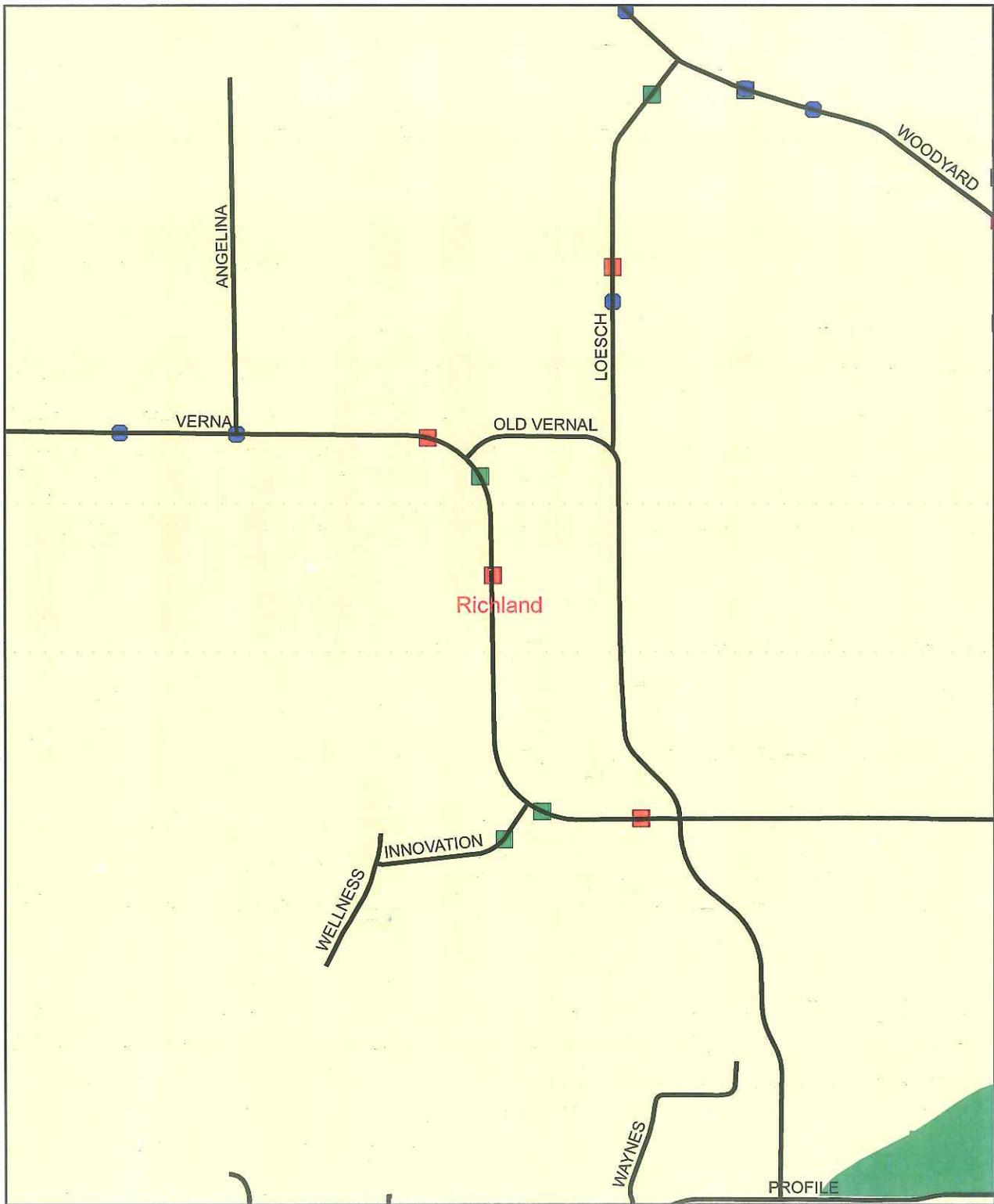
1. Monroe County Engineer, Courthouse, Room 323, Bloomington, IN 47404 Phone# - (812) 349-2555
2. Butler, Fairman & Seufert, Inc., 8450 Westfield Blvd., Suite 300, Indianapolis, IN 46240 Phone# - (317) 713-4615 (Hearings Examiner)

All interested persons may request a public hearing or express their concerns by submitting comments to the Hearings Examiner on or before January 16, 2010.

If a hearing is determined to be in the best interest of the public, a notice will be advertised with the date, time, and place. Otherwise, any comments or materials received for the record will be considered in the decision-making process.

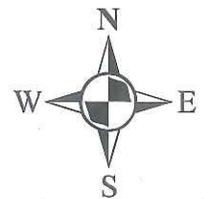
This notice is published in compliance with Title 23, Code of Federal Regulations, Section 771.111(h) entitled, "Early Coordination, Public Involvement and Project Development", and the Indiana Public Involvement/Public Hearing Procedures for Federal-Aid Project Development approved by the Federal Highway Administration, U.S. Department of Transportation on July 8, 1997.

Butler, Fairman & Seufert, Inc.
Neal Bennett
(Hearings Examiner)



Legend

- Accidents2013
- Accidents2012
- Accidents2011
- City Boundaries
- Road Centerline





MONROE COUNTY ACTIVE TRANSPORTATION BOARD

Monroe County Government Center - 501 N. Morton St., Suite 224 Bloomington, IN 47404
Telephone: (812) 349-2560 <http://monroeonthego.org/>

November 25, 2013

Bill Williams
Monroe County Public Works Director / Highway Engineer
Monroe County Highway Department
501 N. Morton Street, Suite 216
Bloomington, Indiana 47404

RE: Karst Farm Greenway, Phase 3

Mr. Williams:

Please accept this letter as the Monroe County Active Transportation Board's strong endorsement of the proposed Karst Farm Greenway Phase 3 project and of our support of the entire Karst Farm Greenway Project as proposed by the Monroe County Board of Commissioners. The provision of the proposed facility helps further the goals and objectives stated in the Monroe County Comprehensive Plan, the Monroe County Alternative Transportation and Greenways Plan and contributes to a more balanced and complete transportation system.

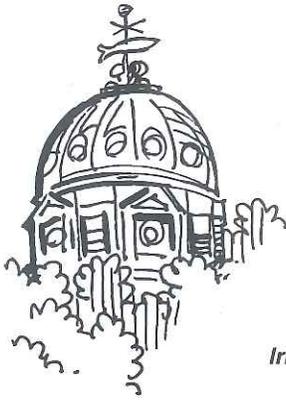
The proposed facility is a vital piece of infrastructure that will enable non-motorized movement between hundreds of homes, thousands of jobs, and educational and recreation facilities. The planning for this facility has been on-going for some time and has demonstrated the willingness of the many jurisdictions and organizations in Monroe County to work together to further a goal that benefits all of the residents of the county.

I urge you to support this worthwhile project and encourage INDOT and the FHWA to join in our partnership to achieve this important goal.

Sincerely,

A handwritten signature in black ink, appearing to read "DL".

David Landis, President
Monroe County *Active* Transportation Board



OFFICE OF
MONROE COUNTY COMMISSIONERS
100 West Kirkwood Avenue
The Courthouse Room 322
BLOOMINGTON, INDIANA 47404

Telephone 812-349-2550
Facsimile 812-349-7320

Iris F. Kiesling, President

Julie Thomas, Vice President

Patrick Stoffers, Member

November 27, 2013

Josh Desmond, Director
Bloomington / Monroe County Metropolitan Planning Organization
401 N. Morton Street, Suite 160, P. O. Box 100
Bloomington, Indiana 47402

RE: Transportation Alternatives (TA) Application;
Karst Farm Greenway, Phase 3.

Dear Desmond,

Thank you for the opportunity to submit this application for additional funding for Phase 3 of the Karst Farm Greenway. We are excited about the development of the new trail for this community and believe this project will provide both safety and alternative transportation improvements to this part of Monroe County.

Please accept this letter of commitment for the development of the project. If Transportation Alternative funding is approved for this improvement, Monroe County will provide the local match as outlined in the application. This improvement will further our trail project goals by extending the trail to tie into the Heritage Trail of the Town of Ellettsville, completing the Karst Farm Greenway. Furthermore, our personnel will serve as the Employee in Responsible Charge (ERC) for this project on behalf of the Monroe County.

We are very committed to this project and will see it completed.

Therefore, I provide my steadfast and highest support for this project. Please feel free to contact me at your convenience if you have any questions or comments on this matter.

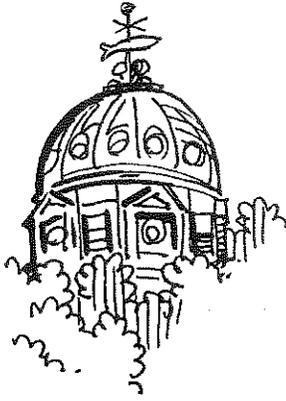
Sincerely,

Monroe County Board of Commissioners


Iris F. Kiesling, President

PS/ww

Cc: Bill Williams, Monroe County Public Works Director/Highway Engineer (ERC)



OFFICE OF
MONROE COUNTY AUDITOR
100 West Kirkwood Avenue
The Courthouse Room 209
BLOOMINGTON, INDIANA 47404

Telephone 812-349-2510
Facsimile 812-349-2280

Steve Saulter, Monroe County Auditor

November 27, 2013

Josh Desmond, Director
Bloomington / Monroe County Metropolitan Planning Organization
401 N. Morton Street, Suite 160, P. O. Box 100
Bloomington, Indiana 47402

RE: Transportation Alternatives (TA) Application;
Karst Farm Greenway, Phase 3.

Dear Mr. Desmond:

Thank you for the opportunity to assist the Monroe County Board of Commissioners on the submittal of the application for additional funding for Phase 3 of the Karst Farm Greenway.

Please be advised that the Monroe County Redevelopment Commission has appropriated an adequate amount of matching funds for this project. The Commission created a line in the Westside Economic Development Area titled "Multi-Use Trail Corridor", line number 4920-000-30.0016 that has a balance of funds that will cover the matching funds for this phase of the Karst Farm Greenway. To date, Monroe County has committed over \$1,700,000 to this project.

Please feel free to contact me at your convenience if you have any questions or comments on this matter.

Sincerely,



Steve Saulter, Monroe County Auditor

SS/ww

Cc: Bill Williams, Monroe County Public Works Director/Highway Engineer (ERC)

construct Phase 2b with local funds as the INDOT will not allow federal funds to be used on rail banked lines per directive from INDOT Central Office. The long range goal of this trail is to connect with the B-Line Trail, via Vernal Pike or another approved route, and the Heritage Trail in Ellettsville.

Primary Purpose (Select one): Please select which description best fits your project. All eligible project types are considered equally during evaluation.

- Construction of Bike/Ped Facilities
- Safe Routes to School
- Multi-use trail project

Project Elements (All that apply):

- Sidewalks
- On-street or off-street bicycle infrastructure
- Pedestrian and bicycle signals
- Maintenance or construction of recreational trail or trailhead facilities
- Traffic calming techniques
- Lighting and other infrastructure that improves bicycle and pedestrian safety
- Infrastructure projects that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs
- Safe Routes to School programming (Education, Encouragement, Enforcement, Evaluation)

Community Support (20 points maximum)

- a. Is the project supported by local planning documents? **(10 points maximum)**
Please list each planning document that supports the project and describe how it provides support..
2030 Long Range Transportation Plan, Monroe County's Alternative Transportation & Greenways System Plan, Bloomington Alternative Transportation Greenways System Plan, support the Karst Farm Greenway construction.
- b. Has the project received letters of support from community organizations? **(5 points maximum)**
Please include a copy of each letter.
Yes. Monroe County's Active Transportation Group, via the Monroe County Planning Department, supports this project.
- c. Has the project been presented at public meetings? **(5 points maximum)**
Please list the name, date, and location of each meeting.
Monroe County Board of Commissioners, Monroe County Council, B/MC MPO, Active Transportation Committee, and coordination with City of Bloomington Parks & Recreation Dept., all in government meetings at various times. Discussions with the Town of Ellettsville have occurred regarding this connection as well.

Safety (25 points maximum)

- a. Does the project location occur on any of the following lists in the MPO's crash reports from the previous 3 years? **(10 points maximum)**
Please check each list on which the project location appears and indicate which year's crash report the list is in.
A review of the Crash Report did not indicate any crashes along the project length.
 - 'Top Locations by Crash Total' (Year(s): _____)

- 'Top Locations by Crash Rate' (Year(s): _____)
 - 'Top Locations by Crash Severity' (Year(s): _____)
 - 'Eligible HSIP Locations' (Year(s): _____)
 - 'Top Bicycle and Pedestrian Crash Locations' (Year(s): _____)
- b. How many total crashes occurred within ¼ mile of the proposed project in the previous 3 years? **(5 points maximum)**
3; 2 in 2011, 0 in 2012 and 1 in 2013
- c. How many fatal or incapacitating injury crashes occurred within ¼ mile of the proposed project in the previous 3 years? **(5 points maximum)**
0
- d. Does the proposed project improve safety for multiple user groups? **(5 points maximum)**
Please check all that apply.

- Pedestrians
- Bicyclists
- Motorists
- Transit users
- Disabled persons

Utility (25 points maximum)

- a. Does the project connect to destinations such as parks, schools, libraries, retail centers, or employment centers? **(10 points maximum)**
Please check all that apply.
- Public Park *Karst Farm Park via Phase 1 and Campbell's Park in Ellettsville*
 - School *Ivy Tech, Highland Park School and Grand View School, via Phase 1*
 - Library *No*
 - Employment *Yes. Industrial area (Cook, GE, Baxter, Pliant, USPS, etc.)*
 - Retail *Areas in Ellettsville and Highland Village*
- b. Does the proposed project connect to existing bicycling and walking networks? **(5 points maximum)**
Please check all that apply.

- Multi-use Trail *Karst Farm Greenway, Phase 2b and Heritage Trail*
- On-street bikeway
- Sidepath
- Sidewalk *Along State Road 46*
- Signed bike route



Bloomington/Monroe County Metropolitan Planning Organization

- c. How many transit routes and transit stops are located within the proposed project, or are located within ¼ mile of the proposed project? **(5 points maximum)**

None but the area is served by Rural Transit with "on-call" service.

- d. Does the project enhance bicycle and pedestrian access for traditionally underserved populations, as identified in the MPO's Long Range Transportation Plan? **(5 points maximum)**

Yes. This segment of the trail will complete construction to Ellettsville, near Hartstrait Road & SR 46. Monroe County has secured the rail banking rights for construction of a trail on the old Monon / Indiana Railroad Co. line south of Woodyard Rd to SR 46. This will allow access to several adjacent subdivisions as well as provide for a connection to the Heritage Trail.

Project Readiness (30 points maximum):

- a. What percentage of design work is currently completed for the project? **(10 points maximum)**

0%

- b. What percentage of the project right-of-way is owned by the project sponsor at the time of this application? **(10 points maximum)**

0%.

- c. Is this project eligible for a categorical exclusion from NEPA reviews? **(5 points maximum)**

Yes. We will pursue a CE-3 for this phase of the trail, similar to the previous segments.

- d. With the funds requested, will the project be fully funded, or a phase of the project fully funded? **(5 points maximum)**

Yes, Phase 3 will be fully funded.

PLEASE ATTACH THE FOLLOWING:

- **Cover letter signed by the highest elected local official as well as the highest financial officer of the LPA**
- **Project Map**
- **NEPA Approval Letter (if applicable)**
- **Letters of support (if applicable)**

I hereby certify that the information submitted as part of this application is accurate.

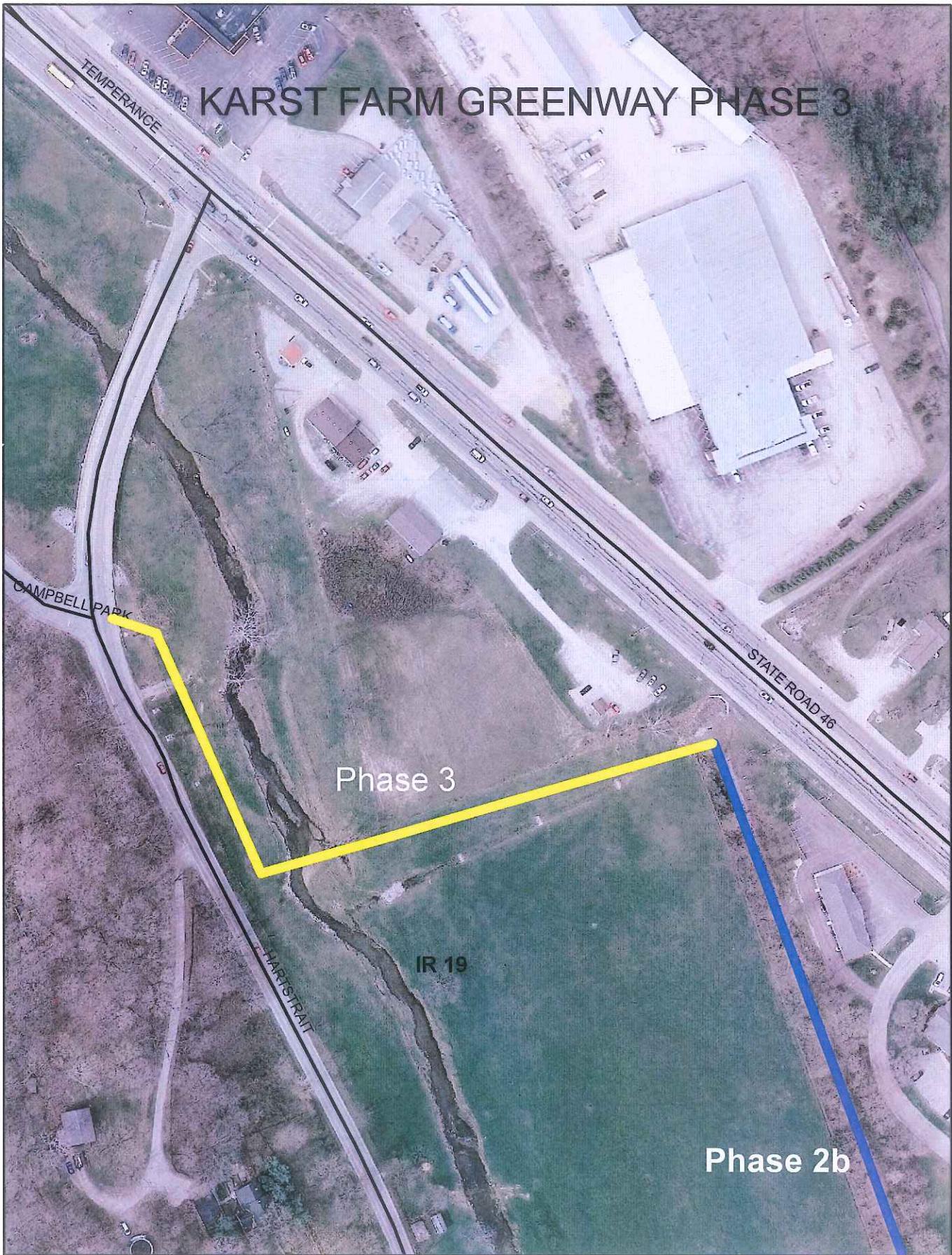
Bill Williams

Signature

NOVEMBER 27, 2013

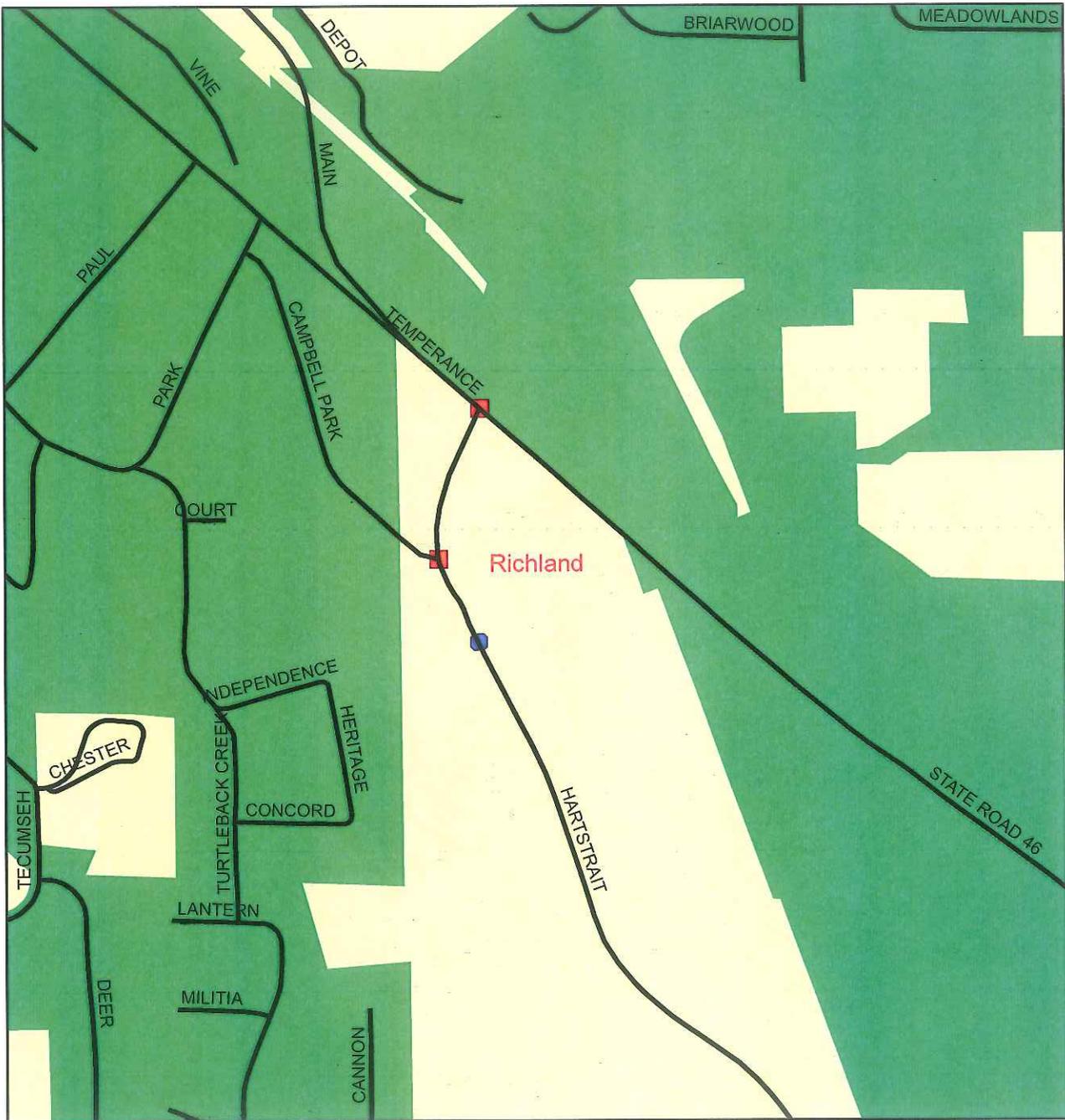
Date

KARST FARM GREENWAY PHASE 3



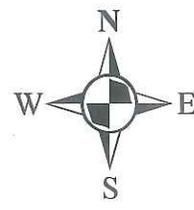
Legend
Lakes





Legend

- Accidents2013
- Accidents2012
- Accidents2011
- City Boundaries
- Road Centerline





MONROE COUNTY ACTIVE TRANSPORTATION BOARD

Monroe County Government Center - 501 N. Morton St., Suite 224 Bloomington, IN 47404
Telephone: (812) 349-2560 <http://monroeonthego.org/>

November 25, 2013

Bill Williams
Monroe County Public Works Director / Highway Engineer
Monroe County Highway Department
501 N. Morton Street, Suite 216
Bloomington, Indiana 47404

RE: Karst Farm Greenway, Phase 2A

Mr. Williams:

Please accept this letter as the Monroe County Active Transportation Board's strong endorsement of the proposed Karst Farm Greenway Phase 2A project and of our support of the entire Karst Farm Greenway Project as proposed by the Monroe County Board of Commissioners. The provision of the proposed facility helps further the goals and objectives stated in the Monroe County Comprehensive Plan, the Monroe County Alternative Transportation and Greenways Plan and contributes to a more balanced and complete transportation system.

The proposed facility is a vital piece of infrastructure that will enable non-motorized movement between hundreds of homes, thousands of jobs, and educational and recreation facilities. The planning for this facility has been on-going for some time and has demonstrated the willingness of the many jurisdictions and organizations in Monroe County to work together to further a goal that benefits all of the residents of the county.

I urge you to support this worthwhile project and encourage INDOT and the FHWA to join in our partnership to achieve this important goal.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Landis".

David Landis, President
Monroe County Active Transportation Board



**MARK KRUZAN
MAYOR**

CITY OF BLOOMINGTON

401 N Morton St Suite 210
PO Box 100
Bloomington IN 47402

OFFICE OF THE MAYOR

p 812.349.3406
f 812.349.3455
mayor@bloomington.in.gov

Bloomington /Monroe County Metropolitan Planning Organization
Attn: Josh Desmond
Bloomington Planning Department
401 N. Morton Street, Suite 160
Bloomington, IN 47404

December 16, 2013

Re: Transportation Alternatives Program (TAP) Grant Application for 2015 Greenways Projects

Dear Josh,

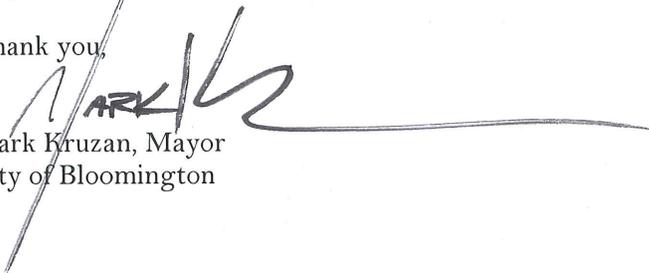
The City of Bloomington is pleased to submit our request for TAP funding for the 2015 Greenways Implementation Plan. The project proposes pavement markings on various streets identified in the City's Greenways Implementation Plan which was completed in 2012. These projects would include the following:

- Indiana Avenue - shared lane markings from 10th Street to 13th Street
- Dunn Street - bike lane and shared lane markings from 3rd Street to 12 Street and from 13th Street to 17th Street
- Fess Avenue - Neighborhood Greenway from 7th Street to 13th Street
- Liberty Drive - bike lanes from State Route 48 to State Route 45
- 10th Street - bike lanes and shared lane markings from Morton Street to Union Street
- Law Lane - shared lane markings from Union Street to Fee Lane
- North Walnut Street - bike lanes from State Route 46 to Old State Route 37

In 2010, the Bloomington City Council established a goal for the City of Bloomington to achieve Platinum level status as a Bicycle Friendly Community as designated by the League of American Bicyclists. With this goal in mind, the City undertook its Greenways Implementation Plan, a capital improvement program detailing various projects selected through a series of meetings involving City staff, community stakeholders, interest groups, and the community at-large. This initiative, completed in 2012, resulted in implementation of nine (9) on-street bicycle infrastructure projects in 2013 and another six (6) projects scheduled for 2014. The City is seeking TAP funding for similar projects in 2015 as outlined in the attached application.

If you have questions about the information in the attachments, please contact Adrian Reid in the Department of Public Works. The City appreciates the opportunity to apply for funding for this project and would like to thank the MPO in advance for their consideration of our application.

Thank you,


Mark Kruzan, Mayor
City of Bloomington



Bloomington/Monroe County Metropolitan Planning Organization

FY 2015 Transportation Alternatives Program Application

Please complete all pertinent fields and return an electronic copy to MPO staff at mpo@bloomington.in.gov.

LOCAL PUBLIC AGENCY INFORMATION (check one & fill in all fields):

- Monroe County, City of Bloomington, MCCSC, RBBCSC, Town of Ellettsville

Primary Project Contact: Adrian Reid, P.E. Phone: 812-349-3417
Address: 401 N. Morton Street, Suite 130, P.O. Box 100 Bloomington, IN 47402 Fax: 812-349-3520 Email: reida@bloomington.in.gov

PROJECT INFORMATION (fill in all applicable fields):

Project Name: 2015 Greenways Implementation Plan DES Number: # Not assigned

Project Location: Various locations in Bloomington as outlined in the application

Brief Project Description: Pavement marking for on-street bicycle facilities for up to seven (7) bicycle facilities outlined in the City's Greenways Implementation Plan.

Allied Projects (other projects related to this one): Allen/Covenanter Neighborhood Greenway (N.G.), 7th Street N.G. Highland/Hawthorne N.G., East 3rd Street Buffered Bike Lanes, 4th Street N.G., Arlington Road Bike Lanes

Project Cost:

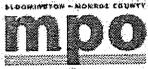
Table with 6 columns: Phase, Funding Source, 2014, 2015, 2016, 2017. Rows include Design, ROW, CON, and Totals.

Construction Engineering/Inspection: Does the project include an acceptable percentage of construction costs set aside for construction engineering or inspections? [X] Yes [] No [] Not Applicable

Detailed Project Description (not to exceed 250 words) – identify the project scope, overview, objective, and any other relevant project details.

The Greenways Implementation Plan is an initiative focused primarily on on-street bicycle facilities. The scope of the proposed project would include shared lane markings, bicycle lanes, and buffered bike lanes on the following City streets:

- Indiana Avenue from 10th Street to 13th Street
Dunn Street from 3rd Street to 12th Street and from 13th Street to 17th Street



Bloomington/Monroe County Metropolitan Planning Organization

- Fess Avenue from 7th Street to 13th Street
- Liberty Drive from State Route 48 to State Route 45
- 10th Street from Morton Street to Union Street
- Law Lane from Union Street to Fee Lane
- North Walnut Street from State Route 46 to Old State Route 37

The conceptual plans for these proposed facilities are already provided in the Greenways Implementation Plan, including typical sections for each facility. No right-of-way acquisition is required to construct these projects, and the City doesn't anticipate that NEPA reviews will apply.

The Greenways Implementation Plan is a product of the City's goal to achieve Platinum status as a Bicycle-Friendly Community, a designation awarded by the League of American Bicyclists, by 2016. The Bloomington City Council established this goal in 2010 (see Appendix C), and the nine (9) bicycle facilities constructed in 2013 represent the first projects in a series of urban bikeway projects intended to help achieving this goal. There are six (6) projects scheduled for construction in 2014, and construction of the projects included in this application would follow in 2015.

Primary Purpose (Select one): Please select which description best fits your project. All eligible project types are considered equally during evaluation.

- Construction of Bike/Ped Facilities
- Safe Routes to School
- Multi-use trail project

Project Elements (All that apply):

- Sidewalks
- On-street or off-street bicycle infrastructure
- Pedestrian and bicycle signals
- Maintenance or construction of recreational trail or trailhead facilities
- Traffic calming techniques
- Lighting and other infrastructure that improves bicycle and pedestrian safety
- Infrastructure projects that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs
- Safe Routes to School programming (Education, Encouragement, Enforcement, Evaluation)

Community Support (20 points maximum)

- a. Is the project supported by local planning documents? **(10 points maximum)**
All of the projects are included in the City's 2009 Greenways Plan and specific projects were vetted through the Greenways Implementation Plan process.
- b. Has the project received letters of support from community organizations? **(5 points maximum)**



Bloomington/Monroe County Metropolitan Planning Organization

The City has not received specific letters of support from community organizations, but the Greenways Plan is widely supported by various interest groups and City organizations such as the Bicycle and Pedestrian Safety Commission.

- c. Has the project been presented at public meetings? **(5 points maximum)**
In 2009, the City of Bloomington's Bicycle and Pedestrian Transportation & Greenways System Plan was adopted by the Bloomington Plan Commission in two (2) public meetings. The overall Greenways Implementation Plan, which includes the individual projects listed in this application, included several public meetings. The first of these meetings occurred on September 28 & 29, 2011. The last of these meetings was held on May 10, 2012, where the overall plan was unveiled to the public.

Safety (25 points maximum)

- a. Does the project location occur on any of the following lists in the MPO's crash reports from the previous 3 years? **(10 points maximum)**
Please check each list on which the project location appears and indicate which year's crash report the list is in.

- X 'Top Locations by Crash Total' (Year(s): 2009-2011)
- X 'Top Locations by Crash Rate' (Year(s): 2009-2011)
- 'Top Locations by Crash Severity' (Year(s): _____)
- X 'Eligible HSIP Locations' (Year(s): 2009-2011)
- X 'Top Bicycle and Pedestrian Crash Locations' (Year(s): 2009-2011)

- b. How many total crashes occurred within ¼ mile of the proposed project in the previous 3 years? **(5 points maximum)**

There were 477 total accidents along all of the routes included in this application, and many more (thousands) if we calculated accidents within 1/4 mile of the projects.

- c. How many fatal or incapacitating injury crashes occurred within ¼ mile of the proposed project in the previous 3 years? **(5 points maximum)**

One (1) fatal accident – 13th & Fee Lane; seven (7) incapacitating accidents. These are accidents just along the routes and not estimated within 1/4 mile of the projects.

- d. Does the proposed project improve safety for multiple user groups? **(5 points maximum)**
Please check all that apply.

- Pedestrians
- X Bicyclists
- X Motorists
- Transit users
- Disabled persons

Utility (25 points maximum)

- a. Does the project connect to destinations such as parks, schools, libraries, retail centers, or employment centers? **(10 points maximum)**

Please check all that apply.

Public Park

School

Library

Employment

Retail

- b. Does the proposed project connect to existing bicycling and walking networks? **(5 points maximum)**

Please check all that apply.

Multi-use Trail

On-street bikeway

Sidepath

Sidewalk

Signed bike route

- c. How many transit routes and transit stops are located within the proposed project, or are located within ¼ mile of the proposed project? **(5 points maximum)**

Because there are several projects and many of them are close to IU campus, there are dozens of transit stops within 1/4 mile of the proposed project. The 10th Street project will be constructed on the busiest transit corridor in the City.

- d. Does the project enhance bicycle and pedestrian access for traditionally underserved populations, as identified in the MPO's Long Range Transportation Plan? **(5 points maximum)**

Yes, many of the proposed greenways projects serve IU campus.

Project Readiness (30 points maximum):

- a. What percentage of design work is currently completed for the project? **(10 points maximum)**

Approximately 25% of design has occurred. Conceptual plans and typical sections already exist for each project.

- b. What percentage of the project right-of-way is owned by the project sponsor at the time of this application? **(10 points maximum)**

No ROW is required for the project.



Bloomington/Monroe County Metropolitan Planning Organization

- c. Is this project eligible for a categorical exclusion from NEPA reviews? **(5 points maximum)**
At this time, this project appears to be eligible for a blanket categorical exclusion from NEPA reviews.

- d. With the funds requested, will the project be fully funded, or a phase of the project fully funded?
(5 points maximum)
The funds requested would fully fund up to seven (7) projects, which constitute one (1) phase of the overall Greenways Implementation Plan.

PLEASE ATTACH THE FOLLOWING:

- **Cover letter signed by the highest elected local official as well as the highest financial officer of the LPA**
- **Project Map (Appendix A)**
- **NEPA Approval Letter (if applicable)**
- **Letters of support (if applicable)**

I hereby certify that the information submitted as part of this application is accurate.



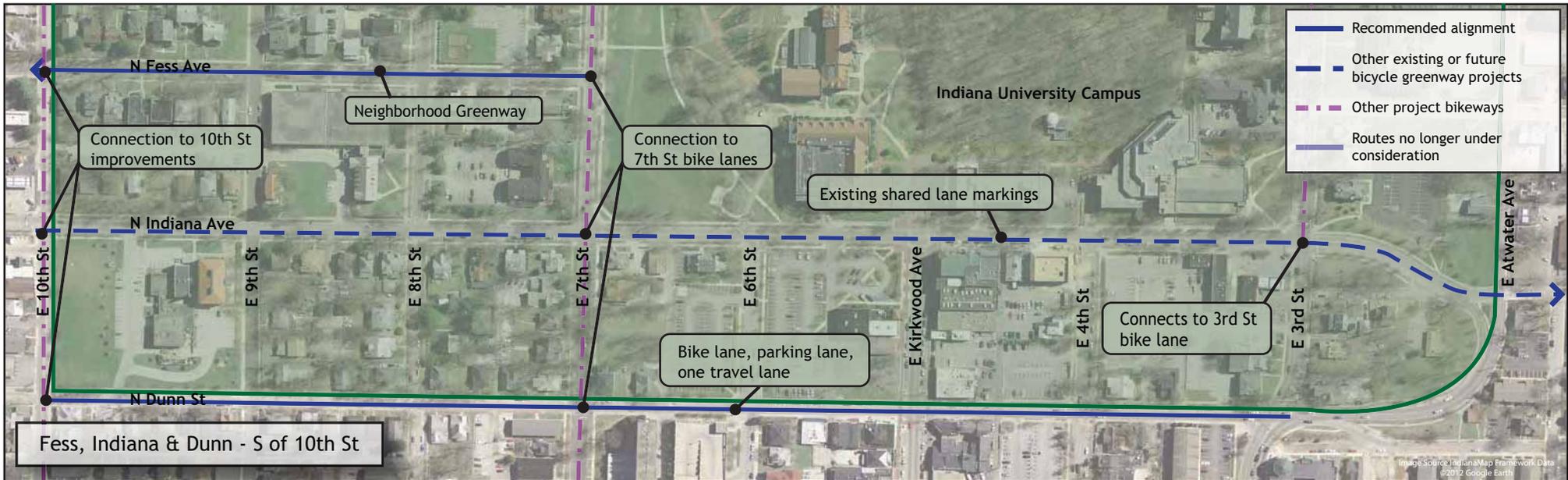
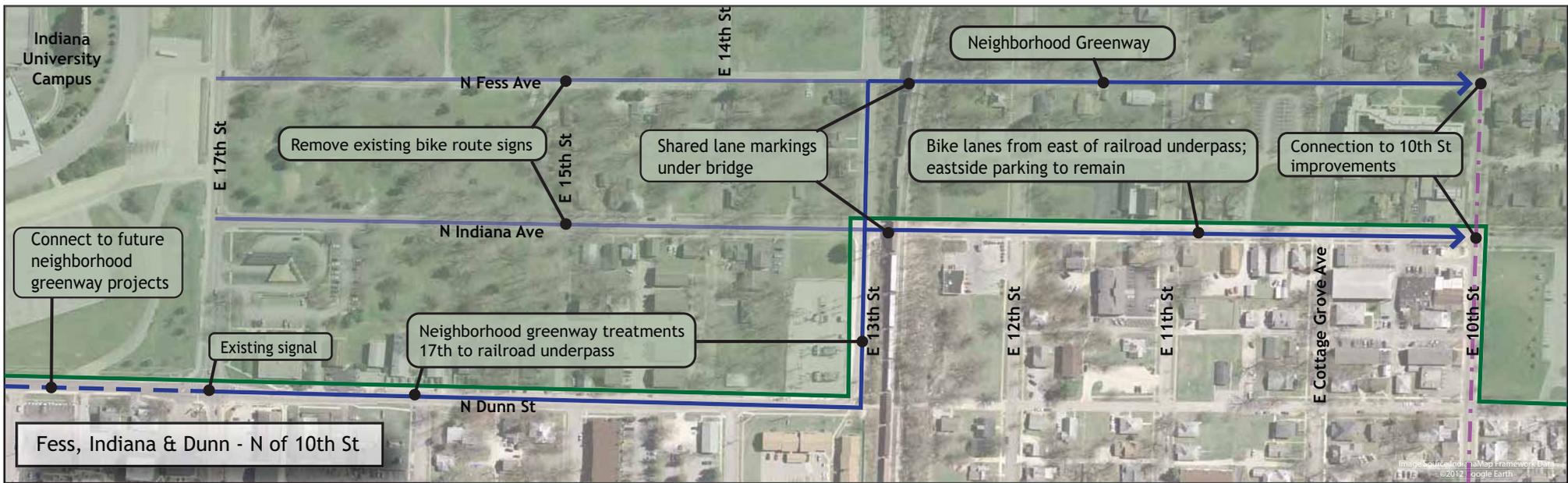
Signature

12/13/13

Date

Appendix A

Maps

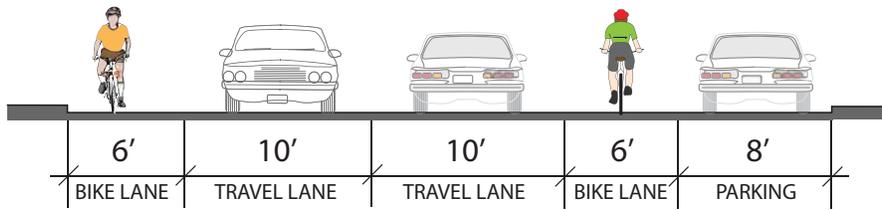


IM5 Fess Ave, IM3A Indiana Ave, IM3B Dunn St: E 17th St to E 3rd St

Bloomington Bikeways Implementation Plan

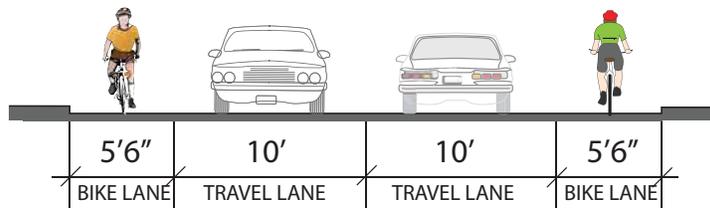
Source: Google Earth Aerial
 Author: RW
 Date: March 2012

N Indiana Ave from 10th to 12th



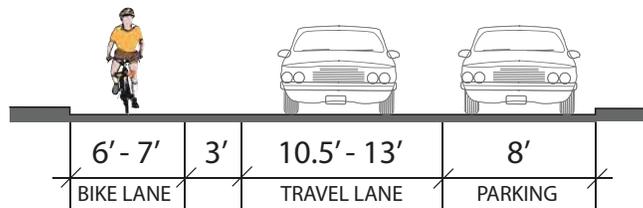
W ————— 40' PAVEMENT ————— E

N Indiana Ave from 12th to 13th



W ————— 31' PAVEMENT ————— E

N Dunn St from 13th to 17th

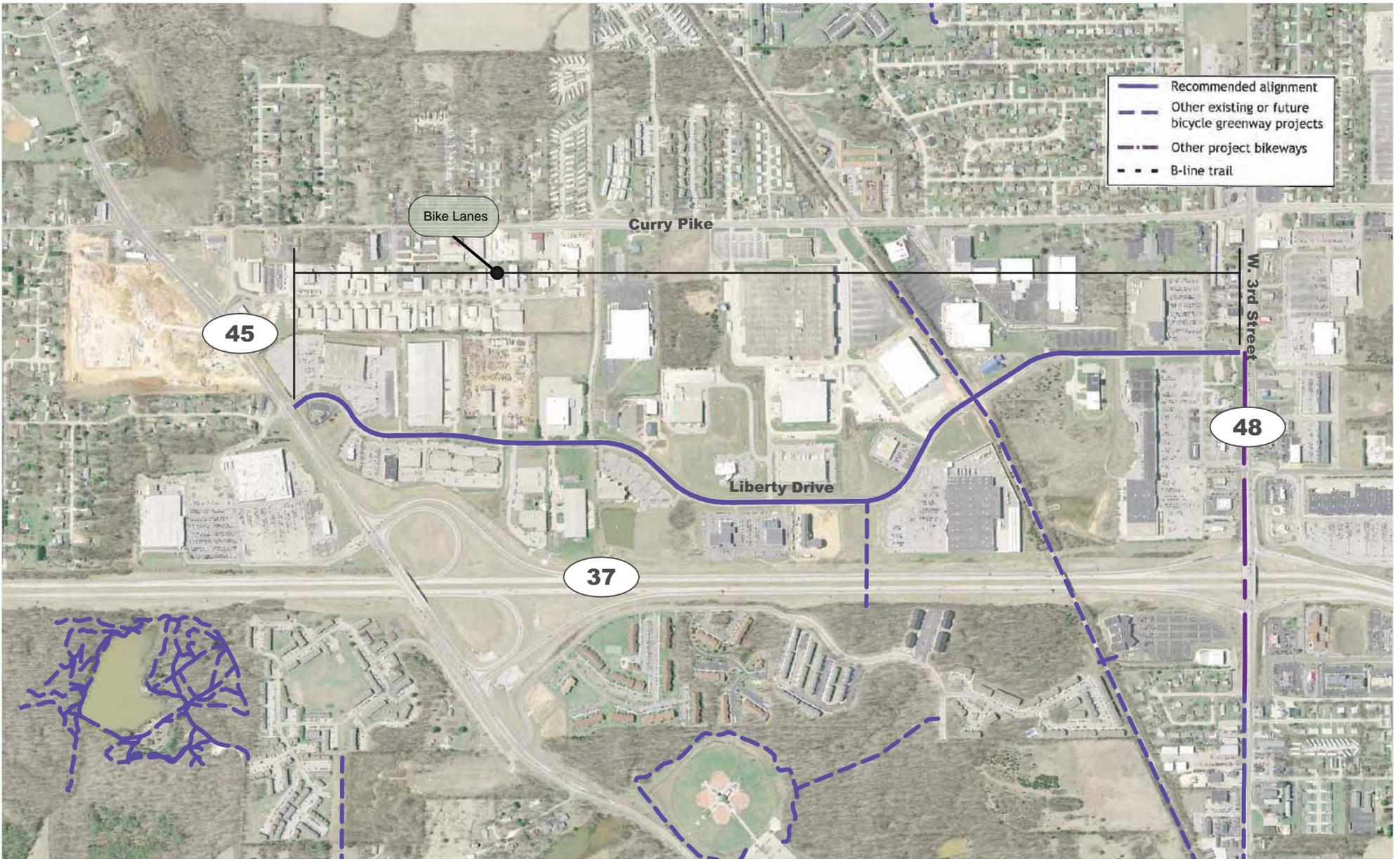


W ————— 27'-6" - 31' PAVEMENT ————— E

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



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

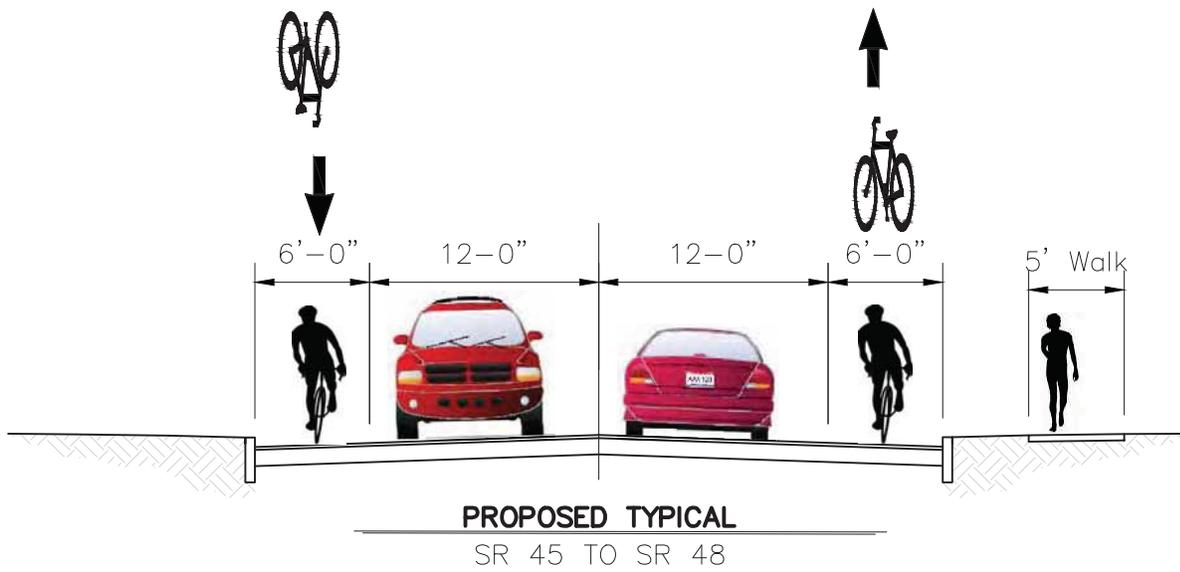
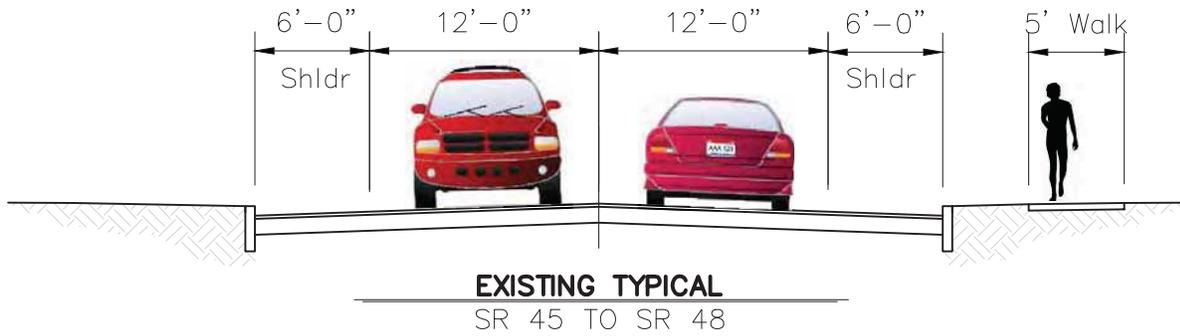


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LIBERTY DRIVE



LT2 Liberty Drive : SR 45 to SR 48

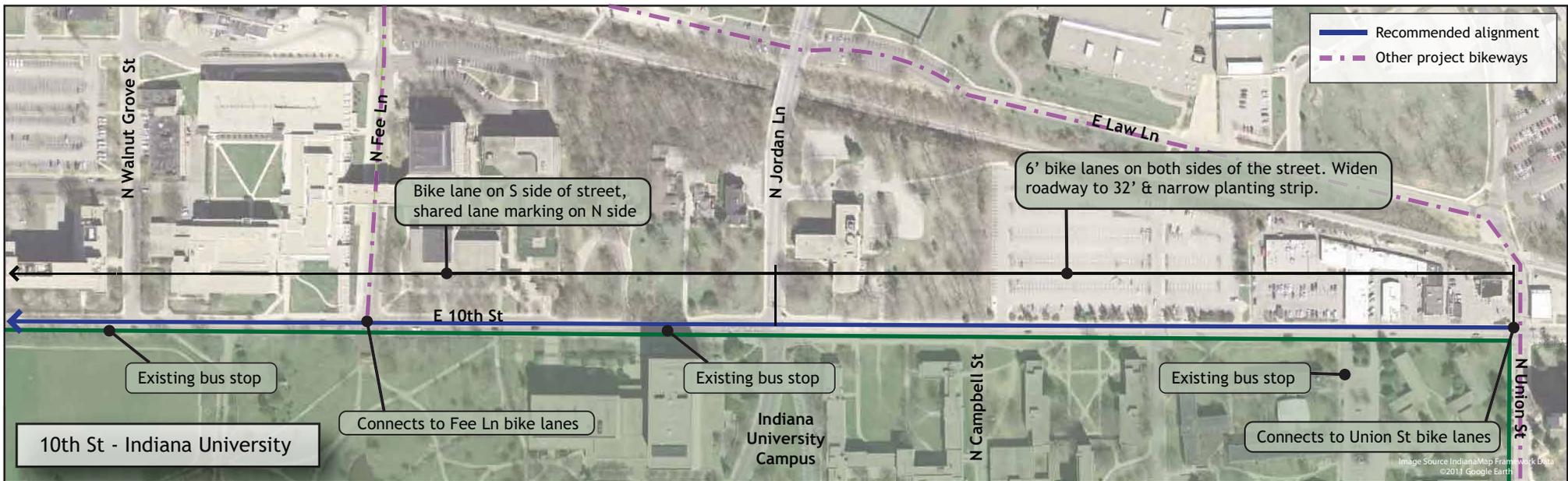
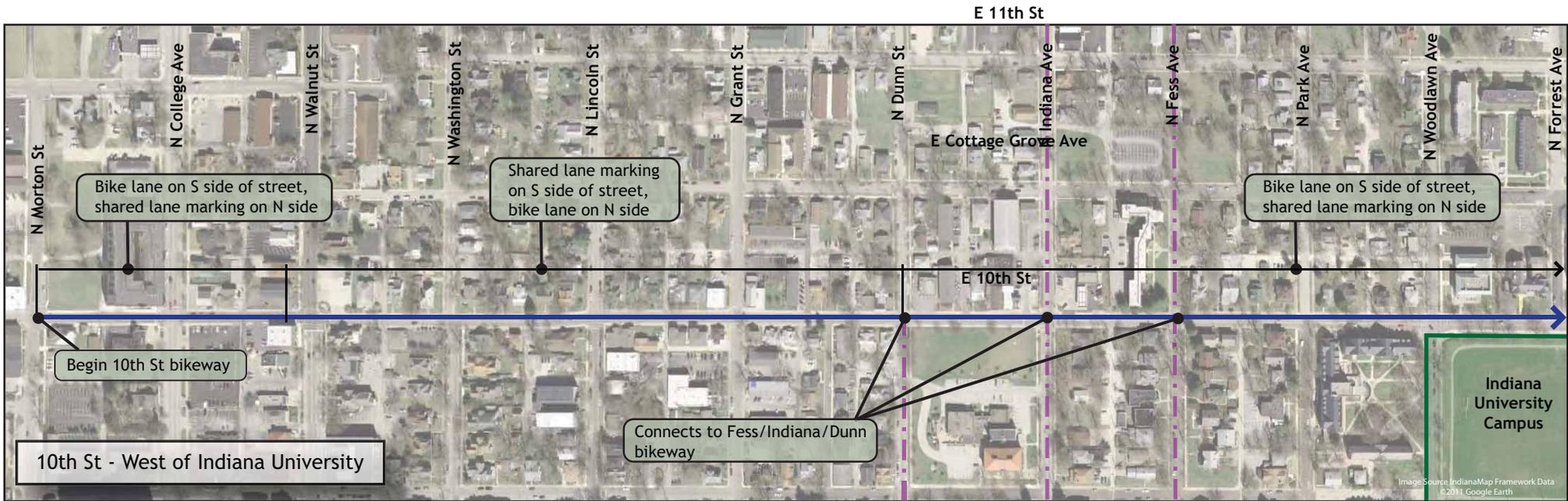
Bloomington Bikeways Implementation Plan

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



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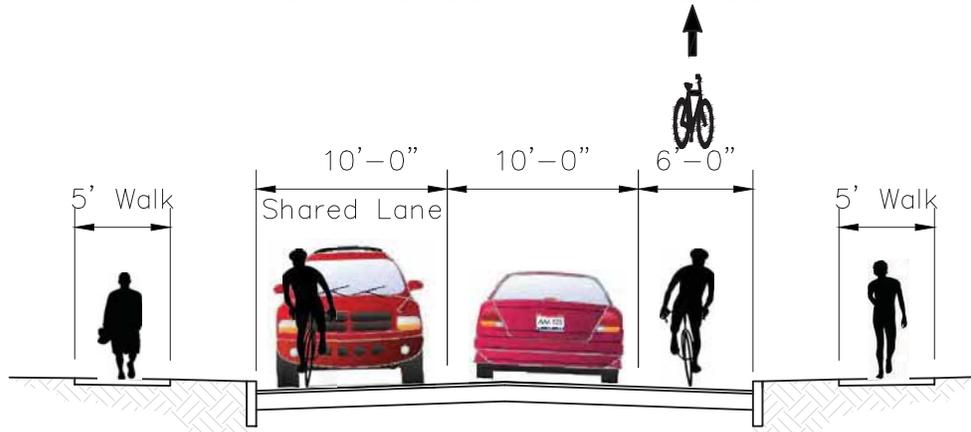
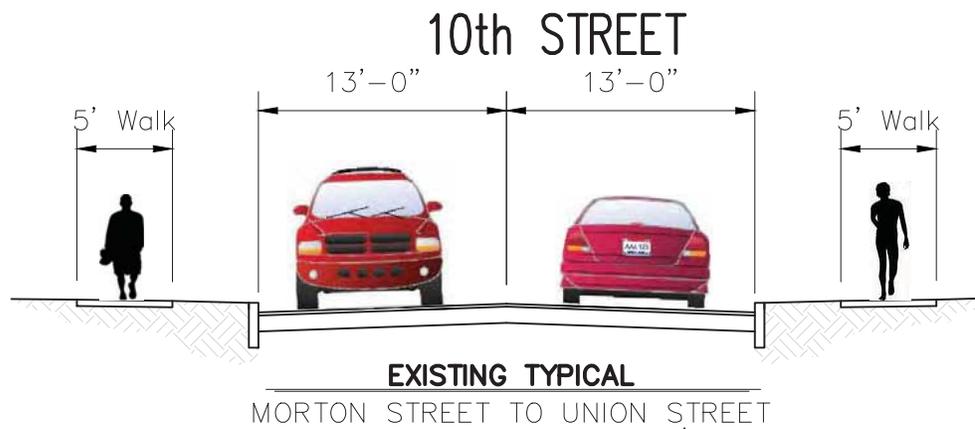




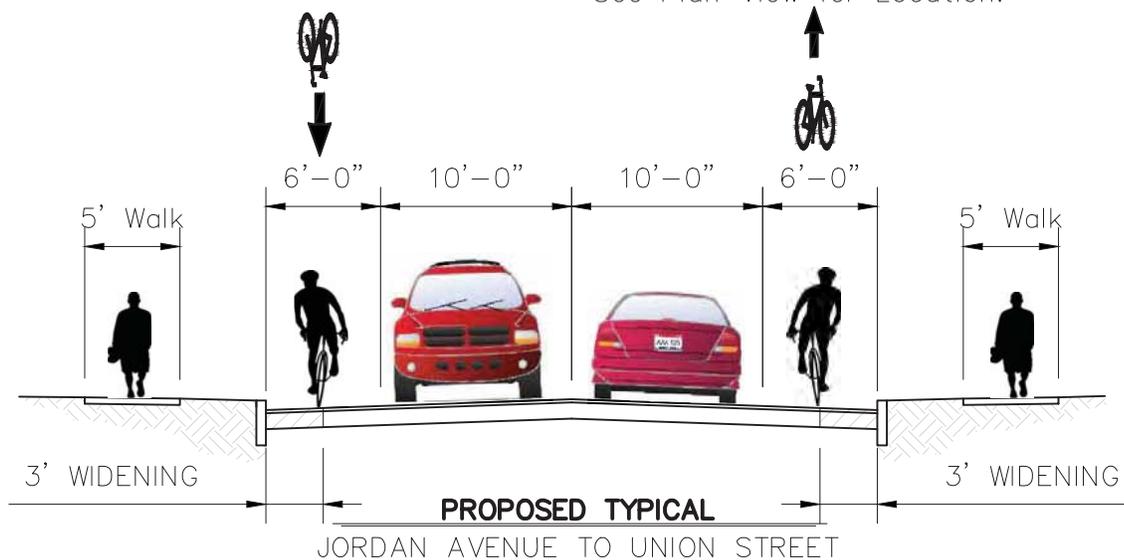
LT6 10th St: Morton St to Union St

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

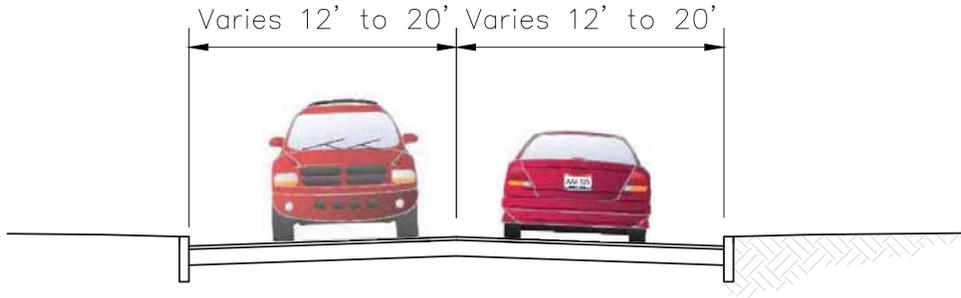
Source: Google Earth Aerial
Author: RW
Date: March 2012

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alta
PLANNING + DESIGN

LAW LANE



EXISTING TYPICAL

N. FEE LANE TO UNION STREET

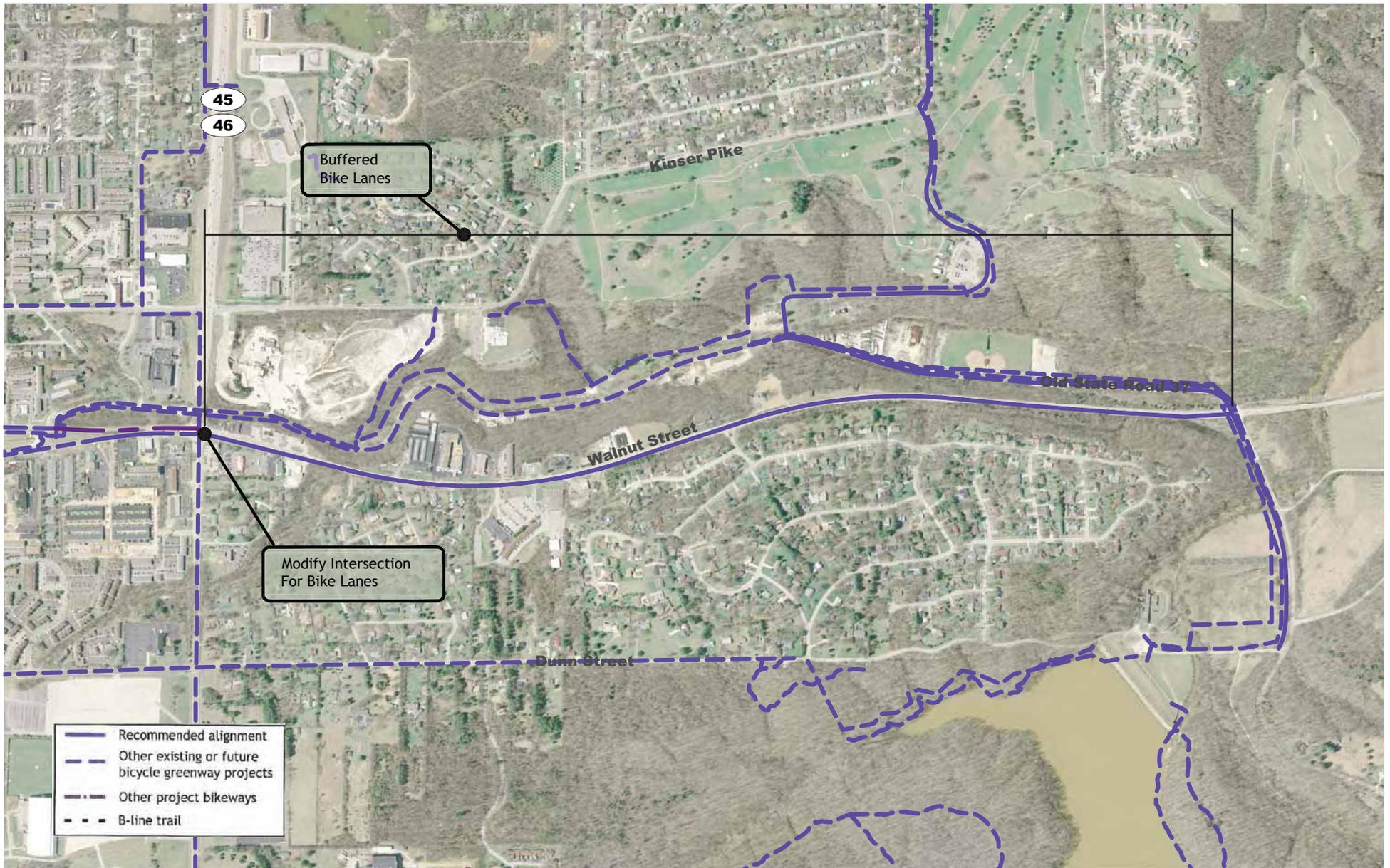


PROPOSED TYPICAL

N. FEE LANE TO UNION STREET

LT7 Law Lane : N Fee Lane to N Union Street





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

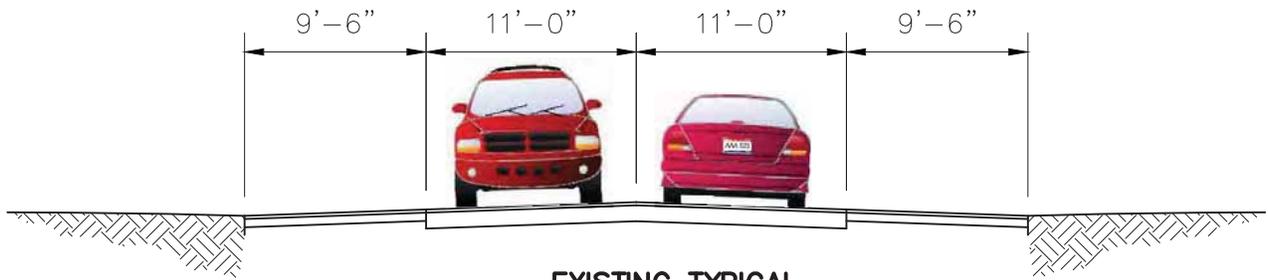


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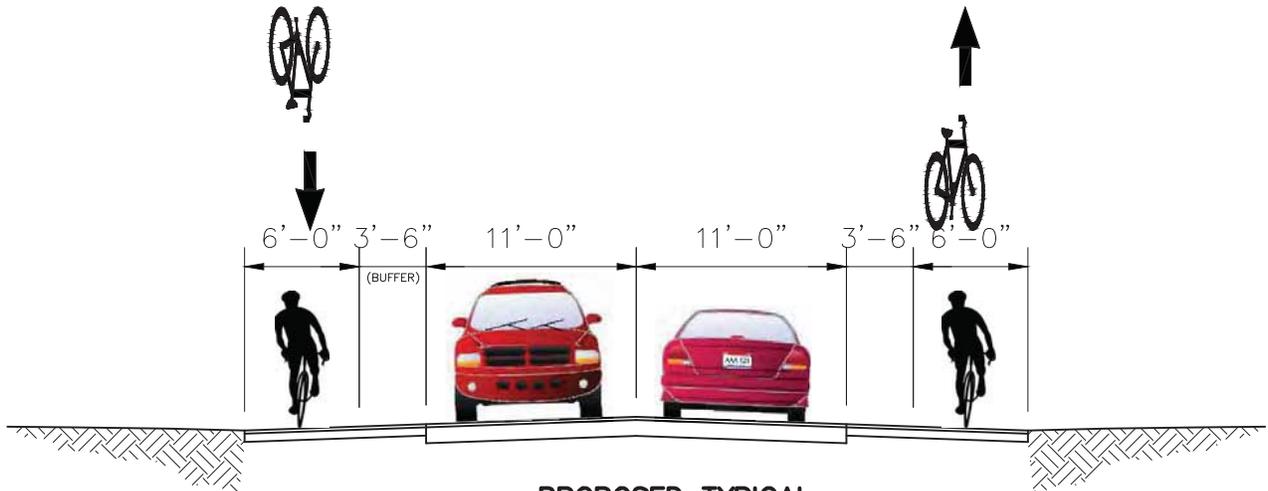
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 PLANNING + DESIGN

WALNUT STREET – NORTH



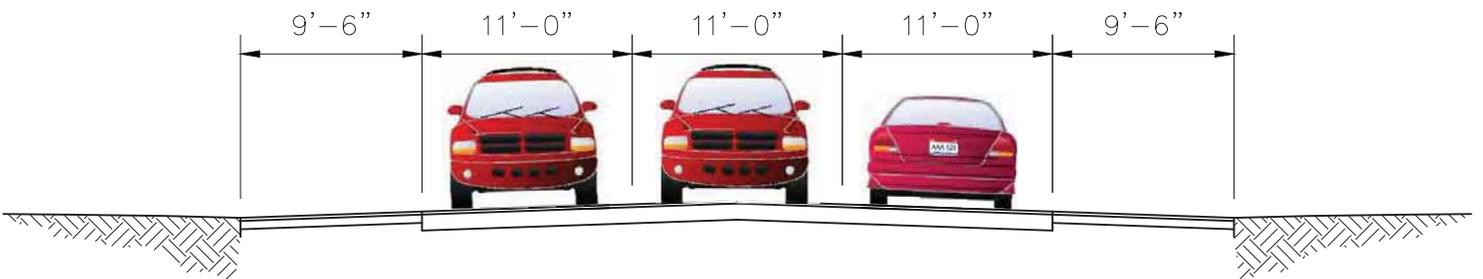
EXISTING TYPICAL

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

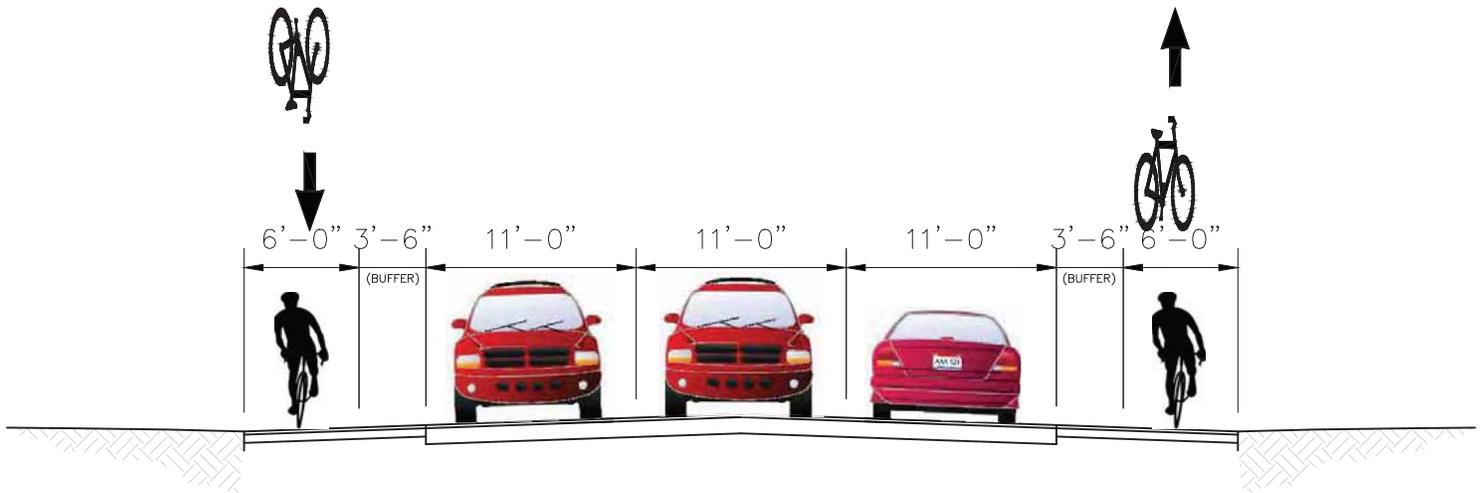
Source Google Earth Aerial
 Author: JRF
 Date: March, 2012



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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



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Appendix B
Crash Report Data

Table A1. Eligible HSIP Locations, 2009–2011

Current Rank	Previous Rank	Location	Jurisdiction	Fatal or Incapacitating Injury Crashes	Total Crashes	Fatal	Any Injury
1	8	E 3rd St & S Jordan Ave	COB	2	51	0	22%
2	15	N Dunn St & N Old State Road 37	COB	2	24	1	46%
3	2	W 3rd St & S Patterson Dr	COB	2	21	1	33%
4	1	W 2nd St & S Walker St	COB	2	9	0	67%
5	34	N Elm St & W Kirkwood Ave	COB	2	8	0	38%
5	33	S Fairfax Rd & E Schacht Rd	MC	2	8	1	63%
7	4	N Curry Pk & W Jonathan Dr	MC	2	6	0	67%
8	5	W 7th St & N Walnut St	COB	1	45	0	20%
9	10	W 17th St & N Kinser Pk/N Madison St	COB	1	43	0	33%
10	11	E 10th St & N Sunrise Dr	COB	1	38	0	18%
11	9	W 2nd St & S Rogers St	COB	1	33	0	30%
12	-	W Grimes Ln & S Walnut St	COB	1	31	0	39%
13	16	E 3rd St & S Swain Ave	COB	1	29	0	3%
14	-	N Smith Pk & W Woodyard Rd	MC	1	27	0	30%
14	-	E Miller Dr & S Walnut St	COB	1	27	0	26%
16	13	N Jordan Ave & E Law Ln	COB	1	25	0	8%
17	19	E 17th St & N Lincoln St	COB	1	24	0	25%
18	-	W 3rd St & S Kimble Dr	COB	1	23	0	48%
19	-	E Longview Ave & N Pete Ellis Dr	COB	1	20	0	25%
19	20	S Fairfax Rd & S Walnut Street Pk	MC	1	20	0	50%
21	-	N Curry Pk & W Vernal Pk	MC	1	18	0	22%
21	21	E 3rd St & S Ballantine Rd	COB	1	18	0	11%
23	17	E 13th St & N Fee Ln	COB	1	17	1	29%
24	18	W 15th St & N Walnut St	COB	1	16	0	31%
25	27	S Curry Pk & W Roll Ave	COB	1	15	0	33%
25	30	S Walnut St & S Walnut Street Pk	COB	1	15	0	7%
27	26	E 18th St & N Dunn St	COB	1	14	0	14%
27	29	N Grant St & E Kirkwood Ave	COB	1	14	0	29%
29	-	W 11th St & N Rogers St	COB	1	13	0	31%
30	-	E 4th St & S Grant St	COB	1	12	0	8%
30	21	W 3rd St & S Yancy Ln	COB	1	12	0	25%
30	27	S College Mall Rd & Eastland Plaza	COB	1	12	0	58%
30	3	S Curry Pk & W Gifford Rd	MC	1	12	0	50%
34	23	E 10th St & N Fess Ave	COB	1	11	0	18%
35	-	N Jacob Dr & W Whitehall Crossing Blvd	COB	1	10	0	20%
35	35	W Allen St & S Patterson Dr	COB	1	10	0	40%
35	-	E 1st St & S Fess Ave	COB	1	10	0	40%
38	23	W 15th St & N College Ave	COB	1	9	0	11%
38	35	W 11th St & N Morton St	COB	1	9	0	11%
38	-	E 8th St & N Washington St	COB	1	9	0	11%
41	42	E 11th St & N Indiana Ave	COB	1	7	0	29%
41	-	W Fullerton Pk & S Leonard Springs Rd	COB	1	7	0	14%
41	-	W Gordon Pk & S Rogers St	MC	1	7	0	14%
44	-	E 6th St & N Indiana Ave	COB	1	6	0	33%
44	37	W Fullerton Pk & S Rockport Rd	MC	1	6	0	17%
46	-	E Burks Dr & S Walnut Street Pk	COB	1	5	0	40%
46	-	N Curry Pk & W Grand Ave	MC	1	5	0	40%
46	-	E Atwater Ave & S Park Ave	COB	1	5	0	20%
46	-	W Howe St & S Rogers St	COB	1	5	0	40%
46	-	W Grimes Ln/W Patterson Dr & S Morton St	COB	1	5	0	60%
46	-	S Rogers St & W That Rd	MC	1	5	0	40%

Table 3. Top 50 Crash Locations by Crash Rate, 2009-2011

Crash Rate Rank	Crash Frequency Rank	Intersection	Jurisdiction	3-Year Total	Crashes per Million Entering Vehicles
1	5	State Road 46 & S Pete Ellis Dr	IN	94	1.83
2	47	E 13th St & N Indiana Ave	COB	32	1.72
3	31	E 10th St & N Sunrise Dr	COB	38	1.46
4	12	State Rd 46 & S Kingston Dr	IN	61	1.44
5	15	E 10th St & N Fee Ln	COB	54	1.39
6	2	State Road 46 & E 3rd St	IN	104	1.37
7	15	W 10th St & N College Ave	COB	54	1.33
8	36	State Road 46 & S Park Ridge Rd	IN	36	1.31
8	18	State Road 45 & S Gillham Dr	IN	51	1.31
10	17	E 3rd St & S Washington St	COB	53	1.28
10	36	E 17th St & N Fess Ave	COB	36	1.28
12	44	E 10th St & N Jefferson St	COB	33	1.26
13	14	W 3rd St & S Cory Ln	COB	56	1.22
14	26	State Road 45 & N Pete Ellis Dr/N Range Rd	IN	44	1.20
14	26	E 10th St & N Union St	COB	44	1.20
16	6	State Road 45 & S Curry Pk/S Leonard Springs Rd	IN	83	1.18
17	36	E 3rd St & S Woodlawn Ave	COB	36	1.16
18	39	E 3rd St & S Fess Ave	COB	35	1.14
19	31	S Walnut Street Pk & E Winslow Rd	COB	38	1.13
19	41	E Rhorer Rd & S Walnut Street Pk	MC	34	1.13
19	3	State Road 45/46 Bypass & N College Ave/N Walnut St	IN	99	1.13
19	31	State Road 46 & E Eastgate Ln	IN	38	1.13
19	7	State Road 45/46 Bypass & E 10th St	IN	79	1.13
24	10	State Road 48 & S Liberty Dr	IN	70	1.12
25	9	State Road 45 & S Liberty Dr	IN	74	1.10
26	24	W 7th St & N Walnut St	COB	45	1.06
27	18	State Road 46 St & S Smith Rd	IN	51	1.05
28	31	E 17th St & N Dunn St	COB	38	1.02
29	44	E 10th St & N Woodlawn Ave	COB	33	1.01
30	23	E 17th St & N Jordan Ave	COB	46	1.00
31	21	W 2nd St & S College Ave	COB	50	0.99
31	11	W 3rd St & S Gates Dr	IN	63	0.99
33	18	E 3rd St & S Jordan Ave	COB	51	0.97
34	28	W 17th St & N Kinser Pk/N Madison St	COB	43	0.96
34	22	W 3rd St & S College Ave	COB	47	0.96
36	28	E 10th St & N Jordan Ave	COB	43	0.92
37	8	State Road 37 & W Vernal Pk	IN	77	0.91
38	1	State Road 37 & W Bloomfield Rd	IN	108	0.89
39	39	W 7th St & N College Ave	COB	35	0.87
40	31	W Kirkwood Ave & N Walnut St	COB	38	0.83
40	13	State Road 45/46 Bypass & N Kinser Pk	IN	59	0.83
42	47	W 4th St & S Walnut St	COB	32	0.78
43	4	W 3rd St & State Road 37	IN	97	0.75
44	44	W 2nd St & S Rogers St	COB	33	0.66
45	50	E 3rd St & S Jefferson St	COB	31	0.64
46	30	W 3rd St & N Walnut St	COB	40	0.61
47	41	State Road 45/46 Bypass & E 17th St	IN	34	0.60
48	41	State Road 45/46 Bypass & N Dunn St	IN	34	0.58
49	50	W 2nd St & S Patterson Dr	COB	31	0.53
50	24	State Road 37 & W Tapp Rd	IN	45	0.52
51	47	State Road 46 & N Centennial Dr	IN	32	0.51
52	50	E Grimes Ln & W Grimes Ln & S Walnut St	COB	31	0.43

Table 2. Top 50 Crash Locations by Crash Frequency, 2009-2011

Crash Frequency Rank	Previous Rank	Intersection	Jurisdiction	Year			3-Year Total
				2009	2010	2011	
1	2	State Road 37 & W Bloomfield Rd	IN	30	42	36	108
2	5	State Road 46 & E 3rd St	IN	36	33	35	104
3	1	State Road 45/46 Bypass & N College Ave/N Walnut St	IN	41	29	29	99
4	3	State Road 37 & State Road 48/W 3rd St	IN	37	28	32	97
5	4	State Road 46 & S Pete Ellis Dr	IN	26	47	21	94
6	7	State Road 45 & S Curry Pike/S Leonard Springs Rd	IN	31	27	25	83
7	9	State Road 45/46 Bypass & E 10th St	IN	22	30	27	79
8	6	State Road 37 & W Vernal Pike	IN	33	24	20	77
9	8	State Road 45 & S Liberty Dr	IN	23	36	15	74
10	10	State Road 48 & S Liberty Dr	IN	25	24	21	70
11	11	State Rd 48 & S Gates Dr	IN	22	21	20	63
12	12	State Rd 46 & S Kingston Dr	IN	24	19	18	61
13	13	State Road 45/46 Bypass & N Kinser Pike	IN	19	19	21	59
14	36	W 3rd St & S Cory Ln	COB	9	23	24	56
15	15	W 10th St & N College Ave	COB	15	22	17	54
15	14	E 10th St & N Fee Ln	COB	15	24	15	54
17	20	E 3rd St & S Washington St	COB	24	17	12	53
18	54	State Road 45 & S Gillham Dr	IN	16	11	24	51
18	22	E 3rd St & S Jordan Ave	COB	11	18	22	51
18	18	State Road 46 & S Smith Rd	IN	20	14	17	51
21	17	W 2nd St & S College Ave	COB	23	15	12	50
22	26	W 3rd St & S College Ave	COB	12	18	17	47
23	50	E 17th St & N Jordan Ave	COB	6	14	26	46
24	23	State Road 37 & W Tapp Rd	IN	11	23	11	45
24	18	W 7th St & N Walnut St	COB	15	18	12	45
26	47	E 10th St & N Union St	COB	10	13	21	44
26	23	State Road 45 & N Pete Ellis Dr/N Range Rd	IN	21	12	11	44
28	16	E 10th St & N Jordan Ave	COB	16	17	10	43
28	32	W 17th St & N Kinser Pike/N Madison St	COB	14	14	15	43
30	23	W 3rd St & N Walnut St	COB	19	11	10	40
31	20	S Walnut Street Pike & E Winslow Rd	COB	16	12	10	38
31	28	W Kirkwood Ave & N Walnut St	COB	14	12	12	38
31	36	E 10th St & N Sunrise Dr	COB	13	14	11	38
31	28	State Road 46 & E Eastgate Ln	IN	14	17	7	38
31	64	E 17th St & N Dunn St	COB	12	8	18	38
36	43	E 3rd St & S Woodlawn Ave	COB	7	13	16	36
36	50	State Road 46 & S Park Ridge Rd	IN	13	12	11	36
36	33	E 17th St & N Fess Ave	COB	17	10	9	36
39	43	E 3rd St & S Fess Ave	COB	10	13	12	35
39	35	W 7th St & N College Ave	COB	14	14	7	35
41	36	E Rhorer Rd & S Walnut Street Pike	MC	9	13	12	34
41	70	State Road 45/46 Bypass & E 17th St	IN	10	11	13	34
41	41	State Road 45/46 Bypass & N Dunn St	IN	13	12	9	34
44	29	W 2nd St & S Rogers St	COB	10	17	6	33
44	70	E 10th St & N Jefferson St	COB	11	10	12	33
44	64	E 10th St & N Woodlawn Ave	COB	9	13	11	33
47	58	State Road 46 & N Centennial Dr	IN	8	14	10	32
47	45	W 4th St & S Walnut St	COB	6	14	12	32
47	40	E 13th St & N Indiana Ave	COB	10	11	11	32
50	28	W Grimes Ln & S Walnut St	COB	12	13	6	31
50	76	E 3rd St & S Jefferson St	COB	11	10	10	31
50	58	W 2nd St & S Patterson Dr	COB	11	15	5	31

Fatal Crash Locations

This section summarizes the locations for crashes that resulted in fatalities. From 2009 to 2011, there were 29 fatal crashes, which resulted in 29 fatalities. The locations of these fatal crashes are identified in Table 6. Location information will aid transportation planners and engineers to identify problematic locations. Fatalities are a major factor in determining HSIP funding eligibility (see the Table A1 in the appendix for more information).

Table 6. Fatal Crash Locations by Type, 2009-2011

Location	Jurisdiction	Total	Crash Type				
			One Car	Two Cars	Three or More Cars	Moped or Motorcycle	Pedestrian
State Road 37 @ W Wayport Rd	IN	2	0	2	0	0	0
E 13th St @ N Fee Ln	COB	1	0	0	0	0	1
E Monroe Dam Rd From S Strain Ridge Rd To S Foggy Morning Rd	MC	1	1	0	0	0	0
E North Dr @ S Walnut St	COB	1	0	1	0	0	0
N Dunn St @ N Old State Road 37	COB	1	0	0	0	1	0
N Old State Road 37 From W Gourley Pk To W Club House Dr	COB	1	0	0	0	1	0
N Thomas Rd from W Vernal Pike to W Ratliff Rd	MC	1	1	0	0	0	0
S Fairfax Rd @ E Schacht Rd	MC	1	0	1	0	0	0
S Leonard Springs Rd @ W Stapleton Ave	MC	1	0	1	0	0	0
State Road 37 & W Sample Rd	IN	1	0	1	0	0	0
State Road 37 From E Ellis Rd To E Wylie Rd	IN	1	1	0	0	0	0
State Road 37 From E Zikes Rd To E Smithville Rd	IN	1	0	0	0	1	0
State Road 37 From W Simpson Chapel Rd To S Lee Paul Rd	IN	1	1	0	0	0	0
State Road 446 @ E Chandler Rd	IN	1	0	0	0	1	0
State Road 446 From E Kent Rd To N Brummetts Creek Rd	IN	1	0	1	0	0	0
State Road 446 From Moores Pk To Old State Road 446	IN	1	1	0	0	0	0
State Road 446 From S Chapel Hill Rd To E Allens Creek Rd	IN	1	1	0	0	0	0
State Road 45 & W Sparks Rd	IN	1	1	0	0	0	0
State Road 46 @ E Kings Rd	IN	1	1	0	0	0	0
State Road 46 From W Flatwoods Rd To N Red Hill Rd	IN	1	0	0	1	0	0
State Route 446 From S Old Richardson Rd To E Merritt Drive	IN	1	0	1	0	0	0
W 3rd St @ S Patterson Dr	COB	1	0	0	0	1	0
W Airport Rd From S Cave Rd To S Kirby Dr	MC	1	1	0	0	0	0
W Arlington Rd @ N Canterbury Ct	MC	1	1	0	0	0	0
W Beasley Dr @ S Curry Pike	MC	1	1	0	0	0	0
W Cockrell Rd From S Rockport Rd To S Sweetwater Ln	MC	1	0	0	0	0	1
W Eller Rd @ S Garrison Chapel Rd	MC	1	0	0	0	1	0
W Howard Rd @ N Starnes Rd	MC	1	1	0	0	0	0

Bicycle and Pedestrian Crashes

This section reports on the number of bicycle and pedestrian crashes in Monroe County from 2009 to 2011. Such crashes are an important consideration in Bloomington and Monroe County due to a relatively high number of non-motorized trips in the area. For instance, data from the 2010 American Community Survey indicates that 2.7% of commuters in Bloomington use a bicycle as their primary mode of transportation, while 10.7% walk⁷. By comparison, 0.6% of US commuters reported bicycling and 2.9% reported walking as their primary modes in 2010⁸. Individuals using these modes of transportation are particularly vulnerable to injury.

In 2011, there were 41 reported crashes involving a cyclist and 77 involving a pedestrian (Table 1). This included ten pedestrian and three bicycle crashes that resulted in incapacitating injuries. During the period from 2009 to 2011, 321 pedestrian and bicycle crashes were reported, resulting in two pedestrian fatalities. It is well understood that crashes involving these modes of transportation more often result in injury when compared with other crash types, therefore there is a need to reduce the frequency and severity of these crashes.

Table 7. Top Bicycle and Pedestrian Crash Locations, 2009-2011

Current Rank	Previous Rank	Intersection	Jurisdiction	Crash Type		Total
				Bicycle	Pedestrian	
1	-	E 7th St & N Jordan Ave	COB	5	1	6
2	1	N Dunn St & E Kirkwood Ave	COB	0	5	5
2	2	E 10th St & N Jordan Ave	COB	2	3	5
2	5	E 10th St & N Fee Ln	COB	3	2	5
2	5	N Fee Ln & E Law Ln	COB	2	3	5
7	5	W 7th St & N College Ave	COB	0	4	4
7	2	W 7th St & N Walnut St	COB	1	3	4
9	-	State Road 45 & S Curry Pk	IN	0	3	3
9	-	E Miller Dr & S Walnut St	COB	1	2	3
9	5	S College Mall Rd & Eastland Plaza	COB	2	1	3
9	5	E 3rd St & S Woodcrest Dr	COB	2	1	3
9	5	State Road 46 & S Kingston Dr	IN	0	3	3
9	-	N Grant St & E Kirkwood Ave	COB	1	2	3
9	-	E 10th St & N Union St	COB	2	1	3
9	-	E 13th St & N Indiana Ave	COB	3	0	3

⁷ US Census Bureau. 2010 American Community Survey, 1-Year Estimate. <http://www.census.gov/acs/> Accessed on July 27, 2012.

⁸ Ibid.

Appendix C

Bike Friendly Community Resolution

Passed 8-0
(Sturbaum absent)

RESOLUTION 10-10

TO CREATE A TASK FORCE TO RECOMMEND HOW THE CITY CAN ACHIEVE A PLATINUM DESIGNATION FROM THE LEAGUE OF AMERICAN BICYCLISTS' BICYCLE FRIENDLY COMMUNITIES PROGRAM BY 2016

- WHEREAS, with the passage of Resolution 06-05, the Common Council supported the Kyoto Protocol and the reduction of greenhouse gas emissions; and
- WHEREAS, with the passage of Resolution 06-07, the Common Council recognized the peak of world petroleum production; the Council translated this recognition into action via Resolution 07-16 establishing a Bloomington Peak Oil Task Force and by way of Resolution 09-18 approving the Task Force's advisory report; and
- WHEREAS, with the passage of Resolution 08-02, the Common Council adopted the *Bicycle and Pedestrian Transportation and Greenways System Plan*, which contains plans to improve, enhance, and expand transportation by foot and by bicycle; and
- WHEREAS, Since the adoption of the *Bicycle and Pedestrian Transportation and Greenways System Plan*, the Council approved an annual budget for the City of Bloomington that includes funding to implement public improvements identified within the *Plan*; and
- WHEREAS, the City of Bloomington continues to secure federal funding to assist with construction of bicycle and pedestrian infrastructure; and
- WHEREAS, the City of Bloomington has attained the bronze designation through the League of American Bicyclists' *Bicycle Friendly Program* since 2003; and
- WHEREAS, bicycling is an enjoyable, safe, healthy, inexpensive, environmentally-friendly, and readily-available mode of transportation;

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE COMMON COUNCIL OF THE CITY OF BLOOMINGTON, MONROE COUNTY, INDIANA, THAT:

SECTION I. The Common Council hereby proclaims the week of May 17-21, 2010 "Bikes Week" in the City of Bloomington and encourages all residents to utilize their bicycles for commuting, sport, and fun during that week and beyond.

SECTION II. The Common Council hereby creates the Bloomington Platinum Biking Task Force to assess Bloomington's strengths and weaknesses in regard to bicycling, and to plan how the City can achieve a platinum designation from the League of American Bicyclists' Bicycle Friendly Communities Program by 2016.

(A) Members. The Task Force shall be comprised of seven members.

(B) Appointments. Three members shall be appointed by the Mayor and three members shall be appointed by the Common Council, one of whom shall be a member of the Common Council. One member shall be appointed by the Bicycle and Pedestrian Safety Commission.

(C) Qualifications. Task Force members shall be residents of Monroe County and shall have an understanding of the issues surrounding bicycle transportation. Preference for appointments may be given to citizens with expertise in bicycle transportation, employers who encourage bicycling, health advocates who seek to improve the community's wellness, and citizens with expertise in environmental and sustainable practices.

(D) Staff Support. Transportation Planning Staff shall provide the necessary staff support to organize and run the Task Force such that its charge is fulfilled. The City Engineer shall provide technical assistance when necessary.

SECTION III. The Task Force's charge shall be:

- (A) To acquire information about and study the current state of bicycling in Bloomington, including, but not limited to:
 - 1) Current facilities for bicycling and bicycle parking;
 - 2) Available education on bicycling rules and safe practices;
 - 3) Enforcement of traffic laws regarding bicycling;
 - 4) Amenities which increase the safety and comfort of bicyclists;
 - 5) Awareness of the beneficial impacts of bicycling on the environment, health, and the local economy; and
- (B) To seek community feedback on vulnerabilities and possible solutions; and
- (C) To research best practices in urban bicycling and what other communities in the U.S. and around the world are doing to encourage bicycling; and
- (D) To coordinate efforts with various agencies already advocating bicycling in Bloomington; and
- (E) To develop a plan the City could pursue to gain a platinum rating for Bloomington from the League of American Bicyclists by 2016.

SECTION IV. Sunset Provision. The Task Force shall submit its report, including the plan to attain the platinum rating, to the Mayor and Common Council no later than one year after the date of its first meeting. The Task Force shall cease to exist upon submission of the report.

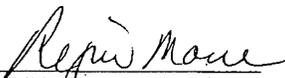
PASSED AND ADOPTED by the Common Council of the City of Bloomington, Monroe County, Indiana, upon this 12th day of MAY, 2010.


ISABEL PIEDMONT-SMITH, President
Bloomington Common Council

ATTEST:


REGINA MOORE, Clerk
City of Bloomington

PRESENTED by me to the Mayor of the City of Bloomington, Monroe County, Indiana, upon this 13th day of MAY, 2010:


REGINA MOORE, Clerk
City of Bloomington

SIGNED and APPROVED by me upon this 13th day of MAY, 2010.


MARK KRUZAN, Mayor
City of Bloomington

Signed Copies To:

OOTM
Planning
ENGINEERING
Public Works
Legal (10)

CA/CA (2)
Clerk (2)

SYNOPSIS

This resolution is sponsored by Councilmembers Piedmont-Smith, Rollo and Ruff and proposes two bicycle-friendly initiatives. First, it declares May 17-21, 2010 as "Bikes Week" and encourages residents to ride their bikes that week and beyond. Secondly, it creates a Bloomington Platinum Biking Task Force. The role of the Task Force will be to assess the strengths and weaknesses of the City's bicycling efforts and to make recommendations to both the City and community on how to achieve a platinum designation from the League of American Bicyclists' *Bicycle Friendly Program* by 2016. The Task Force will be composed of seven members, appointed by the Mayor, Common Council and the Bloomington Bicycle and Pedestrian Safety Commission. A member of the Council will also serve on the Task Force, and staff support will be provided by the Planning Department. Members will be drawn from both City and County residents who possess an understanding of the issues surrounding bicycle transportation and recreation. The Task Force shall submit its report and plan to achieve a platinum designation within one year after its first meeting. The Task Force will sunset after the submission of such report.

Note: This resolution was revised after it was distributed in the weekly Legislative Packet and before it was introduced at the Special Session. The revision added Councilmember Rollo as a co-sponsor of the legislation.

MEMORANDUM



To: MPO Technical Advisory & Citizens Advisory Committees
From: Joshua Desmond, AICP
Date: January 15, 2014
Re: FY 2015 Highway Safety Improvement Program (HSIP) Grant Awards

Background

The Highway Safety Improvement Program (HSIP) provides Federal funding to LPAs for projects that reduce fatal and incapacitating injury crashes on the local road network. The MPO adopted official guidelines for the selection of HSIP projects in October 2013. A Call for Projects was opened for HSIP funding on November 8, 2013. Two project applications were received by the MPO during the application period. The following memo outlines the submitted project applications and provides a recommendation for the awarding of HSIP funds.

HSIP Funding Available

The recent Call for Projects applied to all available HSIP funding through Fiscal Year 2015 (ending June 30, 2015). This included any unspent HSIP from previous fiscal years in addition to the regular annual allocation for FY 2015. In addition, the City of Bloomington opted to relinquish an earlier HSIP award, which put that funding allotment back into the HSIP pool. In all, the HSIP funding available for this round of applications totaled \$2,040,191.

Project Applications

Two HSIP project applications were submitted to the MPO during the Call for Projects. Both projects were submitted by the City of Bloomington. Detailed project descriptions can be found in the attached application materials. The first project, Downtown Intersection Improvements, requested \$423,720 in HSIP funding. This is a new project that is not currently shown in the FY 2014-2017 TIP. The second project was the Old SR 37 & Dunn Street intersection improvements, which requested \$1,656,471 in HSIP funding. This project is already in the TIP, though the HSIP funding is shown as illustrative in nature pending the formal award process. Together, the total HSIP request for these two applications was \$2,080,191. This exceeds the available HSIP funding by \$40,000.

The Downtown Intersection Improvements project is classified as a Low Cost, Systematic Improvement under the HSIP guidelines. This means that the project type is automatically eligible for HSIP funding and does not need to be scored using the HSIP Guidelines. The Old SR 37 & Dunn Street project is a traditional intersection project and was scored using the system in the Guidelines. The project scored 50 out of a possible 100 points. Detailed scores are as follows:

Safety	Greater than 2.5 Crashes per MEV	30 Points	(5.69 Crashes per MEV)
Benefit/Cost	Greater than 2	10 Points	(3.65 B/C Ratio)
Status of Project	Initial Request for ROW/CON	10 Points	(In PE phase)
Local Share	Required Local Amount	0 Points	(Meets 90/10 match)
Total		50 Points	

Bloomington/Monroe County Metropolitan Planning Organization

There is no minimum score needed to receive funding. Since no other traditional intersection projects were competing for funding, the final score for this project does not need to be weighed against other project scores. This project meets all basic eligibility requirements for HSIP funding.

Funding Award Recommendations

After a review of both project applications, MPO Staff recommends that the FY 2015 HSIP funds be awarded in the following manner

Downtown Intersection Improvement Project	\$423,720
Old SR 37 & Dunn Street Intersection Improvement Project	\$1,616,471
Total Awards	\$2,040,191

Please note that the HSIP award for the Old SR 37 & Dunn project is \$40,000 less than the application requested. The extra \$40,000 will be covered by using STP funds shifted from the ROW phase of the project.

Action Requested

The MPO TAC and CAC are asked to adopt a recommendation to the Policy Committee that the FY 2015 HSIP funds be awarded as outlined in this memo.

December 13, 2013

Bloomington/Monroe County MPO
Attn. Josh Desmond
401 North Morton Street, Suite 160
Bloomington, IN 47402

RE: Highway Safety Improvement Program – 2014/2015 Call for Projects

Dear Mr. Desmond:

The City of Bloomington is pleased to submit an application under the HSIP call for projects for our pedestrian curb ramp upgrade project. This project will bring all curb ramps in the Downtown Bloomington and Indiana University Campus area into compliance with Federal Americans with Disabilities Act requirements. These areas experience by far the highest levels of pedestrian activity, and in particular disabled pedestrian activity, in the City of Bloomington due to the densely populated land use and the large student population. It also encompasses many major arterials and retail business activities, resulting large volumes of automobile traffic and raising risks of conflicts for pedestrians.

This project qualifies as a low-cost systemic improvement, rule number 11, as defined in the *INDOT Special Rules for Eligibility of Highway Safety Improvement Project*, released August 1, 2013. The project design will include a range of improvements to over 400 curb ramps, from adding detectable warning devices to complete ramp reconstruction. The project application form is attached, as well as a map showing the project location and major pedestrian generators.

The total cost of the project will be \$470,800 and we are requesting an HSIP match of 90%, or \$423,720.

We are committed to completing this project in calendar year 2014 and are pursuing a contract letting in August, 2014. Justin Stuehrenberg, P.E. will serve as the Employee Responsible in Charge (ERC) for the project and main point of contact for any questions. The City of Bloomington appreciates your consideration for this highly valuable project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Kruzan', followed by a long horizontal line extending to the right.

Mark Kruzan, Mayor

Highway Safety Improvement Program Low Cost Systemic LPA Project Eligibility Request

SPONSOR

Date Submitted by

Local Public Agency

Official Signatory

Office Title

Project Contact

Telephone Email

PROJECT

Request Des No. of existing project

Road Name

Improvement Type

SIGN UPGRADE PROJECT QUESTION

If improvement selected above is a sign retroreflectivity upgrade project, also indicate the following:

Sign Inventory

If installing signs at formerly unsigned locations? (Select if yes)

LOCATION DESCRIPTION

Include start and end points of corridor or number of locations in area. (attach project map)
list all that apply:
County
Township
City/Town

400+ curb ramps in the Downtown Bloomington/Indiana University campus area. See attached map.

SCHEDULE AND FUNDING

If LPA is to contribute more than 10% match Local Contribution Amount

Existing project funding type

P/E	<input type="text" value="0"/>	Est. Start Date	<input type="text"/>
Land Acquisition	<input type="text" value="0"/>	Est. Start Date	<input type="text"/>
Construction	<input type="text" value="470,800"/>	Est. Start Date	<input type="text" value="Aug 6, 2014"/>
Construction Eng.	<input type="text" value="0"/>		
Total	<input type="text" value="470,800"/>		

PROJECT INTENT (required)

Provide a short description of the safety improvements to be achieved. Attach a map or aerial photos depicting the proposed project limits.

Modify or reconstruct curb ramps in Downtown Bloomington and the Indiana University campus area to meet Federal ADA/PROWAG requirements for accessibility. See attached map for detailed project extents. These improvements will reduce the exposure of vulnerable road users (emphasis area 5, Strategic Highway Safety Plan) by ensuring safe and quick transitions between the sidewalk and the crosswalk.

Special Rule Narrative (attach additional pages if needed)

Provide a detailed narrative to explain that the location experiences a higher than normal frequency, rate, and/or risk of fatal and incapacitating injury events (severe crashes); and how the proposed project will reduce severe crashes.

The Downtown Bloomington and Indiana University campus areas experience by far the highest levels of pedestrian activity, and in particular disabled pedestrian activity, in the City of Bloomington due to the densely populated land use and the large student population. It also encompasses many major arterials, parking lots and garages, and retail business activities, resulting large volumes of automobile traffic and raising risks of conflicts for pedestrians. The attached map indicates the locations of these major generators in relation to the project area.

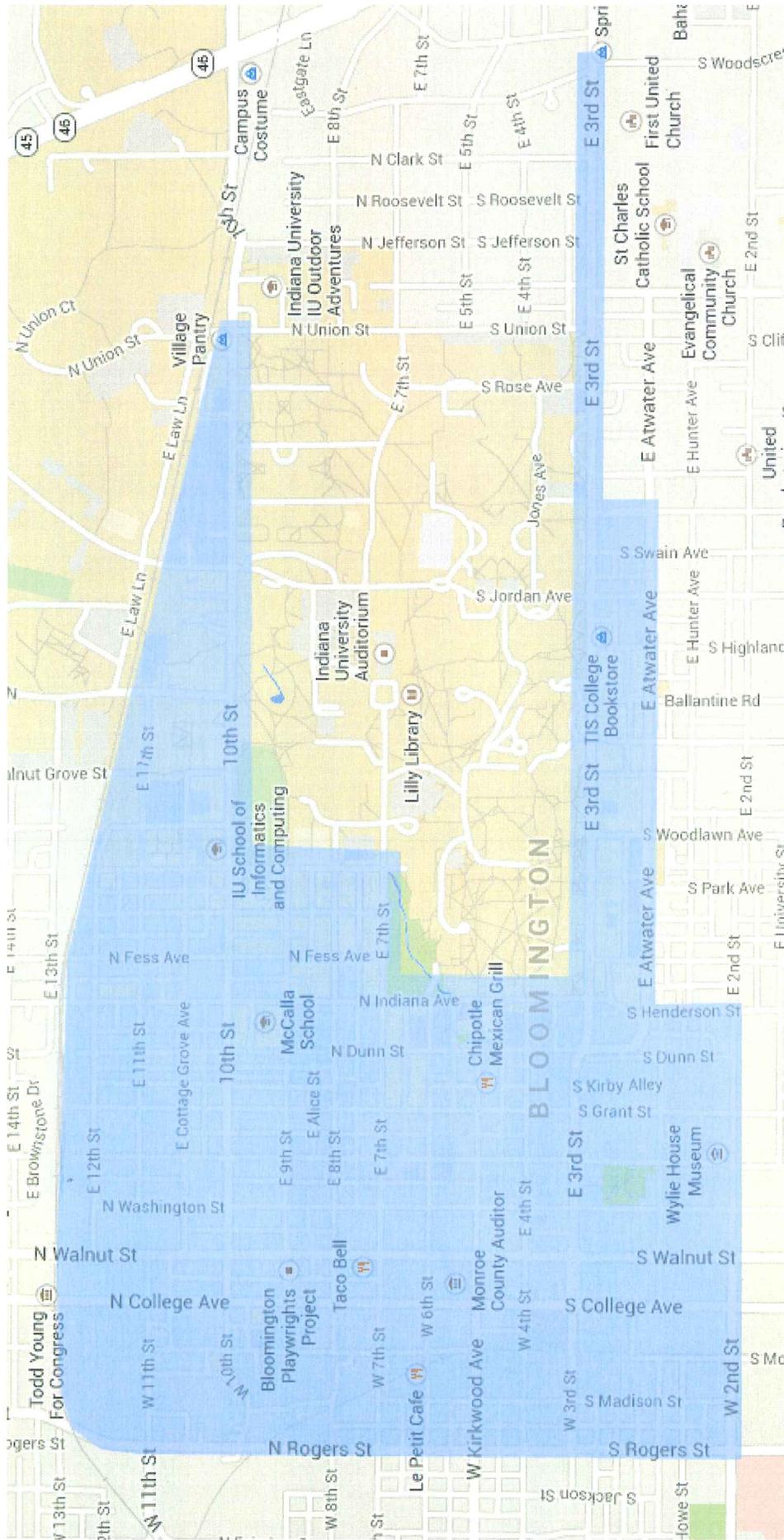
The two options for bringing curb ramps into compliance with federal requirements are to (a) retrofit the existing ramp to meet the standards or (b) to remove and re-construct the ramp. Frequently it is more cost effective to re-construct the ramps, however, this project will attempt to retrofit existing ramps where reasonable. This will ensure prudent use of HSIP funding.

The Bloomington-Monroe County MPO publishes a regular crash report, including a table of the 15 most frequent bicycle and pedestrian crash locations. Of those 15, two are outside the jurisdiction of the City of Bloomington, and one (7th St. & Jordan Ave.) is being modified as part of a separate project. This project would upgrade ten of the remaining twelve, including the top six in terms of crash frequency. The relevant sheet, with included intersections highlighted, is attached.

In general, curb ramps which are compliant with federal ADA/PROWAG requirements greatly enhance the safety of disabled users of the roadway, both those with mobility disabilities and those with limited vision. This has been deemed so important that it has been enshrined in Federal statute. Effective curb ramps minimize the time spent transitioning between the crosswalk and the sidewalk, and thereby shorten exposure times to vehicles. In addition, detectable warning devices provide a strong visual distinction for both motorists and pedestrians of all ability levels and assist in maintaining separation between the two.

Per the INDOT HSIP Low Cost Systemic Projects guidance, no benefit/cost ratio verification is required.

Project Map*



* Curb Ramps and Crosswalks apply to all intersections within shaded area.

Bicycle and Pedestrian Crashes

This section reports on the number of bicycle and pedestrian crashes in Monroe County from 2009 to 2011. Such crashes are an important consideration in Bloomington and Monroe County due to a relatively high number of non-motorized trips in the area. For instance, data from the 2010 American Community Survey indicates that 2.7% of commuters in Bloomington use a bicycle as their primary mode of transportation, while 10.7% walk⁷. By comparison, 0.6% of US commuters reported bicycling and 2.9% reported walking as their primary modes in 2010⁸. Individuals using these modes of transportation are particularly vulnerable to injury.

In 2011, there were 41 reported crashes involving a cyclist and 77 involving a pedestrian (Table 1). This included ten pedestrian and three bicycle crashes that resulted in incapacitating injuries. During the period from 2009 to 2011, 321 pedestrian and bicycle crashes were reported, resulting in two pedestrian fatalities. It is well understood that crashes involving these modes of transportation more often result in injury when compared with other crash types, therefore there is a need to reduce the frequency and severity of these crashes.

Table 7. Top Bicycle and Pedestrian Crash Locations, 2009-2011

Current Rank	Previous Rank	Intersection	Jurisdiction	Crash Type		Total
				Bicycle	Pedestrian	
1	-	E 7th St & N Jordan Ave	COB	5	1	6
2	1	N Dunn St & E Kirkwood Ave	COB	0	5	5
2	2	E 10th St & N Jordan Ave	COB	2	3	5
2	5	E 10th St & N Fee Ln	COB	3	2	5
2	5	N Fee Ln & E Law Ln	COB	2	3	5
7	5	W 7th St & N College Ave	COB	0	4	4
7	2	W 7th St & N Walnut St	COB	1	3	4
9	-	State Road 45 & S Curry Pk	IN	0	3	3
9	-	E Miller Dr & S Walnut St	COB	1	2	3
9	5	S College Mall Rd & Eastland Plaza	COB	2	1	3
9	5	E 3rd St & S Woodcrest Dr	COB	2	1	3
9	5	State Road 46 & S Kingston Dr	IN	0	3	3
9	-	N Grant St & E Kirkwood Ave	COB	1	2	3
9	-	E 10th St & N Union St	COB	2	1	3
9	-	E 13th St & N Indiana Ave	COB	3	0	3

⁷ US Census Bureau. 2010 American Community Survey, 1-Year Estimate. <http://www.census.gov/acs/> Accessed on July 27, 2012.

⁸ Ibid.

Curb Ramp Upgrade Project
List of Intersections in Downtown/IU Zone

10th & Walnut	12th & Grant	3rd & Clifton	7th & Park	Cottage Grove & Grant
10th & College	12th & Dunn	3rd & Union	7th & Woodlawn	Cottage Grove & Dunn
10th & Morton	12th & Indiana	3rd & High	8th & Walnut	Cottage Grove & Indiana
10th & Washington	12th & Fess	3rd & Jefferson	8th & College	Cottage Grove & Fess
10th & Lincoln	12th & Park	3rd & Roosevelt	8th & Rogers	Cottage Grove & Park
10th & Grant	12th & Woodlawn	3rd & Clark	8th & Indiana	Cottage Grove & Woodlawn
10th & Dunn	2nd & Walnut	3rd & Woodscrest	8th & Dunn	Cottage Grove & Forrest
10th & Indiana	2nd & College	4th & Walnut	8th & Morton	Howe & Rogers
10th & Rogers	2nd & Rogers	4th & College	8th & Washington	Howe & Madison
10th & Fess	2nd & Madison	4th & Rogers	8th & Lincoln	Howe & Morton
10th & Park	2nd & Morton	4th & Madison	8th & Grant	Hunter & Henderson
10th & Woodlawn	2nd & Washington	4th & Washington	8th & Woodlawn	Kirkwood & Walnut
10th & Forrest	2nd & Lincoln	4th & Lincoln	9th & Walnut	Kirkwood & College
10th & Walnut Grove	2nd & Grant	4th & Grant	9th & College	Kirkwood & Rogers
10th & Fee	2nd & Dunn	4th & Dunn	9th & Indiana	Kirkwood & Madison
10th & Jordan	2nd & Henderson	4th & Indiana	9th & Dunn	Kirkwood & Morton
10th & Campbell	3rd & Walnut	6th & Walnut	9th & Morton	Kirkwood & Washington
10th & Sunrise	3rd & College	6th & College	9th & Washington	Kirkwood & Lincoln
10th & Union	3rd & Rogers	6th & Rogers	9th & Lincoln	Kirkwood & Grant
11th & Walnut	3rd & Madison	6th & Indiana	9th & Grant	Kirkwood & Dunn
11th & College	3rd & Washington	6th & Dunn	9th & Prow	Kirkwood & Indiana
11th & Rogers	3rd & Lincoln	6th & Madison	9th & Woodlawn	Prospect & Rogers
11th & Indiana	3rd & Grant	6th & Morton	Atwater & Henderson	Smith & Walnut
11th & Morton	3rd & Dunn	6th & Washington	Atwater & Fess	Smith & College
11th & Walnut	3rd & Indiana	6th & Lincoln	Atwater & Park	Smith & Rogers
11th & Washington	3rd & Fess	6th & Grant	Atwater & Woodlawn	Smith & Madison
11th & Lincoln	3rd & Woodlawn	7th & Walnut	Atwater & Faculty	Smith & Morton
11th & Grant	3rd & Faculty	7th & College	Atwater & Hawthorne	Smith & Washington
11th & Dunn	3rd & Hawthorne	7th & Rogers	Atwater & Ballantine	Smith & Lincoln
11th & Indiana	3rd & Ballantine	7th & Madison	Atwater & Highland	Smith & Grant
11th & Fess	3rd & Highland	7th & Morton	Atwater & Jordan	Smith & Dunn
11th & Park	3rd & Jordan	7th & Washington	Atwater & Swain	Smith & Henderson
11th & Woodlawn	3rd & Swain	7th & Lincoln	Atwater & Mitchell	
11th & Forrest	3rd & Mitchell	7th & Grant	Cottage Grove & Walnut	
12th & Walnut	3rd & Eastside	7th & Dunn	Cottage Grove & Indiana	
12th & Washington	3rd & Arbuts	7th & Indiana	Cottage Grove & Washington	
12th & Lincoln	3rd & Rose	7th & Fess	Cottage Grove & Lincoln	



**MARK KRUZAN
MAYOR**

CITY OF BLOOMINGTON

401 N Morton St Suite 210
PO Box 100
Bloomington IN 47402

OFFICE OF THE MAYOR

p 812.349.3406
f 812.349.3455
mayor@bloomington.in.gov

Bloomington / Monroe County Metropolitan Planning Organization
Attn: Josh Desmond
Bloomington Planning Department
401 N. Morton Street, Suite 160
Bloomington, IN 47404

Re: Highway Safety Improvement Program (HSIP) Funding Request
Safety Corrections at Old SR 37 and North Dunn Street

Dear Mr. Desmond:

The City of Bloomington is pleased to submit our request for HSIP funding for the Old SR 37 and North Dunn Street project, a curve correction project on Bloomington's north side. The project is a High-Cost, Site-Specific project as opposed to the Low Cost Programmatic Improvements emphasized by INDOT under MAP-21 legislation. As such, our application includes a cost-benefit analysis and Road Safety Audit (RSA) as required for larger capital projects proposing HSIP funding.

This project would involve work along roadways under the jurisdictions of Monroe County and the City. As a result, the Monroe County Commissioners will also submit a letter of support for the project.

Attached please find the following supporting documents:

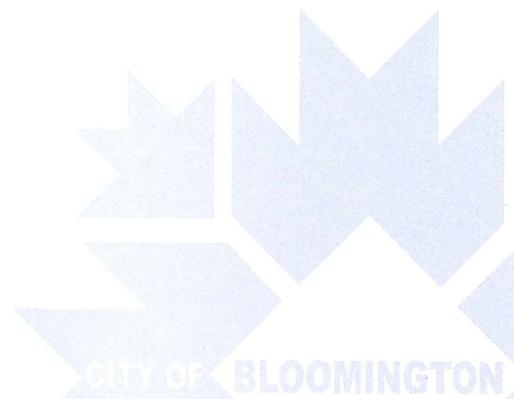
- Attachment 1: Project Description
- Attachment 2: Benefit/Cost computation
- Attachment 3: Location Map
- Attachment 4: Plan for Pre/post treatment comparison
- Attachment 5: Preliminary Cost Estimate
- Attachment 6: Project Timeline
- Attachment 7a: Road Safety Audit Report
- Attachment 7b: Response to RSA Recommendations
- Attachment 8: Traffic and Intersection Alternatives Analysis

This project offers a remarkable opportunity to bring about significant crash reduction benefits and we hope the MPO can assist us in bringing about these much needed improvements. Attachment 5 includes a cost estimate coinciding with our HSIP request in the amount of \$1,656,000, which represents 90% of the construction and construction inspection costs. The total estimate is \$1,840,000 including the City's matching contribution.

If you have questions about the information in the attachments, please contact Adrian Reid in the Department of Public Works. The City of Bloomington appreciates the opportunity to apply for funding for this project and would like to thank the MPO in advance for their consideration of our application.

Sincerely,

Hon. Mark Kruzan
Mayor



Attachment 1 - Project Description

Current Condition:

Old SR 37 at Dunn Street marks the northern boundary of the City of Bloomington. Old SR 37 east of this intersection is part of unincorporated Monroe County, while the roadway west is in the City's jurisdiction. North Dunn Street is a City street. Both roads are classified as Local Rural Collectors.

Accidents are occurring with a high frequency in the vicinity of this intersection. The location has sometimes been listed in the County's Top 50 Crash Locations and was ranked #2 on the City's recent HSIP list. Given the relatively low traffic volumes, the site likely ranks even higher when prorated for traffic.

Old SR 37 is a relatively narrow roadway that offers no paved shoulders, and has several areas along the westbound (northern) edge where the drop is significant enough to make recovery difficult if a vehicle strays off the edge. The eastbound edge does not have a drop, but is unimproved and features a heavily damaged guardrail where almost every section over several hundred feet shows evidence of having been impacted.

Old SR 37 is in a significant vertical grade coming downhill from east to west at an approximate 8% downslope. Adding to the challenges, the roadway presents a complex combination of curves with the sharpest curve in the lower portion of the slope. Drivers frequently exceed the posted speed limit coming downhill. The varying curve radii aggravate the situation by causing drivers to make a more sudden adjustment at the point where they may be traveling the fastest. Old SR 37 is cut into the side of a hill, a common condition in this very hilly terrain, but also limiting sight distance in the westbound direction.

Dunn Street is a virtually straight section of roadway, but offers no shoulders and a steep upgrade as it comes into its approach with Old SR 37. The pavement at the approach is at approximately 10% and puts drivers in a low area where sight distance is limited due to the presence of guardrail in the corner.

Project Intent:

It is the primary intention of this project to reduce the frequency of traffic accidents.

Project Location:

Improvements along Old SR 37 are to extend from Hillside Drive, through the T-intersection with Dunn Street, and continuing eastward approximately 1,200' through a complex curved section that is actually the combination of curves at 4 different radii.

Improvements along Dunn Street are to begin at the intersection with Old SR 37 and extend approximately 500' to the south, which includes the existing steepest section near Old SR 37.

Type of Work:

On Old SR 37, a curve correction is proposed to realign the roadway into a single, simple horizontal curve with appropriate superelevation. The Indiana Design Manual shows strong preference for this solution when dealing with a roadway where complex curvature is contributing to the problems.

Because the roadway is cut into a hillside with exposed rock on the inside (uphill) side of the curve, and a steep hillside protected by guardrail on the outside of the curve, the total roadway width must be kept reasonable to keep the improvement affordable and to avoid major environmental and right of way impacts.

It is proposed that the eastbound (outside of the curve) side of the road would include a paved shoulder in front of new guardrail installed at the appropriate height. Shoulder width will need to be kept relatively narrow due to the steep downslope, but a paved shoulder will be a significant improvement.

On the inside of the curve, due to the high cost of excavating deeper into the rocky hillside, widening is to be limited. The inside of the curve would feature a curb and gutter to address drainage needs, to eliminate the existing edge drop, and to provide a 2' gutter as a recovery space. In addition, the hillside will be cut back enough to provide required sight distance in the westbound direction for a design/posted speed limit of 30 mph.

These improvements will require the introduction of a storm sewer along the inside of the curve, but this will provide additional benefits near Hillside Drive where the existing drop into the roadside ditch is severe (approaching 3' in depth). Enclosing this section in a storm sewer will remove this hazard.

For North Dunn Street, it is intended to raise the road to meet Old SR 37 at a grade not to exceed 2%, a major improvement from the current condition of nearly 10%. This will improve conditions for traffic coming onto Old SR 37 and will also greatly improve intersection sight distance.

As related work, though not directly related to reducing traffic accidents, a paved sidepath is to be built along the south side of Old SR 37, then turning southward along the west side of Dunn Street. This portion of the project is in the City limits and is expected to comply with the City's Complete Streets requirements. Old SR 37 east of the intersection is outside the City limits and the topography does not make widening for bicycle or pedestrian facilities practical due to the expense, environmental impacts, and the project's rural setting. A path connection from the sidepath to Hillside Drive will be included to facilitate connection to the nearest residential area, and to provide a paved connection to the designated bike route that follows Hillside instead of Old SR 37. This proposal was already been presented for Complete Streets review and has been approved.

Problem Analysis:

This area has long been known locally for its history of severe accidents. While it has not always ranked in the County's list of Top 50 accident locations, the accidents that occur there are generally more serious than at other locations, because crashes are more likely to involve injuries or fatalities.

Reviewing a study period of 2007 to 2011, a total of 46 accidents were recorded. 50% of the accidents resulted in an injury or fatality. This is more than twice the rate experienced for all crashes in Monroe County. Similarly, the rate of incapacitating injuries or fatalities was over 10% of the accidents there, again more than double the rate found for overall Monroe County.

A Road Safety Audit was conducted and included the following comments:

- Four fatal crashes have occurred along this section of Old SR 37 since 2003, all were Roadway Departure crashes.
- For the five-year period from 2007 to 2011, there were a total of 46 crashes, and 50% of those involved either an injury or fatality, 91% were roadway departure crashes, and 83% were wet weather crashes. 86% of the crashes were caused by the westbound driver, which is the downhill direction.

In spite of the fact that this location has not always made the County's Top 50 list, the severity of the accidents and the frequency with which they are occurring when prorated for the relatively light traffic volumes indicates this is one of the worst locations in the City and County for traffic accidents. The location warrants investment as a safety improvement project.

Anticipated Treatments and Crash Reductions:

The anticipated treatments are focused on providing crash reduction for the types of accidents occurring in this area. This is obvious, but in cases where accidents are more mixed, finding the best solution can be much more challenging. In this case, over 90% of the crashes are related to Roadway Departures.

It is possible to make significant reductions in crashes by focusing on the factors that contribute most favorably to keeping drivers in their lane, and to assisting in recovery if they begin to stray from their lane. The anticipated treatments include correcting the horizontal alignment and providing paved shoulder or recovery space on each side. Unsafe road edge conditions can be greatly reduced, though the narrowness of the corridor in the cut hillside will still require a guardrail and will offer only minimal shoulder space.

Sight distance improvements will be of secondary benefit, but will also help by allowing drivers more time to react to hazards in their path.

With regard to bicyclists, there were two recorded accidents during the study period. Each of these involved interaction with vehicular traffic as opposed to roadway departure. The anticipated treatments, including providing consistent roadway curvature, a consistent lane width and a wider lane than the existing, and eliminating the edge drop conditions can all be expected to benefit the bicyclists by making the road easier to navigate and allowing them more opportunity to focus on traffic and less on the roadway itself. It is reasonable to assume a net benefit for bicyclists and a reduction in these crashes also, though admittedly assigning a prediction to that reduction is a subjective process.

Because this site has such a heavy dominance of a specific type of crash, there is the opportunity to create a very significant reduction in crashes with these treatments.

Other Treatments Considered:

The intersection of Old SR 37 and Dunn Street was reviewed in detail because the “location” of the problem was generally described as being at this intersection. In the accident records, the intersection was documented as the location because it was the nearest intersection.

Because of this, a traffic and accident study was conducted to consider possible options including:

- Realigning North Dunn Street to meet Hillside Drive to create a single 4-leg intersection rather than the existing pair of T-intersections.
- Adding a westbound to southbound turn lane or passing blister on Old SR 37 at North Dunn Street
- Signalizing one or both intersections on Old SR 37.
- Converting the intersections into a roundabout configuration.

Traffic counts and turning movements were taken, but the numbers were found to fall well below the normal levels where signals or a roundabout should be considered. Turning counts are low and are not likely to be creating any significant delay or hazard.

Additionally, the review of the accidents revealed only a minimal occurrence of accidents typical for an intersection. During the study period, there were no accidents of the “Left Turn into Mainline” or “Right Angle” crash. There were only two “Rear-End” accidents. These are the types most commonly occurring at a troubled intersection.

These findings led to the understanding that while the intersection is how many of these accidents are located in the records, the vast majority of accidents are related to vehicles leaving their designated lane of travel (“Opposite Direction Sideswipes”, “Ran Off Road”, and “Head On” accounting for over 90% of the crashes). These are considered Roadway Departure crashes.

Because of this, the possible intersection improvements listed above were eventually rejected because none of them deals with the primary problem.

This shifted focus to the factors that contribute to Roadway Departures. First and foremost is the complex curvature of Old SR 37, catching an inattentive driver with the sharpest curve and most limited sight distance condition after their speed has tended to increase coming downhill for several hundred feet. Vertically the road is at a fairly consistent grade and no contributing vertical alignment problem was noted. The existing road also appears to have a reasonable superelevation. The horizontal alignment is viewed as the primary problem which requires correction.

The unsafe edge drop makes the roadway unforgiving to those who do stray from the edge, making recovery far more difficult. Stabilizing the shoulder, or at least a paved recovery space on each side of the road is deemed fundamental to improving the roadway.

The RSA notes that there is a heavier occurrence of accidents in wet conditions and in the fall (presumably when leaves may be on the roadway in this heavily forested area). The City agrees with the

potential benefits of occasional street sweeping if leaves are accumulating on the pavement, and this maintenance solution should be implemented in conjunction with other proposals.

The RSA also notes the possibility of using a high-friction resurfacing as a short-term corrective measure. While this option is not rejected per se, it is not viewed as a suitable long-term fix because other conditions would continue to be present. The City would prefer to invest in the appropriate long-term solution.

With regard to North Dunn Street, the deficiencies are very specific to the excessively steep connection where Dunn Street connects to Old SR 37. The roadway needs to be vertically realigned to change this, and no other solution was considered because no other solution was identified that addressed the concern. Raising the profile of Dunn Street at the intersection will not only address the operational challenge of vehicles and bicyclists starting from a stopped condition on a slope, but also will address the deficient intersection sight distance that exists there.

Attachment 2 – Benefit /Cost Computation

Following is a Benefit/Cost computation prepared on the worksheet available on the MPO website.

The primary study period which was analyzed was the five year period from 2007 to 2011, the most recent available at the time of the Road Safety Audit. During this period there were a total of 46 documented accidents. The accidents were sorted by the type of crash and their severity. For input into the worksheet, the annual averages during the period were determined for each category by dividing any accident totals by five.

The Federal Highway Administration's guidance for Crash Reduction Factors (CRFs) was reviewed to determine what reductions might result from the proposed treatments. The guide is highly subjective and seems to present multiple values for a type of improvement while only providing a limited description of what the listed improvements might include.

For the sake of being somewhat conservative, we took lesser values among the various factors listed, starting from the primary improvement, that of modifying the horizontal and vertical alignment of Old SR 37. We selected a more modest prediction of accident reduction that might result from implementing the treatment. A CRF of 50% accident reduction was assumed for the primary improvement.

Other improvements that can be expected to improve the CRF for this project include:

- Providing a paved surface beyond the edge of pavement, even a minimal one, which we treated as providing a 2' shoulder where it is currently 0', in conjunction with eliminating the edge drop off.
- Improving the superelevation provided including proper transitions and banking throughout.
- Providing updated guardrail at the appropriate height.
- Improving pavement friction characteristics with a new/resurfaced pavement
- Improving horizontal sight distance to meet standards for the design speed.

These factors provide a net CRF for the improvements of about 82%. This is shown in the notes on the Benefit-Cost Worksheet.

Costs were estimated using typical roadway construction estimation procedures including the measuring of quantities from the preliminary plans and the assignment of estimated unit prices from INDOT bid history data.

The Benefit to Cost ratio was calculated to be 3.65. The minimum value for a High-Cost HSIP improvement is set to 2.0, so this project more than meets the criterion.

This project appears to provide an outstanding return on its investment, measuring well above the minimum criteria of 2.0. Funding needs to be arranged for the City to proceed, but the case for the project is easy to make.

FY 2009 HIGHWAY SAFETY IMPROVEMENT PROGRAM

Directions: Fill in all applicable white cells

HSIP Benefit/Cost Worksheet		Roadway/ Intersection Code(s)	Location					Study Period Begins	Study Period Ends		
			Old SR 37, east of intersection with North Dunn Street					1/1/2007	12/31/2011		
Crash Type / Number		Description of Proposed Work	Rear End	Sideswipe Same Direction	Left Turn Main Line	Right Angle	Ran off Road	Head On/ Sideswipe - Opposite Direction	Pedestrian	Other (Bicycle)	Total
		Curve Correction (Simple Curve, add shoulder or curb/gutter, eliminate edge dropoff)									
Number of crashes during study period (Annual Average during Study Period)	Fatal F					0.2	0.2			0.4	
	Personal Injury (PI)	A				0.2			0.4	0.6	
		B	0.2				1	2.4			3.6
		C									
Property Damage PD	0.2					2.6	1.8			4.6	
% Change in Crashes (from FHWA Desktop Reference for Crash Reduction Factors)	Fatal F					-82%	-82%				
	Personal Injury (PI)	A				-82%			-82%		
		B	-82%				-82%	-82%			
		C									
Property Damage PD	-82%					-82%	-82%				
Change in Crashes (no. crashes x CRF)	Fatal F					-0.16	-0.16			-0.33	
	Personal Injury (PI)	A				-0.16			-0.33	-0.49	
		B	-0.16				-0.82	-1.97			-2.95
		C									
Property Damage PD	-0.16					-2.13	-1.48			-3.77	

		Type of Crash	Study Period, Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit		
Year (Safety Improvement Construction)	2014	F	-0.33	-0.07	\$ 3,400,000	\$ 223,040		
Project Cost (excluding Right of Way)	\$ 1,615,000	A	-0.49	-0.10	\$ 280,000	\$ 27,552		
Right of Way Costs (not included in B/C calculation)	\$ 50,000	B	-2.95	-0.59	\$ 63,000	\$ 37,195		
Traffic Growth Factor	1%	C			\$ 31,000		Benefit	\$ 5,900,976
Discount Rate	4.0%	PD	-3.77	-0.75	\$ 4,600	\$ 3,470	Cost	\$ 1,615,000
Project Service Life (n)	30	Total	-7.54	-1.51		\$ 291,257	B/C=	3.65

OLD 37 /DUNN STREET ANALYSIS NOTES

Crash Reduction Factors Used:

Horizontal and Vertical Realignment:	50
Stabilize Shoulder/Eliminate Edge Drop Off	43
Improved Pavement Friction	13
Improved Superelevation	10
Improved Guardrail	10
Improved Sight Distance	10
Net Calc 1-[(1-CRF1)(1-CRF2) (1-CFR3)(etc)]	
Net	82

Crash Codes

F	Fatal
A	Incapacitating Injury
B	Evident Injury
C	Possible Injury
PD	Property Damage Only

Notes

Where more than one CRF applies, use the following formula to obtain the combined CRF:
 $CRF = 1 - [(1 - CRF1)(1 - CRF2)(1 - CRF3)]$
 See "Calculations" sheet for amortization.

Amortizing...

Year	Crash Benefits	Present Worth Benefits	Present Worth Costs
2014	\$ 291,257	\$ 291,257	\$ 1,615,000
2015	\$ 294,170	\$ 282,856	
2016	\$ 297,112	\$ 274,696	
2017	\$ 300,083	\$ 266,773	
2018	\$ 303,084	\$ 259,077	
2019	\$ 306,114	\$ 251,604	
2020	\$ 309,176	\$ 244,346	
2021	\$ 312,267	\$ 237,298	
2022	\$ 315,390	\$ 230,452	
2023	\$ 318,544	\$ 223,805	
2024	\$ 321,729	\$ 217,349	
2025	\$ 324,947	\$ 211,079	
2026	\$ 328,196	\$ 204,990	
2027	\$ 331,478	\$ 199,077	
2028	\$ 334,793	\$ 193,335	
2029	\$ 338,141	\$ 187,758	
2030	\$ 341,522	\$ 182,342	
2031	\$ 344,937	\$ 177,082	
2032	\$ 348,387	\$ 171,974	
2033	\$ 351,871	\$ 167,013	
2034	\$ 355,389	\$ 162,195	
2035	\$ 358,943	\$ 157,516	
2036	\$ 362,533	\$ 152,973	
2037	\$ 366,158	\$ 148,560	
2038	\$ 369,820	\$ 144,275	
2039	\$ 373,518	\$ 140,113	
2040	\$ 377,253	\$ 136,071	
2041	\$ 381,026	\$ 132,146	
2042	\$ 384,836	\$ 128,334	
2043	\$ 388,684	\$ 124,632	
0	\$ -	\$ -	

Totals = \$ 5,900,976 \$ 1,615,000
(B) **(C)**

year (n)= 1, 2, 3,....
discount rate (i) = 7%

$$\text{Crash Benefits (@ year n)} = (\text{Crash Benefits})_{n-1} \times (1 + \text{Traffic Growth Factor})$$

$$\text{Present Worth Benefits (@ year n)} = (\text{Crash Benefits})_n \times 1/(1 + \text{Discount Rate})^n$$

Attachment 3 – Location Map

A map with the location of the proposed improvements is on the following page.

PROJECT	DESIGNATION
1297060	1297060
CONTRACT	
PENDING	

INDIANA DEPARTMENT OF TRANSPORTATION

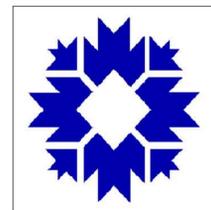


ROAD PLANS

CURVE CORRECTION ON OLD SR 37 AND PROFILE CORRECTION OF NORTH DUNN STREET IN SECTION 21, T-9-N, R-1-W, IN BLOOMINGTON, INDIANA, MONROE COUNTY, BLOOMINGTON TOWNSHIP

LATITUDE: BEGIN 39°12'28" N; MIDDLE 39°12'29" N; END 39°12'31" N
 LONGITUDE: BEGIN 86°31'56" W; MIDDLE 86°31'43" W; END 86°31'32" W
PROJECT NO. 1297060 CN

TRAFFIC DATA	OLD SR 37	DUNN STREET
A.A.D.T. 2012	4,854 V.P.D.	784 V.P.D.
A.A.D.T. 2034	5,121 V.P.D.	827 V.P.D.
D.H.V. 2034	360 V.P.H.	58 V.P.H.
DIRECTIONAL DISTRIBUTION	50/50	50/50
TRUCKS	6.0% (A.A.D.T./D.H.V.)	6.0% (A.A.D.T./D.H.V.)
DESIGN DATA		
DESIGN SPEED	30 M.P.H.	30 M.P.H.
PROJECT DESIGN CRITERIA	3R NON-FREEWAY	3R NON-FREEWAY
FUNCTIONAL CLASSIFICATION	LOCAL RURAL COLLECTOR	LOCAL RURAL COLLECTOR
RURAL/URBAN	RURAL	RURAL
TERRAIN	ROLLING	ROLLING
ACCESS CONTROL	NONE	NONE



COUNTY LOGO NEEDED

CITY OF BLOOMINGTON

MONROE COUNTY

HON. MARK KRUZAN,
MAYOR

X
X

BOARD OF PUBLIC WORKS

X
X

CHARLOTTE ZIETLOW,
PRESIDENT

X
X

JAMES McNAMARA,
VICE PRESIDENT

X
X

DR. FRANK HRISOMALOS,
SECRETARY

COUNTY SIGNATURES/TITLES NEEDED

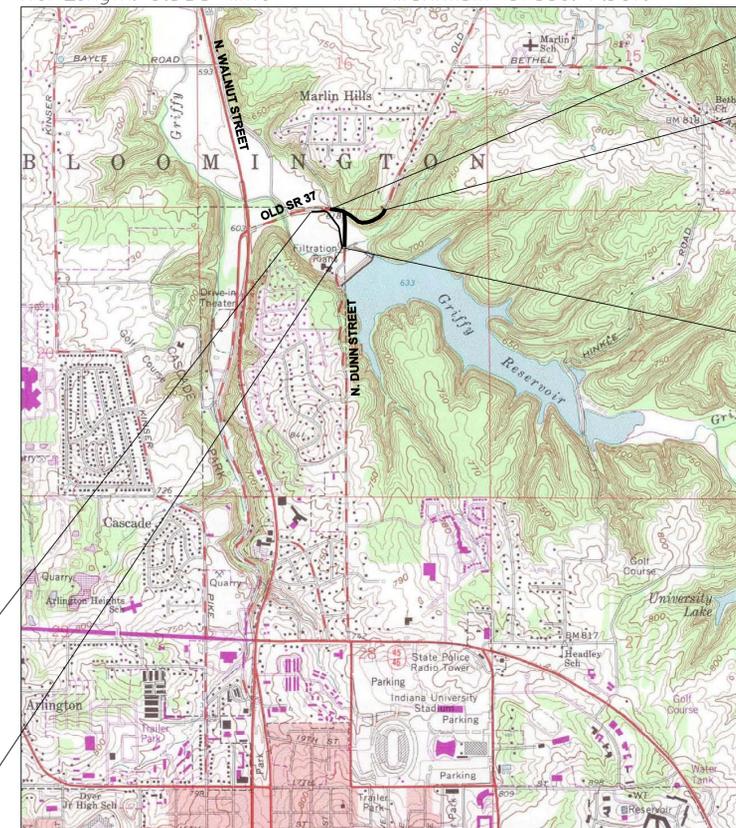
SUSIE JOHNSON,
DIRECTOR OF PUBLIC WORKS

BEGIN TRAIL CONSTRUCTION
STA. 346+65.00 "G"

END TRAIL CONSTRUCTION
STA. 365+56.00 "G"

Gross Length: 0.353 Mile
Net Length: 0.353 Mile

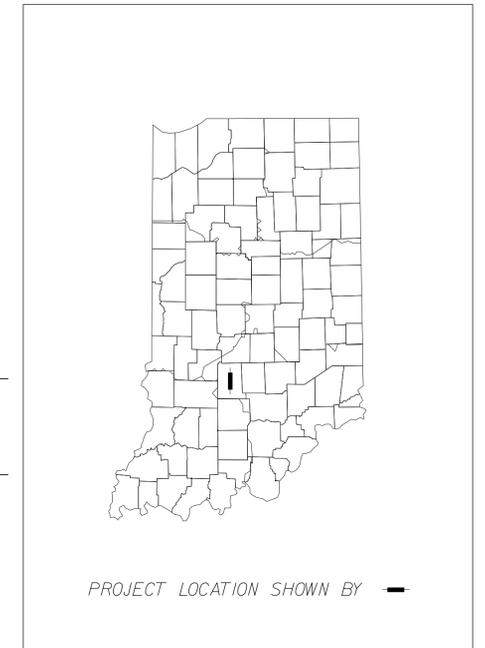
Maximum Grade: 7.90%



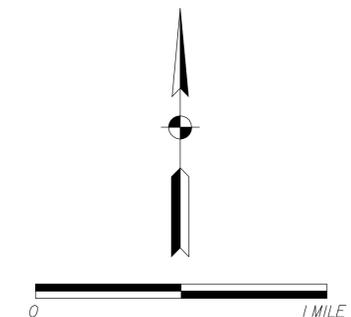
BEGIN PROJECT
STA. 14+90.00 "A"

END PROJECT
STA. 28+71.65 "A"

END CONSTRUCTION
STA. 14+80.00 "D"



PROJECT LOCATION SHOWN BY —



PROJECT LOCATION MAP
CITY OF BLOOMINGTON, MONROE COUNTY

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2012
TO BE USED WITH THESE PLANS

PREPARED BY:



1321 Laurel Oak Drive
Avon, Indiana 46123
(317)370-9672

FOR REVIEW ONLY

PLANS PREPARED BY:		EAGLE RIDGE CIVIL ENGINEERING SERVICES, LLC	(317) 370-9672 PHONE NUMBER
CERTIFIED BY:			DATE
APPROVED FOR LETTING:			DATE

	DESIGNATION	1297060
SURVEY BOOK	SHEETS	1 of 40
CONTRACT	PROJECT	1297060
PENDING		

STAGE 1 PLANS

OLD SR 37 AND NORTH DUNN STREET

UTILITIES

CABLE TELEVISION
COMCAST CABLE COMMUNICATIONS
ATTN: STEVE McARTOR
1600 W. VERNAL PIKE
BLOOMINGTON, IN 47404
(812) 330-3090
steve_mcartor@cable.comcast.com

FIBER-OPTIC TELECOM
KDL/WINDSTREAM COMMUNICATIONS
ATTN: RICK CUNICO
RR2, BOX 93A
DAHLGREN, IL 62828
(618) 648-2420
(618) 760-6602 CELL
richard.cunico@windstream.com

SEWER AND WATER
CITY OF BLOOMINGTON UTILITIES
ATTN: JANE PLEIG
600 EAST MILLER DRIVE
BLOOMINGTON, IN 47401
(812) 349-3631
benjtsomb@bloomingtonjtn.gov

GAS
VECTREN ENERGY
ATTN: DOUG ANDERSON
205 SOUTH MADISON
BLOOMINGTON, IN 47404
(812) 330-4009
danderson@vectren.com

LOCAL: TOM HATHAWAY
(812) 605-0977
rodneymhathaway@windstream.com

LEVEL 3 COMMUNICATIONS
ATTN: MARK CONDER
1902 S. EAST STREET
INDIANAPOLIS, IN 46225
(317) 908-9109

FOR SERVICE RELOCATIONS
(48 HOUR NOTICE NEEDED)
ATTN: GREG THACKER
(812) 330-4001

ZAYO (FIBER OPTICS)
ATTN: JIM KELLAM
701 W. HENRY STREET, SUITE 201
INDIANAPOLIS, IN 46225
(317) 758-5625
jkellam@zayo.com

TELEPHONE
AT & T
ATTN: BRENT McCABE
4517 INDIANA BELL COURT
BLOOMINGTON, IN 47408
(812) 334-4521
bml792@aatt.com

ELECTRIC - DISTRIBUTION
DUKE ENERGY
ATTN: KERRY DUCKER
1100 WEST SECOND ST.
P.O. BOX 2448
BLOOMINGTON, IN 47403
(812) 337-3035
kerry.ducker@duke-energy.com

TELEPHONE
SMITHVILLE TELEPHONE COMPANY
ATTN: JACK HILLENBERG
1600 W. TEMPERANCE STREET
ELLETTTSVILLE, IN 47429-0729
(812) 876-9103
jackh@smithville.net

ELECTRIC - TRANSMISSION
DUKE ENERGY
ATTN: TROY BURTON
2727 CENTRAL AVENUE
COLUMBUS, IN 47201
(812) 375-2114
troy.burton@duke-energy.com

GENERAL NOTES

*	ALL EARTH SHOULDERS, MEDIAN AREAS, AND CUT OR FILL SLOPES SHALL BE PLAIN OR MULCH SEEDED EXCEPT WHERE SODDING IS SPECIFIED.
	THE FINAL CROSS SECTIONS OF THE GRADING CONTRACT WILL BE THE ORIGINAL CROSS SECTIONS OF THE PAVING CONTRACT. HOWEVER, PARTIAL OR COMPLETE CROSS SECTIONS SHALL BE TAKEN IF NECESSARY TO DETERMINE THE ACTUAL EXCAVATION QUANTITIES.
	THE PAPER RELOCATION WILL BE CROSS-SECTIONED BY THE ENGINEER BEFORE CONSTRUCTION.
	EXISTING ASPHALT PAVEMENT LOCATED OUTSIDE THE CONSTRUCTION LIMITS BETWEEN STA. AND STA. SHALL BE REMOVED AS DIRECTED.
	THE QUANTITY OF PEAT EXCAVATION SHOWN ON THE PLANS HAS BEEN ESTIMATED ON THE BASIS OF THEORETICAL CROSS SECTIONS BY USING TREATMENT OF EXISTING FILLS, TREATMENT BY REMOVAL OR TREATMENT BY DISPLACEMENT, WHERE EACH TREATMENT APPLIES.
*	ALUMINUM BASE BRACING (1/4" X 1" X LENGTH REQUIRED) WILL BE REQUIRED ON ALL SQUARE POST MOUNTED SIGNS EXCEEDING 60' IN LENGTH.
*	POST LENGTHS ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE POST LENGTHS REQUIRED TO ASSURE THAT THE SIGNS ARE INSTALLED WITH THE MOUNTING HEIGHT BEING IN ACCORDANCE WITH THE MISCELLANEOUS TRAFFIC STANDARD DETAILS SHEETS.
*	UNLESS OTHERWISE NOTED IN THESE PLANS, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL REQUIRED FOR THE COMPLETE INSTALLATION OF THE SIGNS AND SIGN SUPPORTS. SHEET SIGNS AND POSTS ARE NOT TO BE ORDERED UNTIL THE EXACT NUMBER OF SIGNS AND LENGTH OF EACH POST HAS BEEN DETERMINED UPON FIELD INVESTIGATION.
*	ALL SIGNS SHALL BE MARKED FOR IDENTIFICATION. THE MARKING MATERIAL SHALL BE EITHER SCOTCH LITE, SEIBULITE, REFLEXITE OR APPROVED EQUAL. THE IDENTIFYING MESSAGE SHALL CONSIST OF INDOT AND THE MONTH AND YEAR THE SIGN IS INSTALLED. THE MESSAGE COPY SHALL CONSIST OF BLACK OR WHITE LETTERING ON THE WHITE OR BLACK BACKGROUND RESPECTIVELY AND BE OF A MINIMUM OF 1" IN HEIGHT. THE MARKING FOR SHEET SIGNS SHALL BE PLACED IN THE LOWER CORNER CLOSEST TO THE CENTER LINE OF THE ROAD. THE MARKING SHALL NOT BE COVERED BY THE SIGN'S SUPPORT AFTER INSTALLATION OF THE SIGN.
*	STOP SIGN SHALL NOT BE REMOVED UNTIL THE NEW ONE IS AT THE JOB SITE AND READY TO BE INSTALLED. SIGNS SHALL BE SEEN BY TRAVEL MOTORISTS AT ALL TIMES.
	ALL DESIGN SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (LATEST EDITION).

* NOTE APPLIES TO THIS CONTRACT

INDEX - STAGE I

SHEET NO.	DRAWINGS INDEX
1	TITLE SHEET
2	GENERAL NOTES / UTILITIES / INDEX / LEGEND
3	TYPICAL CROSS SECTIONS AND DETAILS
4	PLAT NO. 1
	MAINTENANCE OF TRAFFIC
5 - 12	PLAN AND PROFILES (LINES "A", "D", "G")
13	SUPERELEVATION-TRANSITION DIAGRAM
	EROSION CONTROL PLANS
	RETAINING WALL DETAILS
	PREFABRICATED BRIDGE DETAILS
	SIGN AND PAVEMENT MARKING PLANS
	SIGN SUMMARY
	LANDSCAPING/PLANTING PLANS
	MISCELLANEOUS SUMMARY OF QUANTITIES
	PAVEMENT QUANTITIES AND APPROACH TABLE
	UNDERDRAIN TABLE
	GUARDRAIL SUMMARY TABLE
	STRUCTURE DATA AND PIPE MATERIAL TABLES
14 - 40	CROSS SECTIONS (LINES "A", "D", "G")

REVISIONS

SHEET NO.	DATE	REVISED

GENERAL LEGEND (EXISTING SCREENED, PROPOSED IN BOLD)

	UTILITY HAND HOLE		ELECTRIC METER
	LIGHT POLE		CLEAN OUT
	WATER VALVE		MANHOLE (STORM, SANITARY OR COMBINED)
	GAS VALVE		STORM / SANITARY SEWER
	INLETS		UNDERGROUND ELECTRIC
	HYDRANT		TELEPHONE LINE
	TRAFFIC MANHOLE		OVERHEAD UTILITY
	TREES		WATER LINE
	FLAG POLE		GAS LINE
	SIGN (1 OR 2 POST)		PROPERTY LINE
	STUMP		EXISTING RIGHT-OF-WAY LINE
	POWER POLE		PROPOSED RIGHT-OF-WAY LINE
	GUY WIRE		WIRE FENCE
	GAS METER		SPLIT RAIL FENCE/WOODEN FENCE
	WATER METER		CHAIN LINK FENCE
	MAILBOX		PROPOSED LIGHT POLE
	YARD LIGHT		NEW TREES
	POWER POLE WITH LIGHT AND RISER		POLE REMOVAL OR RELOCATION BY UTILITY
	POWER POLE WITH RISER		EXISTING PAVEMENT TO BE REMOVED
	CONTROLLER		PROPOSED PIPE/MANHOLE
	SIGNAL POLE		PROPOSED STONE WALL
	PEDESTRIAN SIGNAL POLE		

MAINTENANCE OF TRAFFIC AND EROSION CONTROL ITEMS

	INDOT STANDARD DRUM WITH STEADY BURN LIGHTS		TEMPORARY DITCH CHECK, REVETMENT RIPRAP
	FLASHING ARROW SIGN		INLET PROTECTION, CURB
	DETOUR ROUTE MARKER ASSEMBLY (LETTER DENOTES TYPE)		DITCH INLET PROTECTION
	BARRICADE (TYPE III)		TEMPORARY SILT FENCING
	CONSTRUCTION SIGNS (SHAPE PER MUTCD)		CONSTRUCTION FENCING, 48"
	TRAFFIC FLOW DIRECTION		
	ROAD CLOSURE SIGN ASSEMBLY		

PROPOSED ITEMS

	PCCP FOR APPROACHES, 6" ON COMPACTED AGGREGATE #53, 6" THICK (PAID AS SUBGRADE TREATMENT IIIA)		TYPICAL PATH PAVEMENT 15' (165*/SYD) HMA SURFACE, TYPE A, 9.5mm ON 2.5' (275*/SYD) HMA INTERMEDIATE, TYPE A, 19.0mm ON 8" COMPACTED AGGREGATE BASE #53s IN TWO LIFTS
	FULL DEPTH HMA SHOULDER		RESURFACING/OVERLAY SECTION 1.5' (165*/SYD) SURFACE, ON TACK COAT AFTER 1/2" SURFACE MILLING
	FULL DEPTH HMA PAVEMENT 1.5' (165 lb/syd) SURFACE, ON 2.5' (275 lb/syd) INTERMEDIATE, ON		VARIABLE DEPTH WEDGE AND OVERLAY SECTION 1.5' (165*/SYD) SURFACE, ON VARIABLE DEPTH (4" MAX) HMA TYPE B INTERMEDIATE, ON TACK COAT, ON 1/2" SURFACE MILLING
	CONSTRUCTION LIMITS		ROAD PATCHING (CLASS A CONCRETE AS FLOWABLE FILL)
	REMOVE EXISTING TREE		1/2" IN. PREFORMED JOINT FILLER
			CONCRETE CURB AND GUTTER, TYPE C
			GROUND COVER PLANTS, WITH MULCHING MATERIAL ON EROSION CONTROL BLANKETS
			MULCHED SEEDING, R
			CONCRETE CURB RAMP (LETTER DESIGNATES TYPE)

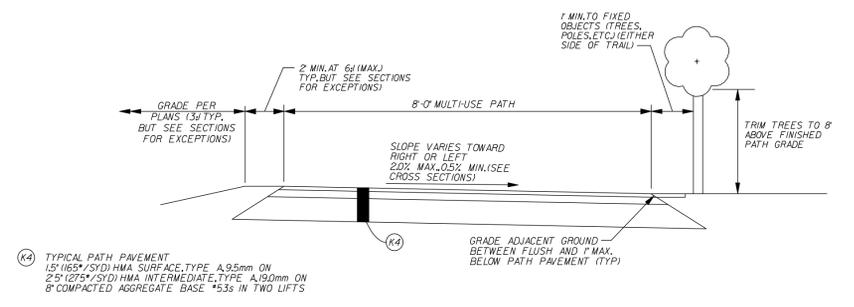
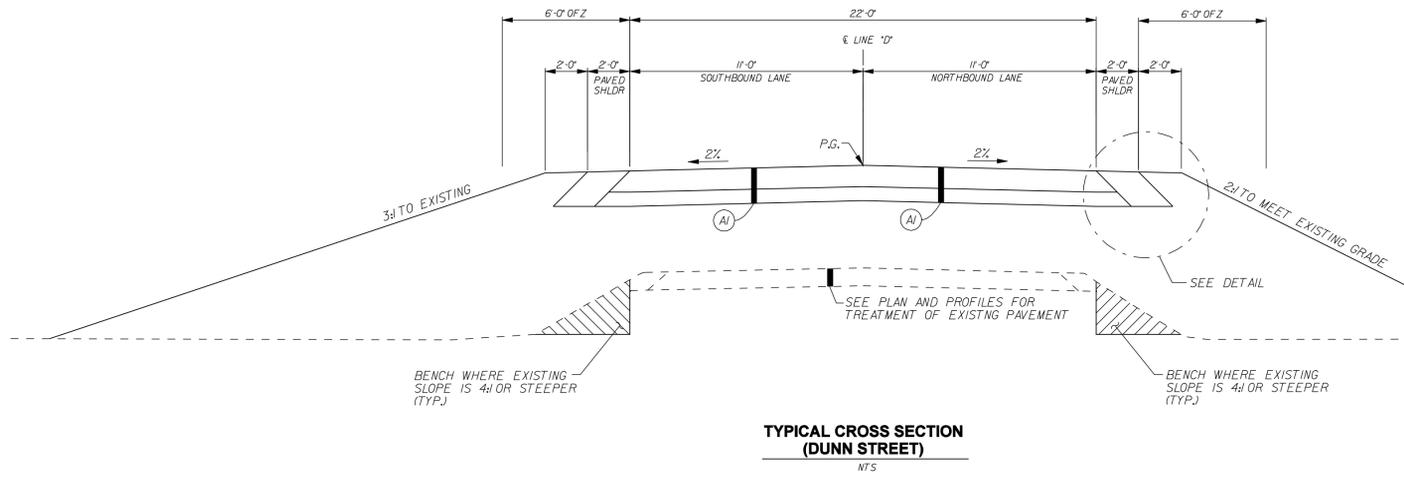
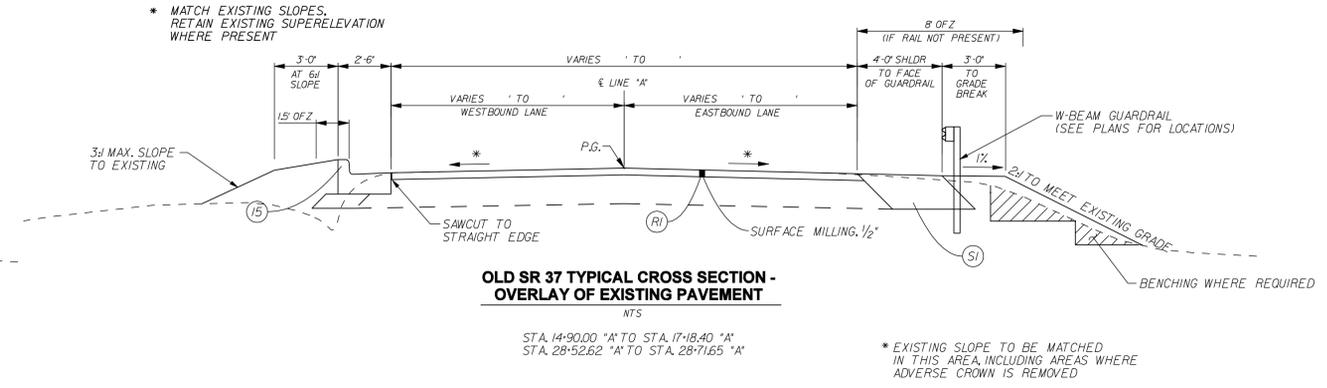
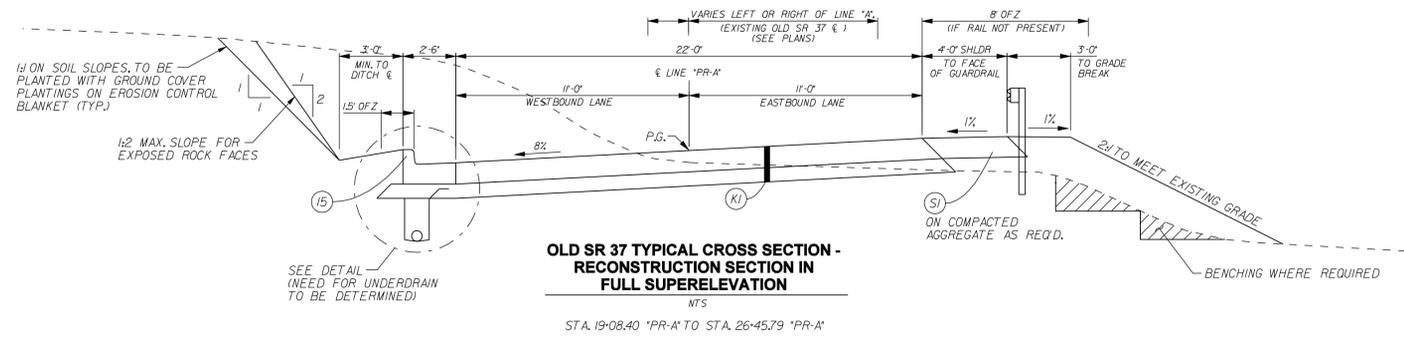
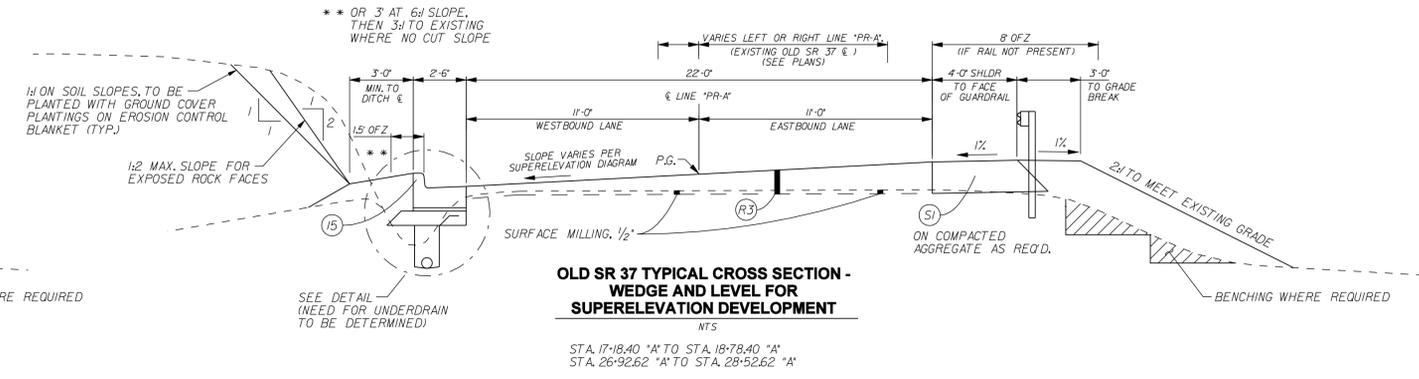
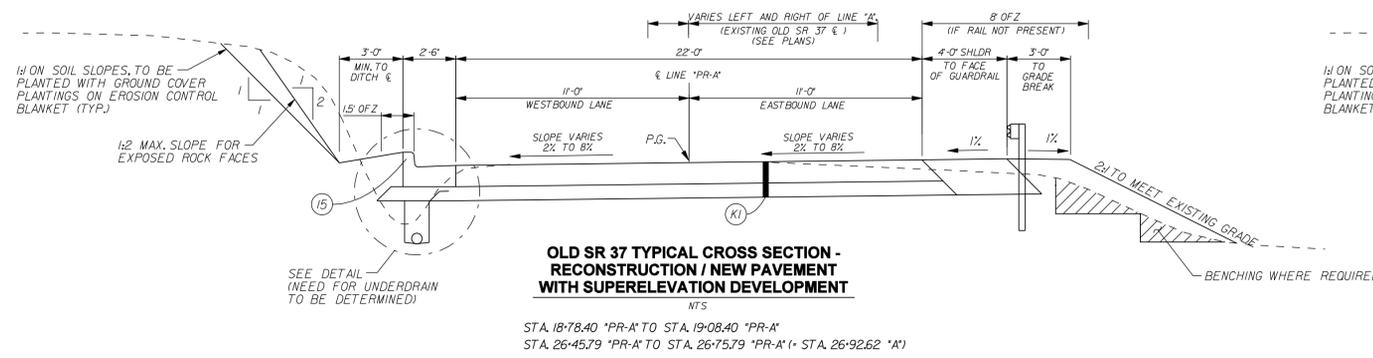
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**CITY OF BLOOMINGTON
OLD S.R. 37 / DUNN STREET**

**INDEX / GENERAL NOTES / LEGEND /
UTILITY DATA**

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SURVEY BOOK	SHEETS
N/A	2 of 40
CONTRACT	PROJECT
PENDING	1297060



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LEGEND

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(R) MILL AND OVERLAY HMA PAVEMENT	
(R3) MILL, WEDGE AND LEVEL AND OVERLAY HMA PAVEMENT	

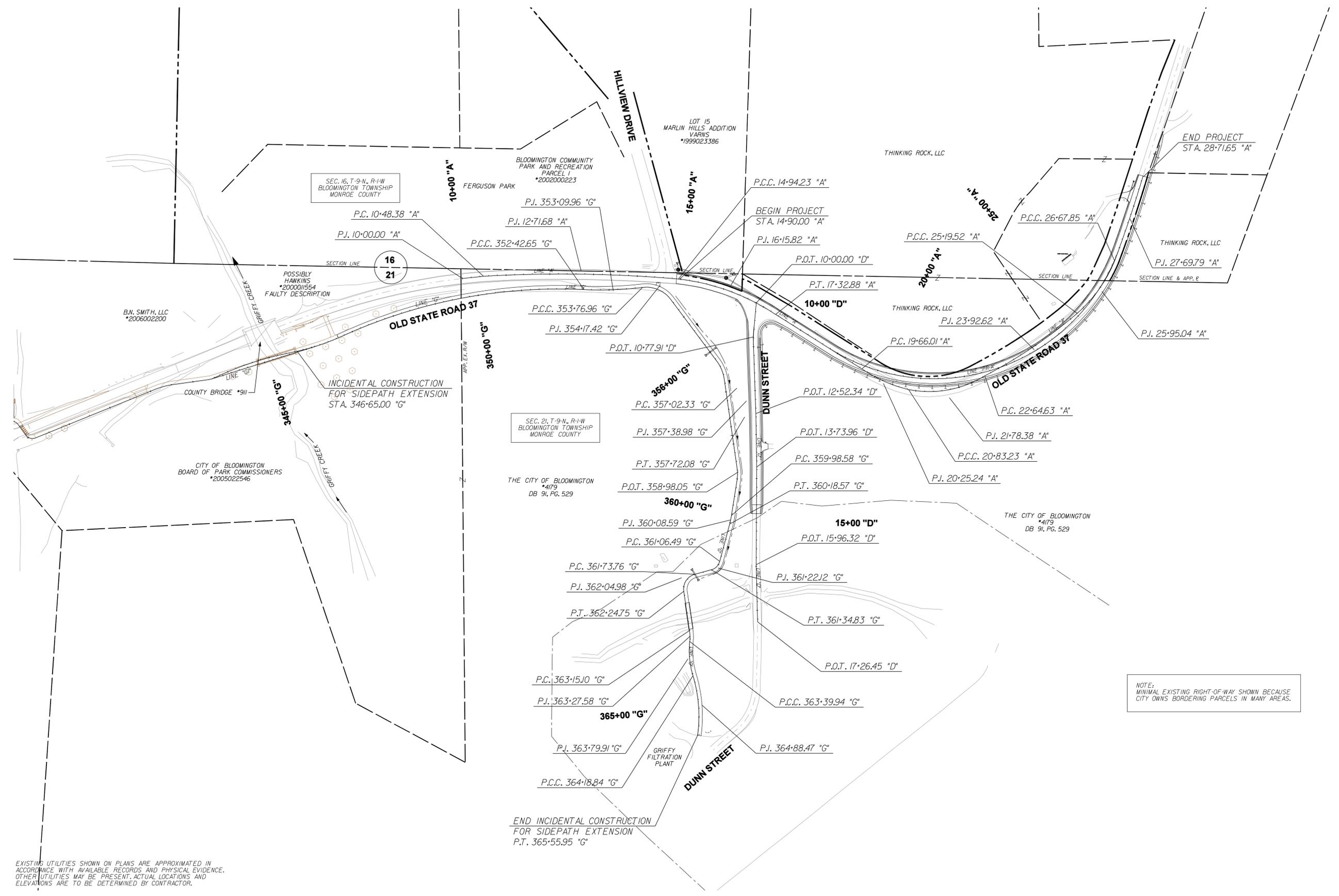
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**CITY OF BLOOMINGTON
 OLD S.R. 37 / DUNN STREET**

TYPICAL CROSS SECTIONS AND DETAILS

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SURVEY BOOK	SHEETS
N/A	3 of 40
CONTRACT	PROJECT
PENDING	1297060



NOTE:
MINIMAL EXISTING RIGHT-OF-WAY SHOWN BECAUSE
CITY OWNS BORDERING PARCELS IN MANY AREAS.

EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN
ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE.
OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND
ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

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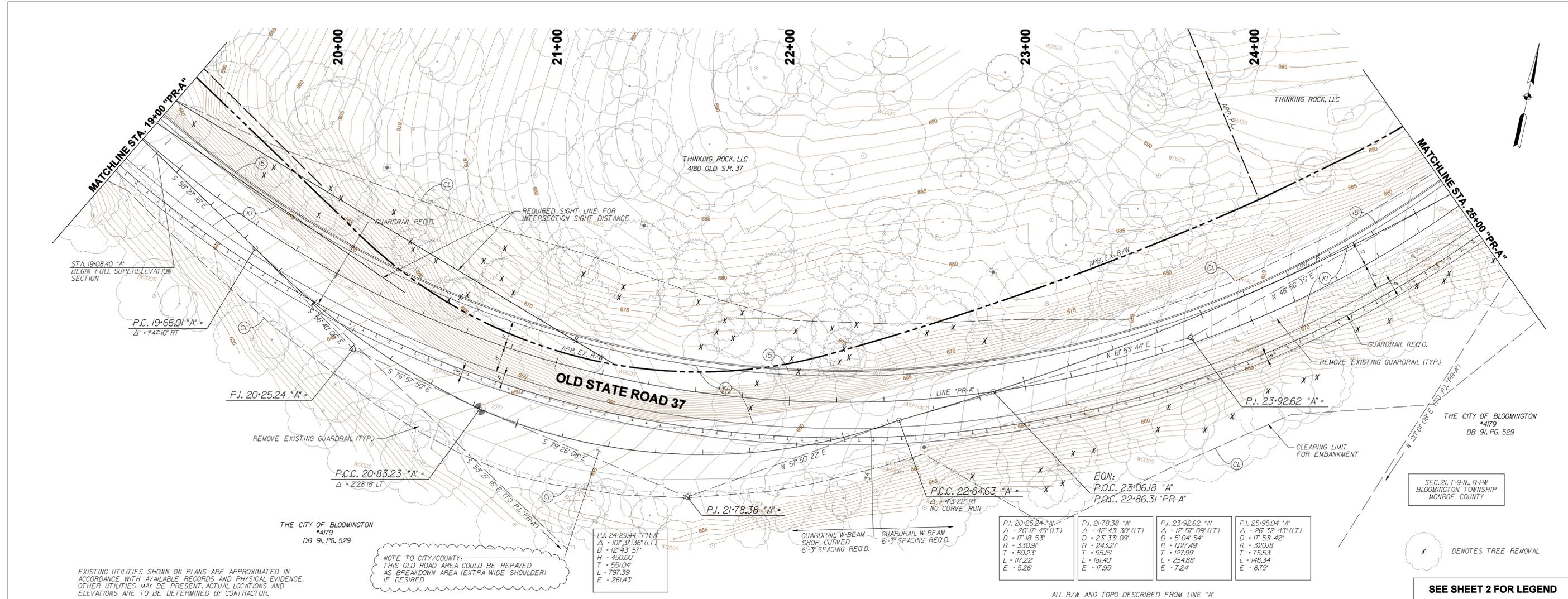
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OLD S.R. 37 / DUNN STREET**

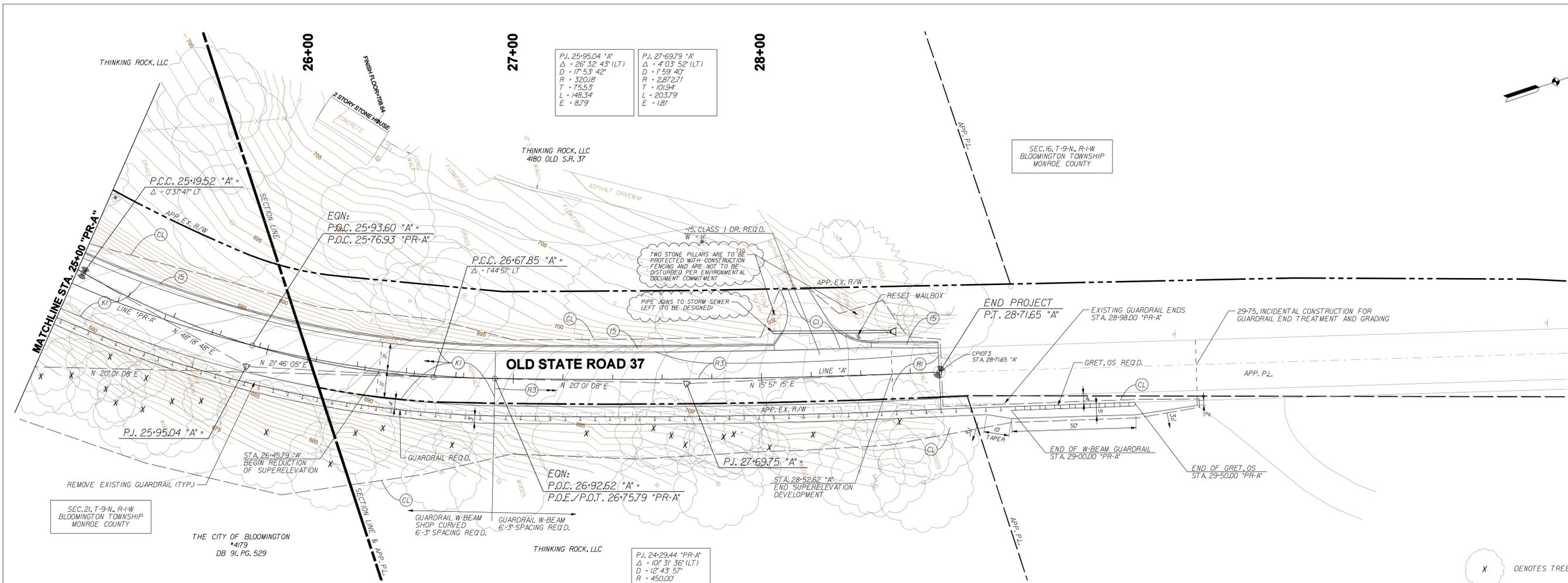
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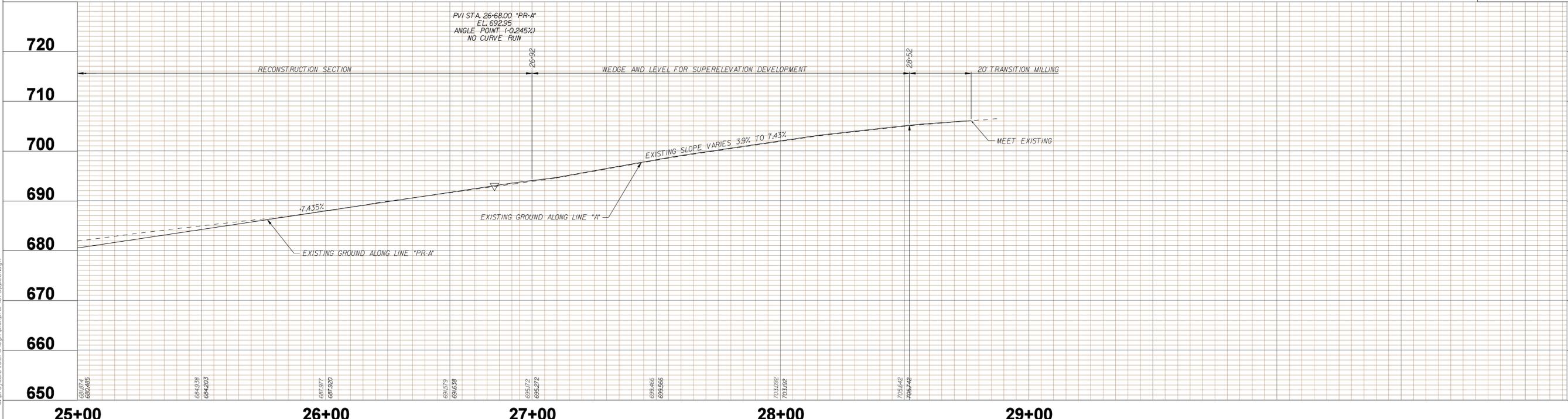


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CITY OF BLOOMINGTON
 OLD S.R. 37 / DUNN STREET

PLAN AND PROFILE
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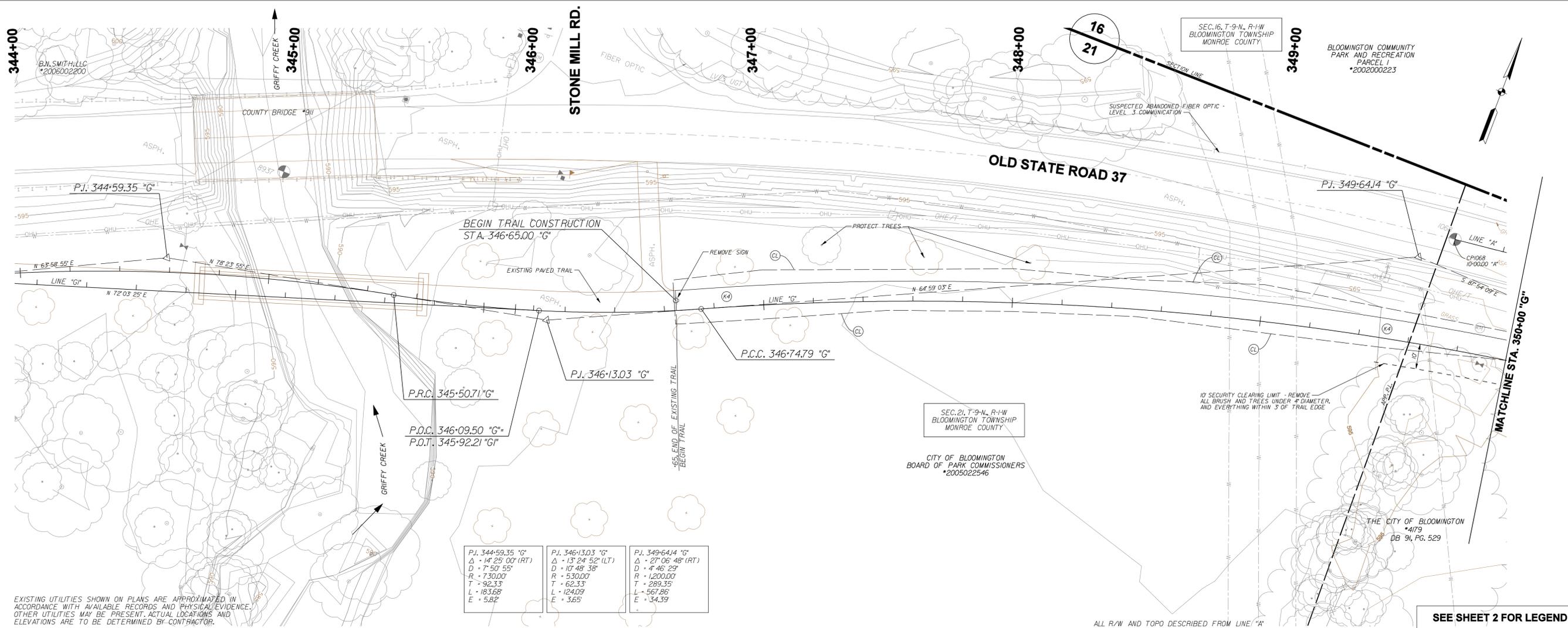
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CONTRACT PENDING	PROJECT 1297060

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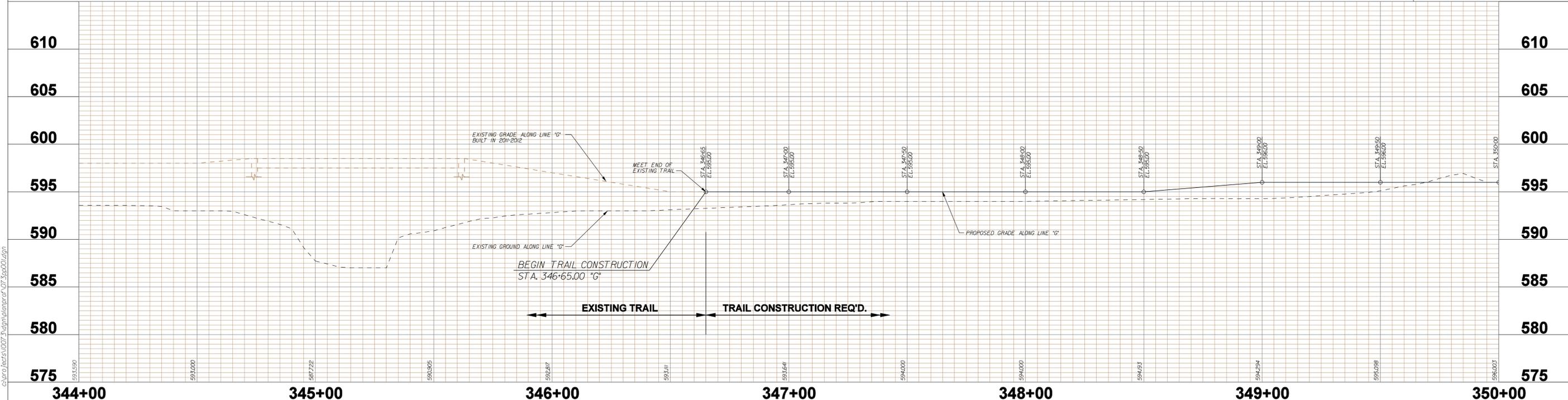
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EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

P.I. 344+59.35 "G" $\Delta = 14' 25" 00" (RT)$ $D = 7' 50" 55"$ $R = 730.00'$ $T = 92.53'$ $L = 183.68'$ $E = 5.82'$	P.I. 346+13.03 "G" $\Delta = 13' 24' 52" (LT)$ $D = 10' 48' 38"$ $R = 530.00'$ $T = 62.33'$ $L = 124.09'$ $E = 3.65'$	P.I. 349+64.14 "G" $\Delta = 27' 06' 48" (RT)$ $D = 4' 46' 29"$ $R = 1200.00'$ $T = 289.35'$ $L = 567.86'$ $E = 34.39'$
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 May Nail Set on W
 3106 E. Woodbury
 27 AC.
 Old SR 37
 RR Set on SE
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 18 AC.
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 N 142°46'36" E 308240/769
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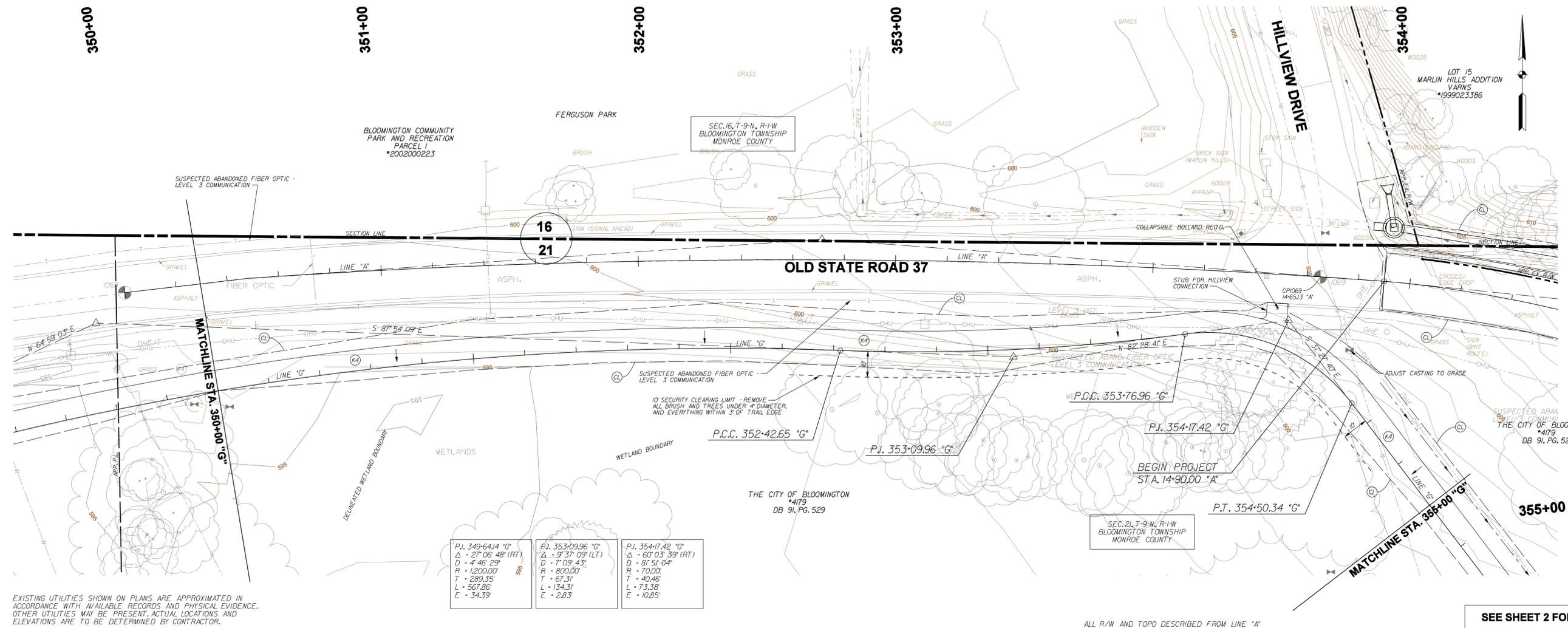
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CITY OF BLOOMINGTON
OLD S.R. 37 / DUNN STREET

PLAN AND PROFILE
TRAIL - LINE "G"

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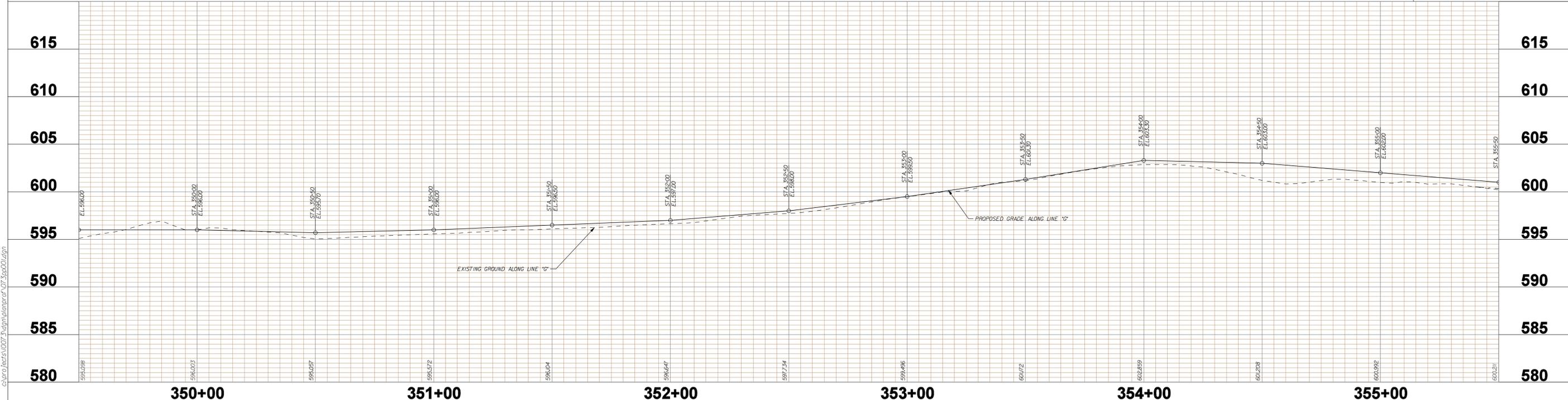


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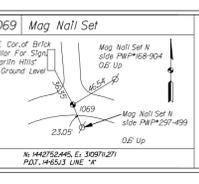
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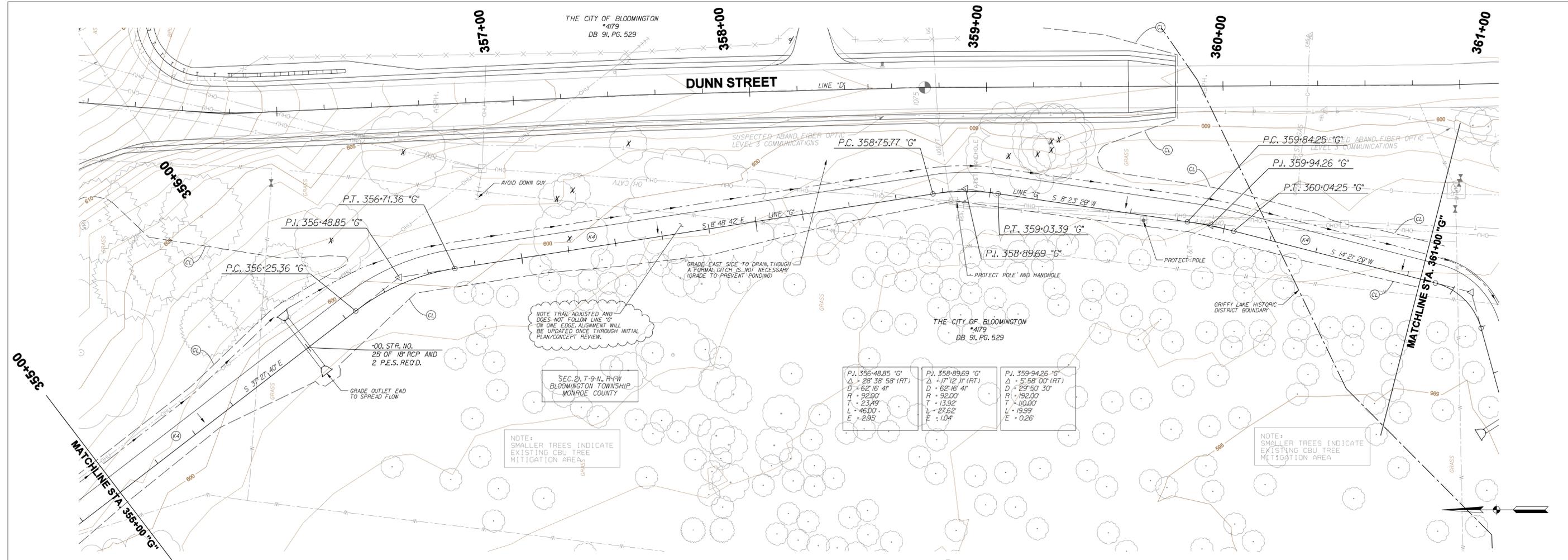


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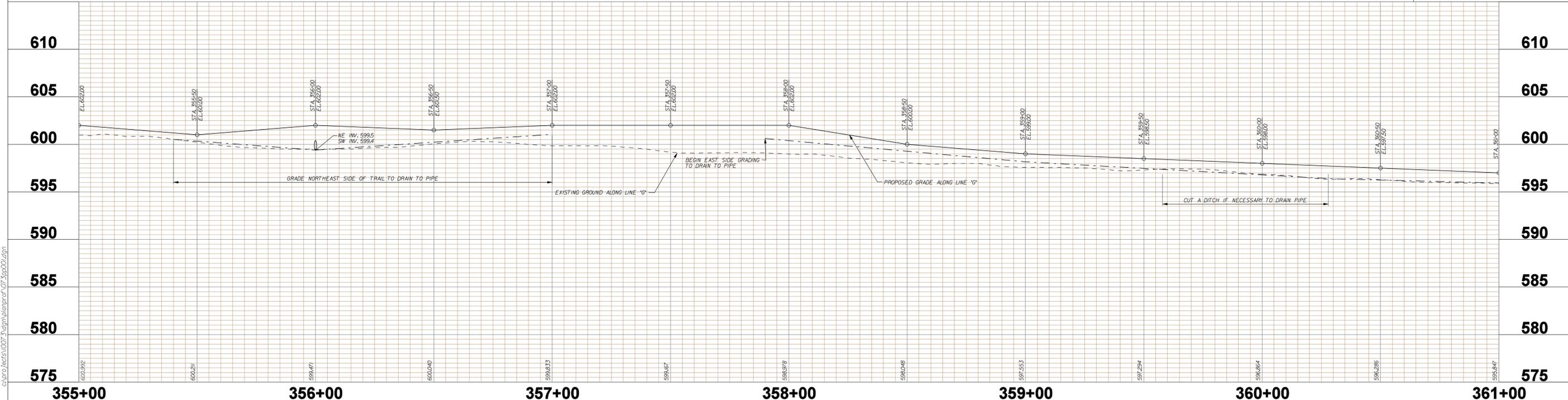
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CITY OF BLOOMINGTON
OLD S.R. 37 / DUNN STREET
PLAN AND PROFILE
TRAIL - LINE "G"

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CONTRACT PENDING	PROJECT 1297060



EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.



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CITY OF BLOOMINGTON
OLD S.R. 37 / DUNN STREET

PLAN AND PROFILE
TRAIL - LINE "G"

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SURVEY BOOK	DESIGNATION
CONTRACT	1297060
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Attachment 4 – Plan for Pre/Post Treatment Comparison

The City of Bloomington, through its Planning Department, already keeps and publishes a detailed record of accidents and critical locations. Data from this process which had been collected between 2007 and 2011 is the basis for the analysis of this project.

It is intended that pre-construction and post-construction data would be compared to ensure there has been a decrease in accidents, especially the primary accident type noted in this area, that of Roadway Departures.

The City already has a procedure in place for collecting and reviewing annual accident data, and is committed to meeting its obligations to evaluate and report on the project in the future.

Attachment 5 – Preliminary Cost Estimate

The following costs have been estimated for this project:

Preliminary Engineering:	\$ 211,000
Right of Way:	\$ 50,000
Construction:	\$ 1,500,000*
Utility Relocations:	\$ 115,000*
<u>Inspection (at 15% on Const):</u>	<u>\$ 225,000</u>
Total:	\$ 2,101,000

Notes: * Only the Construction and Utility Relocation Costs were used in the Benefit/Cost Ratio

Attachment 6 – Project Timeline

This project has already been adopted into the MPO's TIP under Designation Number 1297060.

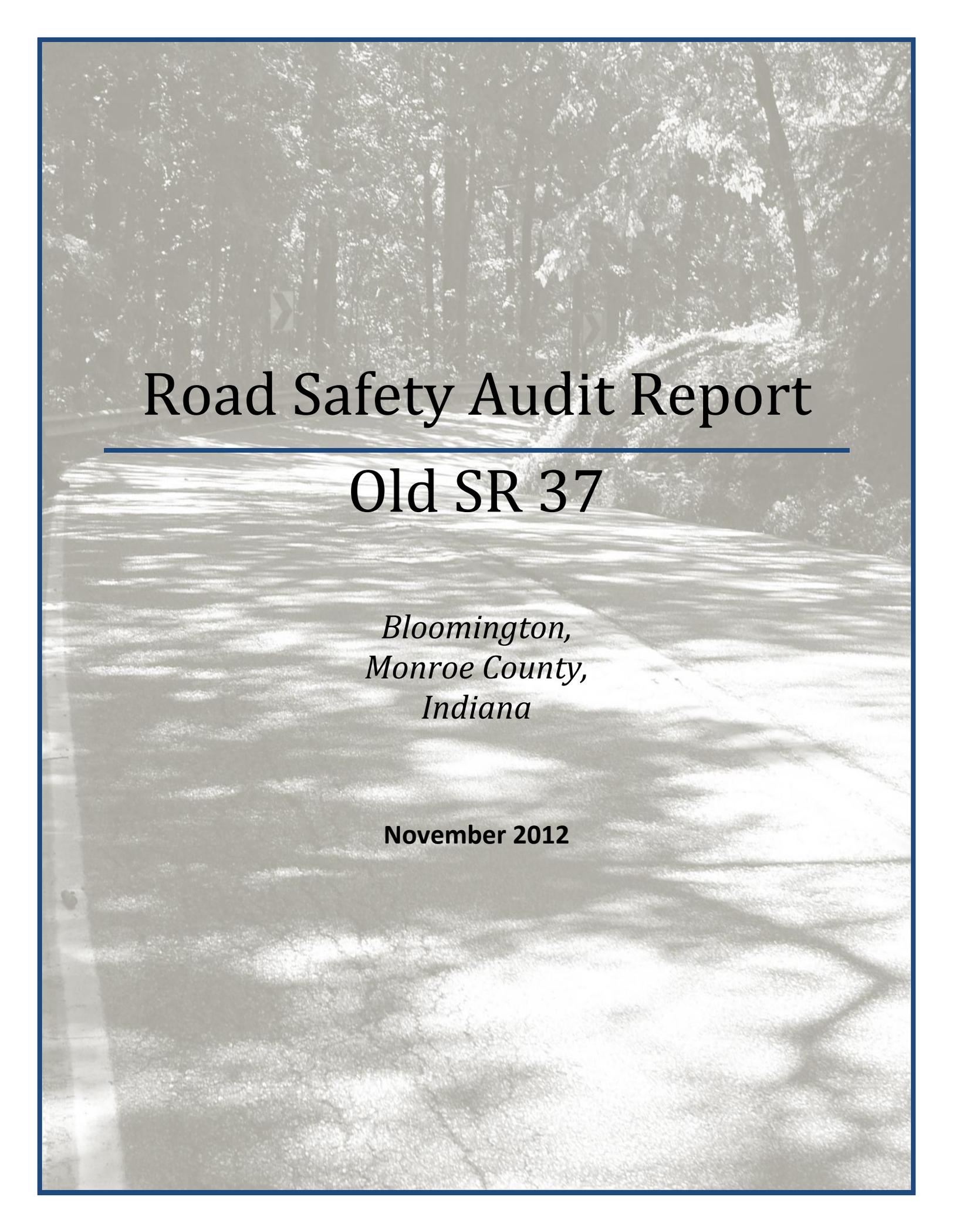
In its current form, the tentative schedule for the project is as follows:

Design Start:	December 2011
Field Check:	January 2014
Environmental Document Approval:	March 2014
Right of Way Acquisition Completed:	September 2014
Design Completed:	November 2014
Letting:	April 2015
Construction:	Summer 2015

Attachment 7a – Road Safety Audit

Per the MPO's HSIP Program Guidelines, the City requested and obtained a Road Safety Audit led by representatives of the Local Transportation Assistance Program.

A full copy of that report is included starting on the following page.



Road Safety Audit Report

Old SR 37

*Bloomington,
Monroe County,
Indiana*

November 2012

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**THIS DOCUMENT IS PROTECTED
UNDER THE PROVISIONS OF TITLE 23 UNITED STATES CODE SECTION 409 AS FOLLOWS:**

Title 23 U.S.C. § 409

Discovery and admission as evidence of certain reports and surveys

Notwithstanding any other provision of law, reports, surveys, schedules, lists or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144 and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such re-ports, surveys, schedules, lists or data.

RSA Background

Location: Old SR 37 just east of Dunn Road

RSA Date: September 24, 2012

RSA Team and Participants:

Matt Brown – A&F Engineering
John Collisson – Monroe County Highway Department
Rick Drumm – Federal Highway Administration
Adrian Reid – City of Bloomington
Brock Ridgway – Eagle Ridge Civil Engineering
Laura Slusher – Indiana Local Technical Assistance Program

Existing Conditions:

Audit Type: Existing Roads
Road Owner: City of Bloomington and Monroe County
Road Type/Classification: 2-lane Minor Arterial
Other Users: Bicyclists
Adjacent Land Use: Residential, Park
Terrain: Rolling
Climatic Conditions - Cold winter (freezing, icing possible); snow in winter

RSA Limits:

This Road Safety Audit investigated Old SR 37 from the Hillview Drive intersection to east of Dunn Road through the curved section (approximately 1100 feet east of Dunn Road). A vicinity map is included in the Appendix. The limits of the RSA analysis extend within the jurisdictions of two local agencies – the City of Bloomington and Monroe County.

Crash History:

Old SR 37 has a history of roadway departure crashes during wet weather in the complex curve located just east of the Dunn Road intersection. Four fatal crashes have occurred on this section of Old SR 37 since 2003; all were roadway departure crashes. A five-year analysis of crashes in the vicinity of Old SR 37 (from Hillview Drive east through the curves) showed a total of 46 crashes occurred from 2007-2011. Of these crashes, 50% were fatal or injury crashes, 91% were roadway departure crashes and 83% were wet weather crashes. 86% of the curve crashes were caused by the westbound driver. A summary of the crash data is included in the Appendix.

There were also two crashes involving bicycles at the intersection of Old SR 37 and Hillview Drive. The section of Old SR 37 from Walnut Drive to Hillview Drive is a bicycle route.

Traffic Characteristics:

Traffic volume and speed data were recorded for the curve from October 8-10, 2012. The Average Daily Traffic is approximately 4760 vehicles per day, with approximately 5.5% heavy vehicles. The 85th percentile speed ranged between 39-42 mph. The speed limit on Old SR 37 is 30 mph with a curve advisory speed of 20 mph for both directions. A summary of the volume and speed data collected for this section of Old SR 27 is included in the Appendix.

RSA Observations

Old SR 37 is a two-lane roadway with a posted speed limit of 30 MPH and an average width of 19.5-21 feet; the westbound lane is slightly narrower than the eastbound lane. There is no lighting in this section of Old SR 37. This roadway section has centerline and edgeline pavement markings; however these pavement markings are worn and may lack sufficient retroreflectivity. The pavement on the roadway is cracking and has edge drop offs throughout the segment. The roadway surface has a polished look and smooth, exposed aggregates. A tree canopy covers most of this section of Old SR 37. Figure 1 shows the cracked pavement, worn pavement markings and tree canopy.

Figure 1: Pavement Condition



This section of Old SR 37 has a series of horizontal and vertical curves, which limit sight distance and present a challenge to drivers to navigate. The grade of vertical curve varies between 4.5-5.5%. The super-elevation of the curves appears to be adequate. There are two horizontal curves connected by a short tangent section. For the purposes of this report, the westernmost curve (closest to Dunn Road) will be referred to as Curve 1; the easternmost curve (furthest from Dunn road) will be referred to as Curve 2. Figure 2 shows the locations of Curves 1 and 2.

Figure 2: Curve Identification



Curve 1 has a smaller radius than curve 2, which may present problems for westbound drivers since they encounter the larger radius curve first. This problem is exacerbated by the downhill grade also experienced by westbound drivers. Traffic speed data shows that drivers are travelling about 10 mph over the speed limit of 30 mph and they are maintaining that speed through curve 2. The tighter radius of curve 1 is unexpected and the downhill grade increases braking distance.

Drivers are warned of the curves through one curve warning sign with an advisory speed. Advisory speeds for both directions of travel are 20mph. Ball bank testing indicated these speeds were appropriate. Chevrons are installed throughout the curve for both directions of travel. Most of the signs on Old SR 37 were installed in 2002, with some being replaced more recently. Other signs on this section include a speed limit sign and Slippery When Wet sign before curve 2 for westbound drivers. At the time of the RSA, all the signs for westbound drivers were obstructed by overgrown vegetation. Figure 3 shows the sequence of signs for westbound drivers and how they are obstructed.

Figure 3: Three westbound signs covered by vegetation



There is no usable shoulder throughout this section of Old 37 due to the topography. Figure 4 shows the cross-section and lack of shoulder in the curve. On the north side of this section of Old SR 37, there is a partially-paved drainage ditch and a vertical rock face or steep upward slope. On the south side of this roadway section is continuous guardrail shielding vehicles from a steep downward slope.

Figure 4: Looking west through curve



The guardrail no longer reaches the correct minimum height and is considerably damaged from multiple hits throughout the entire section; only one or two sections exist without damage. There is significant crash evidence scattered along the guardrail throughout this entire section of Old SR 37. Figure 5 shows a piece of a vehicle stuck in the damaged guardrail. Much vehicle debris was found stuck along the entire length of the guardrail and also in its vicinity.

Figure 5: Damaged Guardrail



Dunn Street meets Old SR 37 at a steep grade, which varies from 8-14%. Drivers on Dunn Street have limited sight distance due to the presence of the curves to the east. Both of these issues present challenges to the drivers on Dunn Street. Figure 6 shows the view from the Dunn Street intersection looking east to the curve 1.

Figure 6: At Dunn Street looking east on Old SR 37



Due to the pavement condition of the curves and the history of roadway departure crashes in wet weather, arrangements were made to test the current pavement friction in the curves. The INDOT Research Division performed these tests in October 2012 using a skid test trailer. All tests were conducted in accordance with ASTM E274 and E524. Results of these tests showed potentially slippery locations within the curves. The westbound curve 2 location had the lowest friction value, measuring from 16.9-21.3 (mean=19.2). Friction values less than 20 typically indicate the potential for slippery pavement. The INDOT Friction Test Report is included in the Appendix.

In summary, seven main issues were noted on the RSA field review:

1. Challenging roadway geometry
2. Westbound driver expectation
3. Narrow roadway width
4. Lack of shoulder
5. Guardrail issues
6. Pavement condition
7. Vehicle speed

There is no recovery room for errant vehicles on either side of this curve. That combined with the grade, limited sight distance, narrow roadway, poor pavement condition and driver expectation is a potentially hazardous combination. All these issues challenge westbound drivers and hinder their reaction time and ability. This is evident in the significantly higher number of roadway departure crashes experienced by the westbound drivers and by the severely damaged guardrail throughout this section of Old SR 37.

RSA Recommendations

The RSA team came up with the following recommendations for the City of Bloomington and Monroe County (City/County) to consider implementing to improve the safety of drivers on Old SR 37 east of Dunn Road.

Low Cost/Short-Term Implementation

Street Sweeping

The increase in crashes during October may indicate a problem with leaves on the roadway, given the tree canopy that covers the roadway. The City or County should investigate if this is an issue and, if warranted, consider using a street sweeper to clear the leaves from the roadway.

Signing

In order to address the driver expectation issue, the City/County should consider the installation of a new curve warning sign (W1-1 or W1-1a) with an advisory speed of 20mph to draw attention to the tighter second curve (curve 1) for the westbound drivers. This sign should be placed in the tangent section between the two curves. Placing the sign overhead would be more visible to the drivers and draw more attention to the sign. Adding flashers to the sign would also grab the drivers' attention, if it is feasible to run power out there. If power is run out there, the addition of speed feedback signs adjacent to the warning sign could also be considered.

The City/County should check to see if an advisory speed is needed for curve 2 westbound and remove the advisory speed plaque prior to curve 2 westbound if not warranted.

With the addition of a new sign, the City/County should check to see if there is too much sign clutter for westbound drivers and remove or relocate signs that do not need to be placed in the vicinity of the curves. All signs that will remain should be upgraded to meet current MUTCD standards and overgrown vegetation should be cleared.

Guardrail

The current guardrail on Old SR 37 may not be sufficient to shield vehicles from the trees and critical slope on the south side of the roadway. Therefore, the City/County should consider the installation of new guardrail with proper end treatments on the south side of Old SR 37.

High Friction Surface Treatment

To address the wet pavement Run-Off Road crashes, the City/County should consider resurfacing curves 1 and 2 with a High Friction Surface Treatment. This will provide more traction in wet weather for drivers who do not slow down for the curves and increase the likelihood of keeping those vehicles on the roadway.

Pavement markings

The City/County should consider updating the pavement markings to meet current MUTCD retroreflectivity standards. This can be done as part of a resurfacing project.

Speed Enforcement

To address the vehicles speeding, the City/County could ask local law enforcement to increase patrols and tickets issued in the area.

Higher Cost / Long-Term Implementation

In addition to the low cost countermeasures mentioned above, the City/County may want to explore the feasibility of infrastructure improvements on Old SR 37 to address the issues created by the topography of the area and the curves of differing radii.

A new design of this section of Old SR 37 should address the following issues: differing curve radii, narrow lanes, lack of shoulder, limited sight distance, lack of recovery room. Accommodations for bicyclists should also be included since improvements made on Old SR 37 will likely attract bicyclists from the nearby bike route.

The intersection of Old SR 37 and Dunn Street should also be improved as part of any infrastructure improvement project. Raising the Dunn Street approach would assist drivers in accelerating more quickly onto Old SR 37 since they would be starting from a level position and not on a steep grade. Improving the sight distance at this intersection should also be investigated as part of an infrastructure improvement project.

Appendix

Vicinity Map

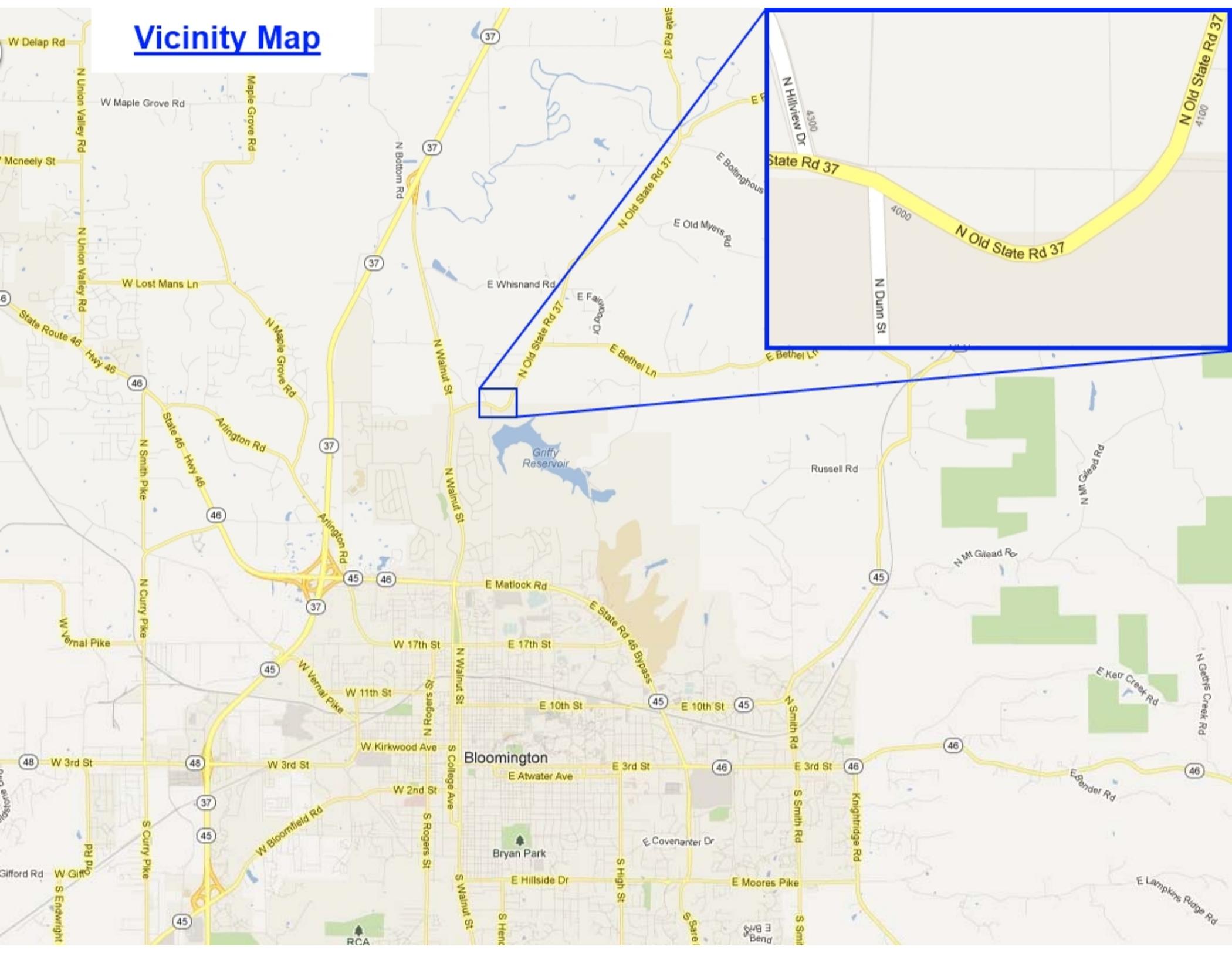
Crash Summary

Volume and Speed Data

INDOT Friction Test Report

Additional Pictures

Vicinity Map



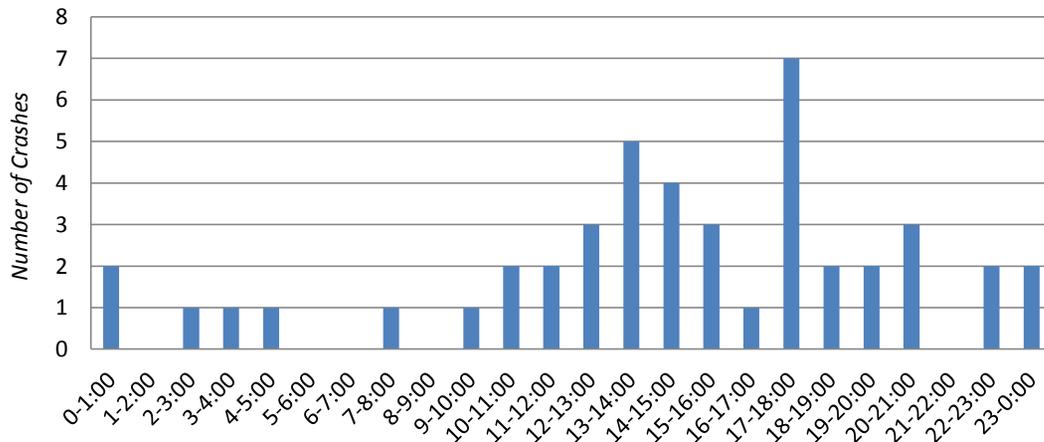
Crash Summary

86% of the curve crashes are the fault of the WESTBOUND driver.

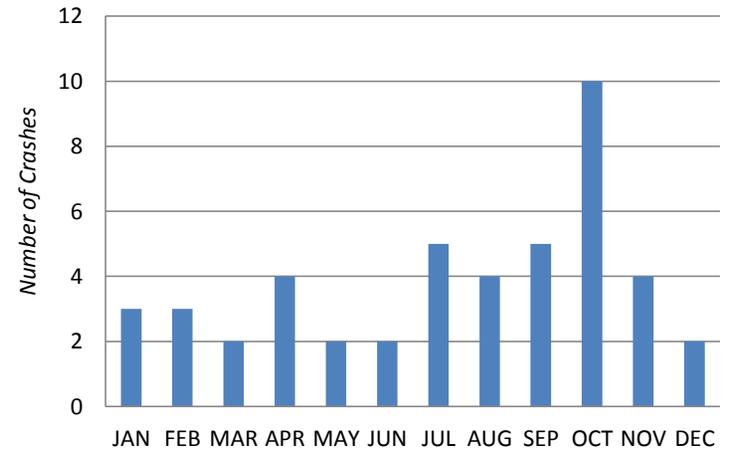
	Total		2007	2008	2009	2010	2011
	Crashes	% of total					
Total Crashes	46		8	12	11	9	6
Fatal Crashes	2	4%	0	1	0	0	1
Injury Crashes	21	46%	3	6	6	3	3
Roadway Departure Crashes	42	91%	7	11	9	9	6
Rear-End Crashes	2	4%	1	1	0	0	0
Bicycle Crashes	2	4%	0	0	2	0	0
Wet Roadway Crashes	38	83%	8	8	8	9	5
Dark Roadway Crashes	19	41%	3	5	4	4	3
Horizontal Curve Crashes	44	96%	8	12	10	9	6

Two additional fatal crashes occurred on 5/1/2004 and 5/13/2004.

Crashes by Time of Day



Crashes by Time of Year



Volume and Speed Data

Old SR 37 Location	Volume (veh/day)			85th % Speed (mph)		Avg Speed (mph)		Vehicles over 35mph (%)	
	<i>Avg. EB</i>	<i>Avg. WB</i>	<i>Avg. Total</i>	<i>Eastbound</i>	<i>Westbound</i>	<i>Eastbound</i>	<i>Westbound</i>	<i>Eastbound</i>	<i>Westbound</i>
Bottom of hill	2350	2412	4762	39	39	34	34	47.5%	47.8%
Middle of hill	2341	2403	4744	38	39	34	35	40.8%	53%
Top of hill	2347	2403	4750	40	42	36	36	57.5%	63.0%

INDOT Friction Test Report

Test Season: October, 2012

Friction Program Engineer: Shuo Li

System Analyst: Karen Zhu

Operator(s): Patrick Weaver

Project No.	Road	Test Section			Pvmt. Type	Lane Tested	Test Tire	Test Date	No. of Tests	Test Speed (mph)	FN (@40)	
		Direction	Site #	From							Mean	Stdev.
#157	SR-37 (Old)	North	1	Tangent before curve	HMA	Driving	Smooth	10/30/12	5	30.4	26.8	1.4
			2	Curve	HMA	Driving	Smooth	10/30/12	10	30.0	23.9	3.4
			3	Tangent after curve	HMA	Driving	Smooth	10/30/12	6	30.5	26.3	2.3
		South	4	Tangent before curve	HMA	Driving	Smooth	10/30/12	4	30.4	26.4	0.3
			5	Curve	HMA	Driving	Smooth	10/30/12	9	30.3	19.2	1.6
			6	Tangent after curve	HMA	Driving	Smooth	10/30/12	5	30.4	20.3	1.7

Project #	Road	Direction	Site #	Lane	Mile	System	Date	Tire	Speed	FN@40
#157	SR-37	North	1	Driving	0.12	549-6	10/30/12	Smooth	30.08	25.0
#157	SR-37	North	1	Driving	0.05	549-6	10/30/12	Smooth	30.91	25.8
#157	SR-37	North	1	Driving	0.11	549-6	10/30/12	Smooth	30.05	27.0
#157	SR-37	North	1	Driving	0.06	549-6	10/30/12	Smooth	30.50	27.8
#157	SR-37	North	1	Driving	0.11	549-6	10/30/12	Smooth	30.27	28.4
#157	SR-37	North	2	Driving	0.25	549-6	10/30/12	Smooth	30.18	20.4
#157	SR-37	North	2	Driving	0.39	549-6	10/30/12	Smooth	30.18	27.9
#157	SR-37	North	2	Driving	0.25	549-6	10/30/12	Smooth	30.11	21.4
#157	SR-37	North	2	Driving	0.29	549-6	10/30/12	Smooth	29.54	20.2
#157	SR-37	North	2	Driving	0.32	549-6	10/30/12	Smooth	30.69	27.7
#157	SR-37	North	2	Driving	0.35	549-6	10/30/12	Smooth	30.30	22.9
#157	SR-37	North	2	Driving	0.28	549-6	10/30/12	Smooth	29.09	20.4
#157	SR-37	North	2	Driving	0.32	549-6	10/30/12	Smooth	30.66	28.7
#157	SR-37	North	2	Driving	0.35	549-6	10/30/12	Smooth	30.05	23.3
#157	SR-37	North	2	Driving	0.37	549-6	10/30/12	Smooth	29.32	26.6
#157	SR-37	North	3	Driving	0.45	549-6	10/30/12	Smooth	30.88	27.7
#157	SR-37	North	3	Driving	0.51	549-6	10/30/12	Smooth	30.78	26.6
#157	SR-37	North	3	Driving	0.40	549-6	10/30/12	Smooth	29.92	28.1
#157	SR-37	North	3	Driving	0.45	549-6	10/30/12	Smooth	30.98	22.7
#157	SR-37	North	3	Driving	0.46	549-6	10/30/12	Smooth	30.66	24.4
#157	SR-37	North	3	Driving	0.51	549-6	10/30/12	Smooth	29.60	28.5
#157	SR-37	South	4	Driving	0.10	549-6	10/30/12	Smooth	29.99	26.2
#157	SR-37	South	4	Driving	0.06	549-6	10/30/12	Smooth	30.21	26.9
#157	SR-37	South	4	Driving	0.06	549-6	10/30/12	Smooth	30.50	26.3
#157	SR-37	South	4	Driving	0.11	549-6	10/30/12	Smooth	30.78	26.3
#157	SR-37	South	5	Driving	0.35	549-6	10/30/12	Smooth	30.72	19.9
#157	SR-37	South	5	Driving	0.42	549-6	10/30/12	Smooth	29.89	17.3
#157	SR-37	South	5	Driving	0.44	549-6	10/30/12	Smooth	30.37	18.7
#157	SR-37	South	5	Driving	0.36	549-6	10/30/12	Smooth	30.85	21.3
#157	SR-37	South	5	Driving	0.39	549-6	10/30/12	Smooth	29.19	18.1
#157	SR-37	South	5	Driving	0.43	549-6	10/30/12	Smooth	30.34	16.9
#157	SR-37	South	5	Driving	0.37	549-6	10/30/12	Smooth	30.94	19.7
#157	SR-37	South	5	Driving	0.42	549-6	10/30/12	Smooth	29.95	21.0
#157	SR-37	South	5	Driving	0.44	549-6	10/30/12	Smooth	30.78	20.3
#157	SR-37	South	6	Driving	0.52	549-6	10/30/12	Smooth	30.24	18.8
#157	SR-37	South	6	Driving	0.58	549-6	10/30/12	Smooth	29.86	21.4
#157	SR-37	South	6	Driving	0.51	549-6	10/30/12	Smooth	30.91	18.0
#157	SR-37	South	6	Driving	0.58	549-6	10/30/12	Smooth	30.37	21.3
#157	SR-37	South	6	Driving	0.60	549-6	10/30/12	Smooth	30.72	21.8

Additional Pictures

Looking east through curve 2



Drainage ditch on north side of Old SR 37



Edge of pavement



Buried guardrail end



Attachment 7b – Response to RSA Recommendations

There is general agreement with the findings of the RSA, and the City has already committed to making many of the improvements noted therein.

The City's responses to the recommendations of the RSA are as follows:

Short Term Recommendations:

Street Sweeping:

Given that an accident review shows a higher accident rate in October, the City intends to include this area in its fall street sweeping, timed to help keep the roadway more clear of fallen leaves.

Signing:

The City intends to add curvature signage with an Advisory Speed plaque for westbound drivers.

With regard to flashed signage, it is noted that there is no electrical service in the immediate vicinity.

Aside from that, it is felt that the area already has an overabundance of signs, and more is not likely to make much of a difference.

The City does concur that any long term solution should include the updating of all signage to current MUTCD standards.

Guardrail:

The City concurs with the need for the replacement of the guardrail. However, vehicles can be expected to continue to strike the rail without other more significant roadway changes. The replacement of the guardrail is included in the City's proposed long-term work.

High Friction Surface Treatment:

The City has not included this recommendation in the current proposal. It would likely offer some benefit and it will be considered further if the funding cannot be found to correct the fundamental problem of the existing compound curvature. It would need to be done in conjunction with resurfacing of the roadway. These treatments could have some benefit, but a longer term investment that incorporates the shoulder conditions is preferred.

Pavement Markings:

The City can and may restripe the roadway as a short term measure until a proper long term solution can be implemented.

Speed Enforcement:

Vehicles speeding in the area, especially in the westbound (downhill) direction, are a common occurrence and enforcement has been used in this area. However, the City already does this with some frequency. The critical roadway section does not afford locations for a police vehicle to be safely parked without restricting the roadway, and the best place for them to monitor is from Hillside Drive, which is beyond the most hazardous area. The City will continue to monitor and enforce speeds in this area, but this is not viewed as a good long-term solution to the problems in the area.

Long Term Recommendations

The project proposed by the City is largely in agreement with the long-term recommendations of the RSA.

Given the high frequency of Roadway Departure Accidents, the City intends to correct the complex curvature of the roadway by realigning the critical section of Old SR 37 with a single, simple curve. The vertical alignment requires only a modest smoothing to present a consistent slope.

The City's proposal will address the issues of differing curve radii, narrow lanes, lack of shoulder, limited sight distance, and improving the available recovery room.

Due to the roadway's primary character as a partial cut/fill into the side of a steep natural hillside, and the high costs and environmental impacts of significant roadway widening, the City's proposal includes modest widening of the lanes to a consistent 11' each, with a 4' shoulder to face of guardrail along the eastbound side, and the addition of a curb and gutter on the westbound edge, providing a 2' gutter for recovery/shoulder. The hillside would also be cut back enough to provide stopping sight distance appropriate for the posted 30 mph design speed.

Contrary to the RSA recommendations, additional widening to accommodate bicycles is not proposed due to the high cost of roadway widening at this site, and assuming the continued availability of nearby alternative route.

Generally speaking, the area is traversed not by recreational riders, but by the competitive riders and bicycle teams. These users typically prefer to share the road with cars and operate at speeds more compatible with cars. The recommended improvements will still serve the many competitive bicyclists that are seen on this route since they generally choose to use the route anyway, and the wider lanes and addition of paved (shoulder) areas on each side of the road will be a significant improvement for them.

For slower and recreational riders, a connection from the designated bicycle route at Hillside to the new sidepath along Old 37 and Dunn Street is included. This will allow these riders to operate on a separate facility from the cars.

All of the noted suggestions for Dunn Street are included in the City's proposal. This includes both the raising of Dunn Street at the intersection to eliminate the existing 10% grade, the improvement of intersection sight distances and the addition of shoulders.

Attachment 8 – Traffic and Intersection Alternatives Analysis

As part of the City's initial review of this area and its history, a detailed analysis of traffic volumes, turning counts, and accident types was conducted.

Generally speaking, the analysis determined that there are relatively minor problems at the intersection itself, and that various potential intersection improvements (turn lanes, signalization, realignment, or a roundabout) were not likely to result in a significant reduction in accidents. Essentially, the types of accidents being experienced are the result of roadway departures to the east of Dunn Street, and very few occur at the intersection. Turn counts are relatively low even in peak times and only one rear-end accident was documented during the 5-year study period.

This report helped to focus the analysis on the curved section of Old SR 37 where most of the accidents have occurred.

This report is included for information purposes to help document the range of options that have been considered.

That report follows.



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TRAFFIC & INTERSECTION ALTERNATIVES ANALYSIS

***OLD SR 37 & DUNN STREET/HILLVIEW
DRIVE***

CITY OF BLOOMINGTON

***PREPARED FOR
EAGLE RIDGE CIVIL ENGINEERING SERVICES
CITY OF BLOOMINGTON, INDIANA***

***FEBRUARY 2012
REVISED MARCH 2012***

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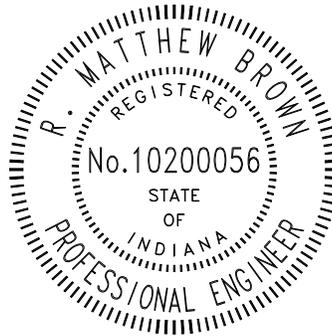
CERTIFICATION

I certify that this **TRAFFIC SIGNAL WARRANT ANALYSIS** has been prepared by me and under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering.

A&F ENGINEERING Co., LLC



R. Matt Brown, PE / PTOE
Indiana Registration 10200056



INTRODUCTION & PURPOSE

This report, prepared at the request of Eagle Ridge Civil Engineering Services on behalf of the City of Bloomington, Indiana, is to document the current traffic conditions at the intersection of Old SR 37 & Dunn Street/Hillview Drive and to make recommendations pertaining to the future traffic control at the intersection. The recommendations will be based on existing and projected traffic data and results from historical crash data analysis, intersection capacity and level of service analysis.

SCOPE OF WORK

The scope of work for this analysis is as follows:

First, obtain weekday 13-hour turning movement traffic volume counts at the intersection of Old SR 37 & Dunn Street/Hillview Drive.

Second, obtain year 2003 through year 2011 crash data at the intersection of Old SR 37 & Dunn Street/Hillview Drive.

Third, compare the existing traffic volumes to the minimum warrant volume requirements outlined in the *Indiana Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)*¹ to determine if a traffic signal warrant is met at the intersection of Old SR 37 & Dunn Street/Hillview Drive.

Fourth, prepare a capacity and level of service analysis based on projected 20-year peak hour traffic volumes for the following intersection control scenarios:

- a) Two-way stop sign control (Dunn Street/Hillview Drive stops)
- b) Traffic signal control (if warranted)
- c) Roundabout control

Finally, prepare a report documenting all data, analyses, conclusions and recommendations.

¹ *Indiana Manual on Uniform Traffic Control Devices for Streets and Highways, 2011.*

DESCRIPTION OF THE STUDY INTERSECTION

The intersection of Old SR 37 & Dunn Street/Hillview Drive is currently offset with the north leg (Hillview Drive) located approximately 215 feet west of the south leg (Dunn Street). All approaches to the intersections are single lane and the intersections are stop controlled with the minor approaches (Hillview Drive and Dunn Street) stopping for Old SR 37. The speed limit along Old SR 37 is 30 mph. The City of Bloomington has plans to align this intersection in the near future. The existing intersection configuration is shown on **Figure 1** while the conceptual aligned intersection is shown on **Figure 2**.

TRAFFIC DATA

13-hour turning movement traffic volume counts were made by the City of Bloomington at the intersection of Old SR 37 & Dunn Street/Hillview Drive. The counts include an hourly total of all "through" traffic and all "turning" traffic at the intersection. The counts were made from 6:00 AM to 7:00 PM during January 2012. These traffic volume counts are summarized below and the computer output of these data are included in the **Appendix**.

TABLE 1 – EXISTING TRAFFIC VOLUMES: OLD SR 37 & DUNN STREET/HILLVIEW DRIVE

TIME	OLD SR 37			DUNN STREET/HILLVIEW DRIVE		
	Eastbound	Westbound	EB+WB	Northbound	Southbound	NB+SB
6AM – 7AM	17	152	169	5	16	21
7AM – 8AM	67	274	341	8	32	40
8AM – 9AM	84	217	301	16	24	40
9AM – 10AM	71	133	204	9	14	23
10AM – 11AM	62	111	173	14	9	23
11AM – 12PM	65	78	143	18	13	31
12PM – 1PM	95	105	200	18	5	23
1PM – 2PM	99	91	190	16	8	24
2PM – 3PM	103	114	217	15	13	28
3PM – 4PM	211	137	348	37	8	45
4PM – 5PM	210	126	336	45	8	53
5PM – 6PM	242	136	378	48	7	55
6PM – 7PM	149	99	248	14	10	24

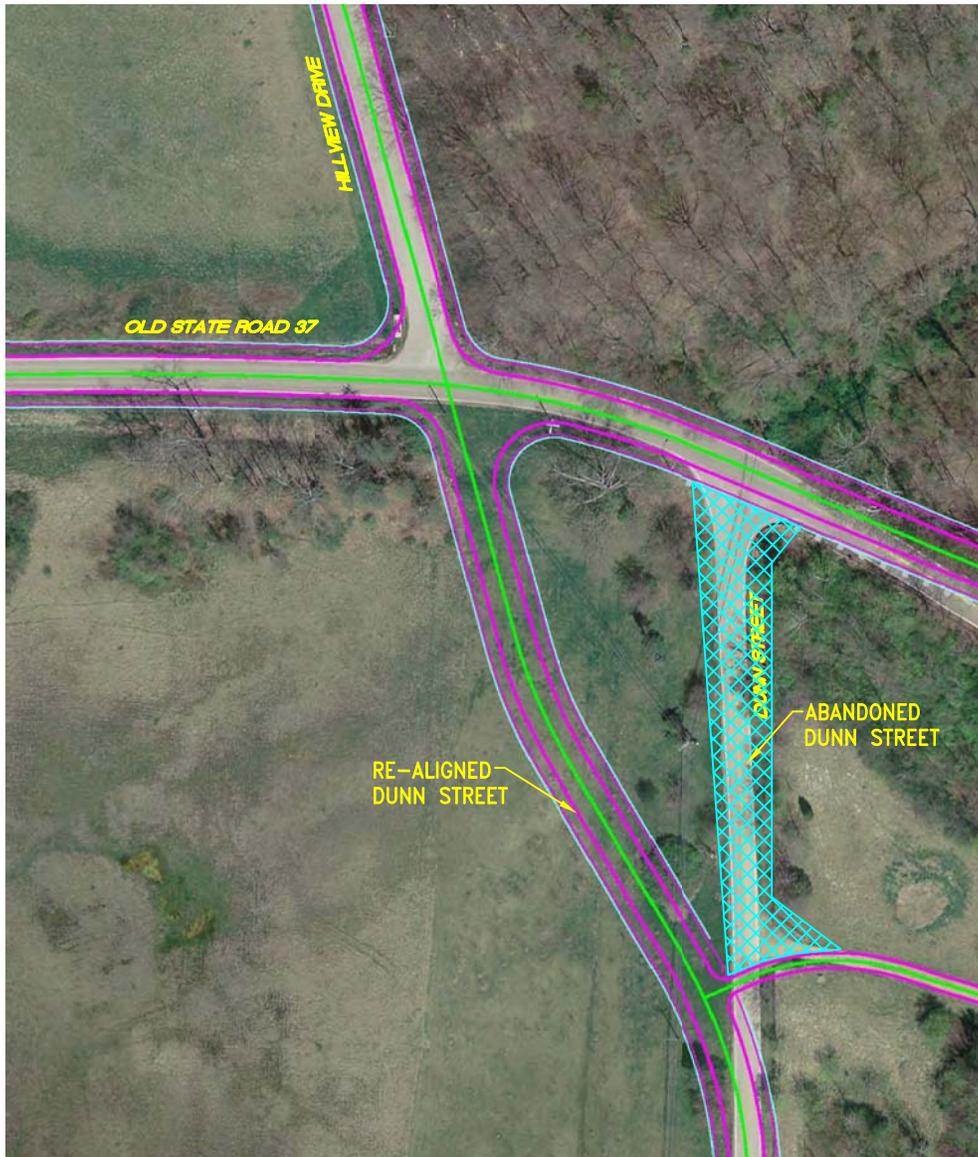


FIGURE 1

EXISTING INTERSECTION CONDITIONS

**OLD SR 37 & DUNN ST/HILLVIEW DR
BLOOMINGTON, INDIANA**

GROWTH RATE

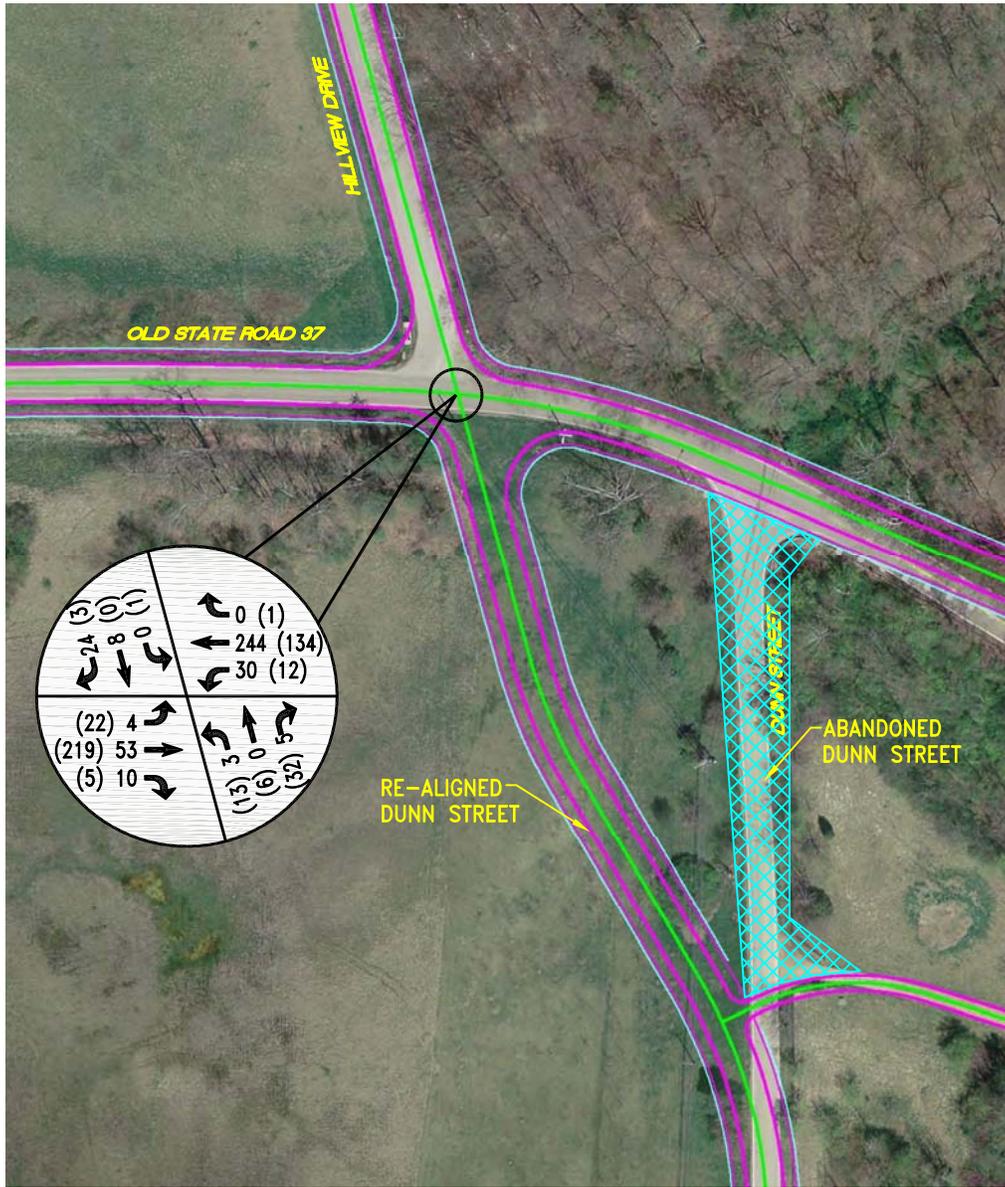
Based on historical traffic data provided by the City of Bloomington, the traffic growth in this area is negligible. Therefore, future traffic growth at the study intersection is not expected to be significant. In order to estimate 20-year peak hour traffic at the study intersection, a 0.25% per year, non-compounded, growth rate was applied to the existing peak hour volumes. These projected volumes are shown on **Figure 2**.

CRASH DATA

Vehicular crash data at the study intersection was provided by the City of Bloomington. **Table 2** shows the crash data at the study intersection for the years 2003-2011.

TABLE 2 – CRASH DATA: OLD SR 37 & DUNN STREET/HILLVIEW DRIVE

Rank	Primary Factor	Severity				8-Year Total	% of Total
		Fatal Injury	Incapacitating Injury	Non-Incapacitating Injury	No Injury/Unknown		
1	Speed too fast for weather conditions	1	1	12	10	24	23.5%
2	Left of center	1	0	12	8	21	20.6%
3	Roadway surface condition	0	0	4	9	13	12.7%
4	Ran off road right	0	0	6	6	12	11.8%
5	Other (driver) – explain in narrative	0	0	2	6	8	7.8%
6	Unsafe speed	2	0	4	1	7	6.9%
7	Alcoholic beverages	0	0	1	1	2	2.0%
8	Animal/Object in Roadway	0	1	0	1	2	2.0%
9	Brake Failure or Defective	0	0	0	2	2	2.0%
10	Failure to Yield Right of Way	0	0	0	2	2	2.0%
11	None (Driver/Other)	0	0	2	0	2	2.0%
12	Other (Environmental)	0	0	0	2	2	2.0%
13	Improper lane usage	0	0	1	0	1	1.0%
14	Other (Vehicle) Explain in Narrative	0	0	0	1	1	1.0%
15	Overcorrecting/Oversteering	0	1	0	0	1	1.0%
16	Ran off road (Left)	0	0	0	1	1	1.0%
17	Tire Failure or Defective	0	0	0	1	1	1.0%



LEGEND
 00 = A.M. PEAK HOUR
 (00) = P.M. PEAK HOUR
 * = NEGLIGIBLE

FIGURE 2
CONCEPTUAL INTERSECTION ALIGNMENT WITH PEAK HOUR VOLUMES

**OLD SR 37 & DUNN ST/HILLVIEW DR
 BLOOMINGTON, INDIANA**

TRAFFIC SIGNAL WARRANT ANALYSIS

All applicable warrants within the *Indiana MUTCD* were used for this analysis. This criterion is compared to the existing traffic volumes at the intersection of Old SR 37 & Dunn Street/Hillview Drive to determine if a traffic signal is warranted. The following is a step-wise breakdown of all traffic warrants for this intersection.

Old SR 37 & Dunn Street/Hillview Drive

Count Date: 1/24/2012

Qualifiers:

School Crossing No

Existing Signal No

Isolated Community under 10,000 No

Rural Criteria Applicable No

Speed on Major Street 30 mph

40 MPH Speed Exceeded Criteria Applicable No

Old SR 37: Major Street: 1 Lane Approach

Dunn Street/Hillview Drive: Minor Street: 1 Lane Approach

Warrant 1 – Eight-Hour Vehicular Volume:

According to the *Indiana MUTCD*, the volumes needed for the Warrant are the sum of both approaches along the major road and the approach along the minor road with the highest volume. Based on traffic volume levels, Old SR 37 is the major road and Dunn Street/Hillview Drive is the minor road for this analysis. In order to determine if a traffic signal is warranted at this location, the traffic volumes in **Table 1** were compared to the Warrant 1, Condition A, B and Combination requirements as shown on the following page.

WARRANT 1: CONDITION A – MINIMUM VEHICULAR VOLUME

	Required Volume	Hours Met
Old SR 37	500	0
Dunn Street/Hillview Drive	150	0
	HOURS IN COMMON =	0

Requirement: Eight (8) hours in common.

Result: Condition A is not met.

WARRANT 1: CONDITION B – INTERRUPTION OF CONTINUOUS TRAFFIC

	Required Volume	Hours Met
Old SR 37	750	0
Dunn Street/Hillview Drive	75	0
	HOURS IN COMMON =	0

Requirement: Eight (8) hours in common.

Result: Condition B is not met.

WARRANT 1: CONDITION C – COMBINATION OF CONDITION A AND B

Condition A

	Required Volume	Hours Met
Old SR 37	400	0
Dunn Street/Hillview Drive	120	0
	HOURS IN COMMON =	0

Requirement: Eight (8) hours in common.

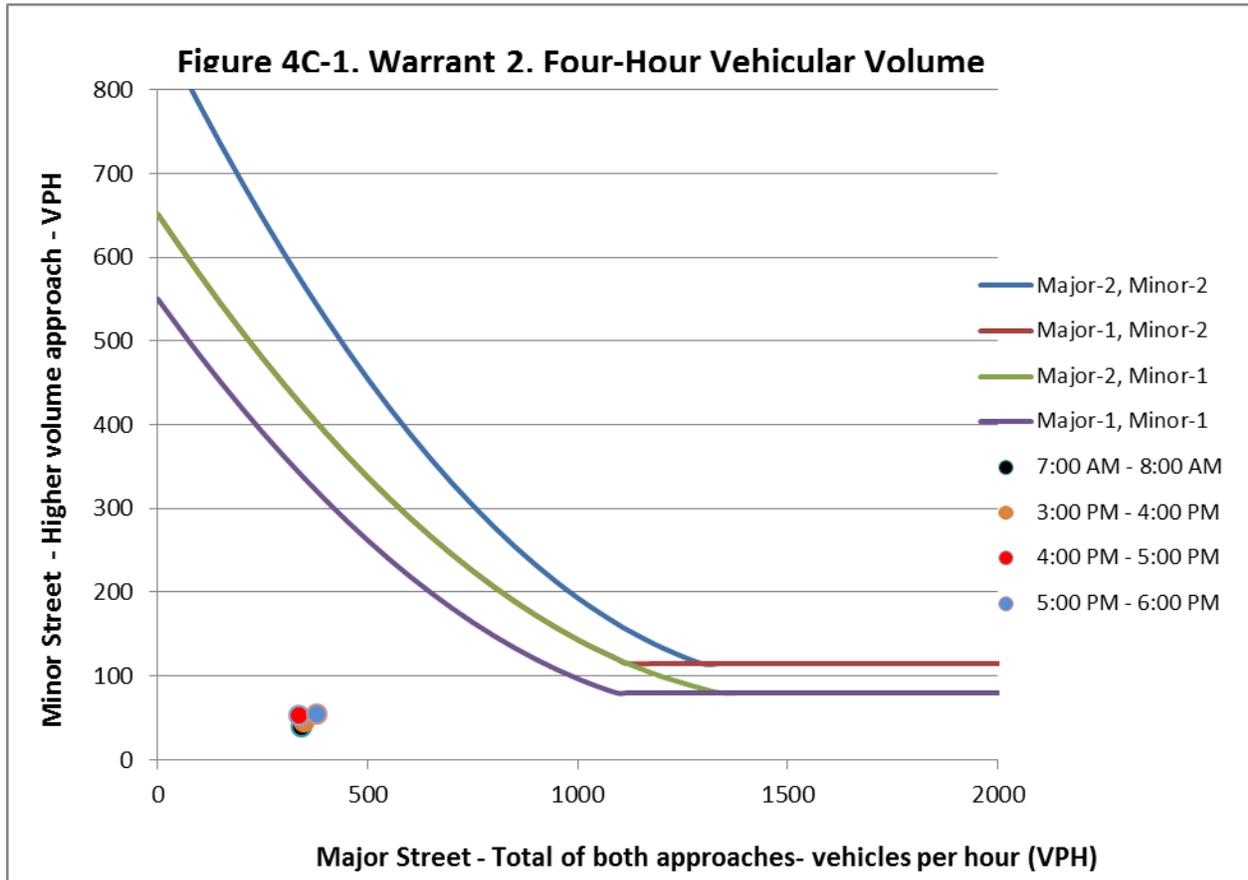
Condition B

	Required Volume	Hours Met
Old SR 37	600	0
Dunn Street/Hillview Drive	60	0
	HOURS IN COMMON =	0

Requirement: Eight (8) hours in common for both Condition A and Condition B.

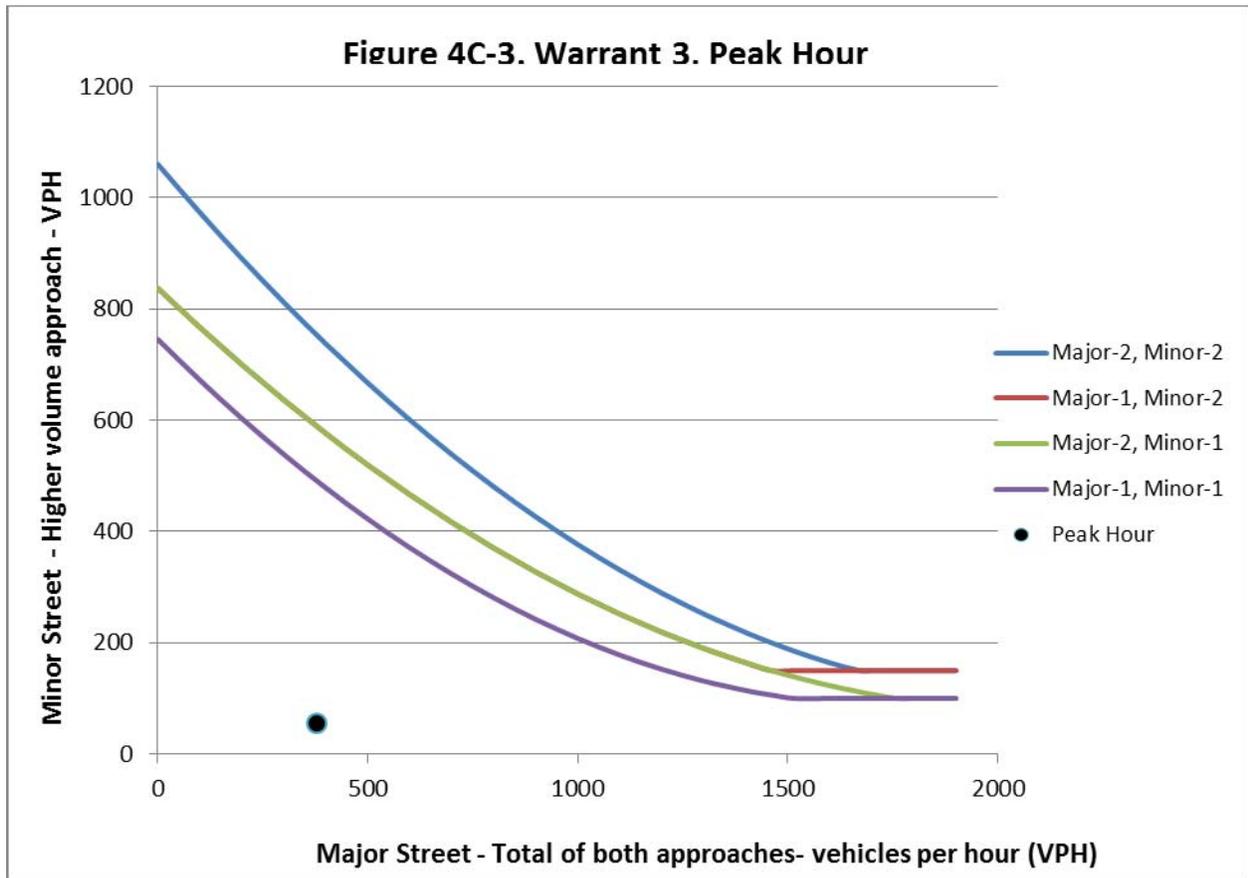
Result: Condition C is not met.

Warrant 2 – Four-Hour Vehicular Volume: According to the *Indiana MUTCD*, to meet this Warrant, the plotted points representing the vehicles per hour on the major street and the corresponding vehicles per hour on the higher-volume minor-street approach should fall above the applicable curve as shown on the following graph for each of any 4 hours of an average day.



Result: Warrant 2 is not met.

Warrant 3 – Peak Hour: According to the *Indiana MUTCD*, to meet this Warrant, the plotted point representing the vehicles per hour on the major street and the corresponding vehicles per hour on the higher-volume minor-street approach for the peak hour of an average day falls above the applicable curve on the following graph.



Result: Warrant 3 is not met.

Warrant 4 – Pedestrian Volume: This warrant is not applicable for this location.

Warrant 5 – School Crossing: There is not a school crossing within the study area of this analysis. Therefore, this warrant is not applicable.

Warrant 6 – Coordinated Signal System: The reason for a signal at the intersection of Old SR 37 & Dunn Street/Hillview Drive is not to maintain proper platooning of vehicles. Therefore, this warrant is not applicable.

Warrant 7 – Crash Experience: The need for a traffic signal shall be considered if an engineering study finds that ALL of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency’
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash.
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Result: Warrant 7 is not met.

Warrant 8 – Roadway Network: This warrant is not applicable for this location.

Warrant 9 – Intersection near a Grade Crossing: This warrant is not applicable for this location.

Warrant Summary

TABLE 3 – TRAFFIC WARRANT SUMMARY

WARRANT	OLD SR 37 & DUNN ST./HILLVIEW DR.
Warrant 1A	Not met
Warrant 1B	Not met
Warrant 1C (Combination A/B)	Not met
Warrant 2	Not met
Warrant 3	Not met
Warrant 4	Not applicable
Warrant 5	Not applicable
Warrant 6	Not applicable
Warrant 7	Not met
Warrant 8	Not applicable
Warrant 9	Not applicable

TRAFFIC SIGNAL WARRANT ANALYSIS RESULTS

Based on the results of all warrant criteria examined for this analysis, a traffic signal is not warranted at this location.

CAPACITY ANALYSIS

The "efficiency" of an intersection is based on its ability to accommodate the traffic volumes that approach the intersection. It is defined by the Level-of-Service (LOS) of the intersection. The LOS is determined by a series of calculations commonly called a "capacity analysis". Input data into a capacity analysis include traffic volumes, intersection geometry and number and use of lanes. To determine the LOS at each of the study intersections, a capacity analysis has been made using the recognized computer program *Synchro*² which uses the capacity calculation methods outlined within the *Highway Capacity Manual (HCM)*³.

DESCRIPTION OF LEVELS OF SERVICE

The following list shows the delays related to the levels of service for unsignalized intersections (including roundabouts).

<u>Level of Service</u>	<u>Control Delay (seconds/vehicle)</u>
A	Less than or equal to 10
B	Between 10.1 and 15
C	Between 15.1 and 25
D	Between 25.1 and 35
E	Between 35.1 and 50
F	greater than 50

² *Synchro 8.0*, Trafficware, 2011.

³ *Highway Capacity Manual (HCM)* Transportation Research Board, National Research Council, Washington, DC, 2011.

The tables shown below summarize the level of service results. Computer output sheets showing the level of service results are included in the **Appendix**.

TABLE 4 - LEVEL OF SERVICE SUMMARY (YEAR 2032) : OLD SR 37 & DUNN ST./HILLVIEW DR.

AM PEAK HOUR

Movement	Two-Way Stop	Movement	Roundabout
Eastbound Approach	A	Eastbound Approach	A
Westbound Approach	A	Westbound Approach	A
Northbound Left-Turn	B	Northbound Left-Turn	A
Southbound Left-Turn	B	Southbound Left-Turn	A
Intersection LOS not calculated for 2 way stop		Intersection LOS	A

PM PEAK HOUR

Movement	Two-Way Stop	Movement	Roundabout
Eastbound Approach	A	Eastbound Approach	A
Westbound Approach	A	Westbound Approach	A
Northbound Left-Turn	B	Northbound Left-Turn	A
Southbound Left-Turn	B	Southbound Left-Turn	A
Intersection LOS not calculated for 2 way stop		Intersection LOS	A

NOTES:

- * Two-way stop scenario assumes Dunn Street/Hillview Drive stops for Old SR 37 and all approaches consist of a single lane.
- * Roundabout scenario assumes one lane roundabout with one lane approaches.

CONCLUSIONS & RECOMMENDATIONS

- A review of crash data in the area of the study intersection has shown a considerable amount of crashes related to high speeds. It is unlikely that the intersection reconstruction in itself will correct any issues relating to unsafe speed in the area. However, additional signage or possible redesign of the roadway geometrics leading up to the intersection could be examined for corrective measures.
- A traffic signal is not warranted at this location.
- Capacity analysis has shown that an aligned, two-way stop controlled or roundabout intersection will operate efficiently considering long term (20 year) traffic projections.
- Based on a review of the crash data it is not believed that a two-way stop or a roundabout control will be considerably different from a safety standpoint.
- The operational benefits of a roundabout versus a two-way stop are not significant. Given the increased cost of a roundabout, it is recommended that the intersection be aligned and controlled as a two-way stop with Dunn Street/Hillview Drive stopping for Old SR 37.

TRAFFIC & INTERSECTION ALTERNATIVES ANALYSIS

APPENDIX



Creating Order Since 1966

***8365 Keystone Crossing Boulevard, Suite 201
Indianapolis, IN 46240
Phone: (317) 202-0864 Fax: (317) 202-0908***

TRAFFIC COUNTS

A & F ENGINEERING CO., LLC
TRAFFIC VOLUME SUMMARY

CLIENT :
INTERSECTION :
DATE :

Eagle Ridge/City of Bloomington
Old SR 37 & Hillview Drive/Dunn St.
1/24/2012

	TOTAL VEHICLES (PASSENGER CARS + TRUCKS)											
	AM PEAK HOUR VOLUMES				OFF PEAK HOUR VOLUMES				PM PEAK HOUR VOLUMES			
	BEGINS 7:00 AM				BEGINS 2:00 PM				BEGINS 4:30 PM			
	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL
NORTHBOUND	3	0	5	8	0	2	13	15	13	6	32	51
SOUTHBOUND	0	8	24	32	1	2	10	13	1	0	3	4
EASTBOUND	4	53	10	67	4	97	2	103	22	219	5	246
WESTBOUND	30	244	0	274	16	95	3	114	12	134	1	147

	PEAK HOUR FACTOR					
	AM PEAK HOUR FACTOR		OFF PEAK HOUR FACTOR		PM PEAK HOUR FACTOR	
	APPROACH	INTERSECTION	APPROACH	INTERSECTION	APPROACH	INTERSECTION
	NORTHBOUND	0.67		0.75		0.85
SOUTHBOUND	0.57	0.90	0.54	0.91	0.33	0.90
EASTBOUND	0.70		0.89		0.89	
WESTBOUND	0.74		0.81		0.80	

	TRUCK PERCENTAGE											
	AM PEAK HOUR PERCENTAGE				OFF PEAK HOUR PERCENTAGE				PM PEAK HOUR PERCENTAGE			
	L	T	R	TOTAL	L	T	R	TOTAL	L	T	R	TOTAL
	NORTHBOUND	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SOUTHBOUND	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EASTBOUND	0.0%	17.0%	10.0%	14.9%	0.0%	4.1%	0.0%	3.9%	0.0%	0.5%	0.0%	0.4%
WESTBOUND	3.3%	2.0%	0.0%	2.2%	6.3%	17.9%	0.0%	15.8%	0.0%	3.7%	0.0%	3.4%

HOURLY SUMMARY									
HOUR			NB	SB	NB+SB	EB	WB	EB+WB	TOTAL
6:00 AM	TO	7:00 AM	5	16	21	17	152	169	190
7:00 AM	TO	8:00 AM	8	32	40	67	274	341	381
8:00 AM	TO	9:00 AM	16	24	40	84	217	301	341
9:00 AM	TO	10:00 AM	9	14	23	71	133	204	227
10:00 AM	TO	11:00 AM	14	9	23	62	111	173	196
11:00 AM	TO	12:00 PM	18	13	31	65	78	143	174
12:00 PM	TO	1:00 PM	18	5	23	95	105	200	223
1:00 PM	TO	2:00 PM	16	8	24	99	91	190	214
2:00 PM	TO	3:00 PM	15	13	28	103	114	217	245
3:00 PM	TO	4:00 PM	37	8	45	211	137	348	393
4:00 PM	TO	5:00 PM	45	8	53	210	126	336	389
5:00 PM	TO	6:00 PM	48	7	55	242	136	378	433
6:00 PM	TO	7:00 PM	14	10	24	149	99	248	272
TOTAL VOLUME			263	167	430	1475	1773	3248	3678
PERCENTAGE			7.2%	4.5%	11.7%	40.1%	48.2%	88.3%	100.0%

CLIENT :
INTERSECTION :
DATE :

Eagle Ridge/City of Bloomington
Old SR 37 & Hillview Drive/Dunn St.
1/24/2012

DIRECTION OF TRAVEL : NORTHBOUND

HOUR	LEFT			THROUGH			RIGHT			TOTAL		
	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH
AM TIME PERIOD												
6:00 AM - 7:00 AM	0	1	1	0	0	0	4	0	4	4	1	5
7:00 AM - 8:00 AM	3	0	3	0	0	0	5	0	5	8	0	8
8:00 AM - 9:00 AM	1	0	1	1	0	1	14	0	14	16	0	16
OFF TIME PERIOD												
9:00 AM - 10:00 AM	4	1	5	0	0	0	4	0	4	8	1	9
10:00 AM - 11:00 AM	4	0	4	0	0	0	9	1	10	13	1	14
11:00 AM - 12:00 PM	4	0	4	5	0	5	9	0	9	18	0	18
12:00 PM - 1:00 PM	4	0	4	0	0	0	14	0	14	18	0	18
1:00 PM - 2:00 PM	1	0	1	3	0	3	12	0	12	16	0	16
2:00 PM - 3:00 PM	0	0	0	2	0	2	13	0	13	15	0	15
PM TIME PERIOD												
3:00 PM - 4:00 PM	6	0	6	3	0	3	28	0	28	37	0	37
4:00 PM - 5:00 PM	10	0	10	4	0	4	31	0	31	45	0	45
5:00 PM - 6:00 PM	11	0	11	6	0	6	30	1	31	47	1	48
6:00 PM - 7:00 PM	1	0	1	2	0	2	11	0	11	14	0	14
PASSENGER	49 96.1%			26 100.0%			184 98.9%			259 98.5%		
TRUCK	2 3.9%			0 0.0%			2 1.1%			4 1.5%		
BOTH	51 19.4%			26 9.9%			106 70.7%			263 100.0%		

DIRECTION OF TRAVEL : SOUTHBOUND

HOUR	LEFT			THROUGH			RIGHT			TOTAL		
	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH
AM TIME PERIOD												
6:00 AM - 7:00 AM	1	0	1	2	0	2	12	1	13	15	1	16
7:00 AM - 8:00 AM	0	0	0	8	0	8	24	0	24	32	0	32
8:00 AM - 9:00 AM	0	0	0	8	0	8	16	0	16	24	0	24
OFF TIME PERIOD												
9:00 AM - 10:00 AM	0	0	0	2	0	2	12	0	12	14	0	14
10:00 AM - 11:00 AM	1	0	1	0	0	0	8	0	8	9	0	9
11:00 AM - 12:00 PM	0	0	0	5	0	5	8	0	8	13	0	13
12:00 PM - 1:00 PM	2	0	2	0	0	0	3	0	3	5	0	5
1:00 PM - 2:00 PM	0	0	0	1	0	1	7	0	7	8	0	8
2:00 PM - 3:00 PM	1	0	1	2	0	2	10	0	10	13	0	13
PM TIME PERIOD												
3:00 PM - 4:00 PM	2	0	2	3	0	3	3	0	3	8	0	8
4:00 PM - 5:00 PM	2	1	3	1	0	1	4	0	4	7	1	8
5:00 PM - 6:00 PM	0	0	0	1	0	1	6	0	6	7	0	7
6:00 PM - 7:00 PM	1	0	1	5	0	5	4	0	4	10	0	10
PASSENGER	10 90.9%			38 100.0%			117 98.2%			185 98.8%		
TRUCK	1 9.1%			0 0.0%			1 0.8%			2 1.2%		
BOTH	11 6.6%			38 22.8%			118 70.7%			167 100.0%		

DIRECTION OF TRAVEL : EASTBOUND

HOUR	LEFT			THROUGH			RIGHT			TOTAL		
	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH
AM TIME PERIOD												
6:00 AM - 7:00 AM	0	0	0	13	2	15	2	0	2	15	2	17
7:00 AM - 8:00 AM	4	0	4	44	9	53	9	1	10	57	10	67
8:00 AM - 9:00 AM	4	0	4	61	6	67	13	0	13	78	6	84
OFF TIME PERIOD												
9:00 AM - 10:00 AM	9	0	9	48	4	52	10	0	10	67	4	71
10:00 AM - 11:00 AM	5	0	5	48	3	51	5	1	6	58	4	62
11:00 AM - 12:00 PM	8	0	8	50	5	55	2	0	2	60	5	65
12:00 PM - 1:00 PM	10	1	11	78	3	81	3	0	3	91	4	95
1:00 PM - 2:00 PM	4	0	4	85	4	89	6	0	6	95	4	99
2:00 PM - 3:00 PM	4	0	4	93	4	97	2	0	2	99	4	103
PM TIME PERIOD												
3:00 PM - 4:00 PM	11	0	11	182	12	194	6	0	6	199	12	211
4:00 PM - 5:00 PM	22	0	22	178	1	179	9	0	9	209	1	210
5:00 PM - 6:00 PM	18	1	19	219	0	219	4	0	4	241	1	242
6:00 PM - 7:00 PM	13	1	14	130	1	131	4	0	4	147	2	149
PASSENGER	112 97.4%			1229 95.8%			75 97.4%			1416 98.0%		
TRUCK	3 2.6%			54 4.2%			2 2.6%			59 4.0%		
BOTH	115 7.9%			1283 87.0%			77 5.2%			1475 100.0%		

DIRECTION OF TRAVEL : WESTBOUND

HOUR	LEFT			THROUGH			RIGHT			TOTAL		
	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH	PASS	TRUCK	BOTH
AM TIME PERIOD												
6:00 AM - 7:00 AM	14	1	15	132	4	136	0	1	1	146	6	152
7:00 AM - 8:00 AM	29	1	30	239	5	244	0	0	0	268	6	274
8:00 AM - 9:00 AM	34	0	34	179	2	181	2	0	2	215	2	217
OFF TIME PERIOD												
9:00 AM - 10:00 AM	12	0	12	119	1	120	1	0	1	132	1	133
10:00 AM - 11:00 AM	16	0	16	90	4	94	1	0	1	107	4	111
11:00 AM - 12:00 PM	12	0	12	63	2	65	1	0	1	76	2	78
12:00 PM - 1:00 PM	10	0	10	94	1	95	0	0	0	104	1	105
1:00 PM - 2:00 PM	14	0	14	72	2	74	3	0	3	89	2	91
2:00 PM - 3:00 PM	15	1	16	76	17	93	3	0	3	96	18	114
PM TIME PERIOD												
3:00 PM - 4:00 PM	18	0	18	113	3	116	3	0	3	134	3	137
4:00 PM - 5:00 PM	14	0	14	102	8	110	2	0	2	118	8	126
5:00 PM - 6:00 PM	12	0	12	124	0	124	0	0	0	136	0	136
6:00 PM - 7:00 PM	13	0	13	86	0	86	0	0	0	99	0	99
PASSENGER	213 98.6%			1491 96.8%			16 94.1%			1720 97.0%		
TRUCK	3 1.4%			49 3.2%			17 5.9%			53 3.0%		
BOTH	216 12.2%			1540 86.9%			17 1.0%			1773 100.0%		

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q5317
 Station ID: SN:023256
 N. Old S.R. 37
 N. Dunn St. to E. Audubon Dr.
 Latitude: 0° 0' 0.000 Undefined

Start Time	15	16	20	21	25	26	30	31	35	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	999	Total	Pace	Number in Pace
10/13/10	0	0	0	0	0	1	5	2	5	10	8	5	1	1	1	1	0	0	0	0	0	0	0	0	0	26	34-43	18	
01:00	0	0	0	0	0	0	2	4	2	5	5	2	1	1	1	0	0	0	0	0	0	0	0	0	0	14	34-43	10	
02:00	0	0	3	1	1	1	4	0	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	13	25-34	6	
03:00	0	0	0	0	2	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	18-27	3	
04:00	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25-34	4	
05:00	0	0	0	0	0	1	3	3	3	3	3	3	1	1	0	0	0	0	1	1	0	0	0	0	0	12	33-42	8	
06:00	2	0	0	1	0	0	2	2	2	2	6	4	1	1	0	0	0	0	0	0	0	0	0	0	0	18	39-48	11	
07:00	0	0	0	1	1	2	2	2	2	2	15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	66	31-40	45	
08:00	6	0	0	2	2	5	17	17	43	43	26	0	0	3	0	0	0	0	0	0	0	0	0	0	0	102	36-45	69	
09:00	0	0	0	1	3	3	5	5	23	23	29	29	5	5	1	0	0	0	0	0	0	0	0	0	0	67	36-45	52	
10:00	4	0	0	4	5	5	12	12	28	28	26	26	5	5	0	0	0	0	0	0	0	0	0	0	0	84	36-45	54	
11:00	4	1	1	6	6	5	13	13	32	32	24	24	2	2	1	0	0	0	0	0	0	0	0	0	0	88	36-45	56	
12 PM	3	0	0	1	3	3	17	17	48	48	45	45	11	11	1	0	0	0	0	0	0	0	0	0	0	129	36-45	93	
13:00	1	0	0	2	1	1	11	11	48	48	50	50	11	11	2	1	1	1	0	0	0	0	0	0	0	127	36-45	98	
14:00	2	0	0	1	9	9	29	29	91	91	45	45	18	18	0	0	0	0	0	0	0	0	0	0	0	196	36-45	136	
15:00	3	0	0	6	6	6	31	31	66	66	62	62	20	20	1	0	0	0	0	0	0	0	0	0	0	195	36-45	128	
16:00	5	0	0	3	24	3	24	24	94	94	110	110	26	26	1	1	1	1	0	0	0	0	0	0	0	265	36-45	204	
17:00	3	0	0	4	4	4	30	30	112	112	101	101	15	15	1	0	0	0	0	0	0	0	0	0	0	267	36-45	213	
18:00	5	0	0	0	1	1	88	88	46	46	46	46	4	4	0	0	0	0	0	0	0	0	0	0	0	176	36-45	134	
19:00	1	1	0	1	0	1	26	26	75	75	45	45	6	6	0	0	0	0	0	0	0	0	0	0	0	155	36-45	120	
20:00	1	0	0	1	5	5	61	61	40	40	40	40	4	4	0	0	0	0	0	0	0	0	0	0	0	137	36-45	101	
21:00	0	0	0	0	1	1	13	13	43	43	33	33	5	5	0	0	0	0	0	0	0	0	0	0	0	95	36-45	76	
22:00	0	0	0	1	1	1	7	7	20	20	19	19	5	5	1	0	0	0	1	1	0	0	0	0	0	55	36-45	39	
23:00	0	1	0	0	0	1	4	4	9	9	16	16	3	3	2	0	0	0	0	0	1	1	0	0	0	37	36-45	25	
Total	40	6	31	61	340	154	14	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2333			
Percent	1.7%	0.3%	1.3%	2.6%	14.6%	39.6%	32.4%	6.6%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	02:00	11:00	08:00	07:00	08:00	09:00	09:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00	05:00	05:00	00:00	00:00	00:00	00:00	08:00			
Vol.	6	3	6	5	24	43	29	5	1	1	13:00	13:00	2	1	1	1	1	1	1	1	1	1	1	1	1	102			
PM Peak	16:00	19:00	15:00	14:00	18:00	17:00	16:00	16:00	13:00	13:00	16:00	16:00	23:00	23:00	23:00	23:00	23:00	23:00	23:00	22:00	22:00	23:00	23:00	23:00	23:00	17:00			
Vol.	5	1	6	9	32	112	110	26	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	267			

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q5317
 Station ID: SN:023256
 N. Old S.R. 37
 N. Dunn St. to E. Audubon Dr.
 Latitude: 0° 0' 0.000 Undefined

Northbound	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace	Number
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999		Speed	in Pace
10/14/10	0	1	0	1	2	6	4	2	0	0	0	0	0	0	16	34-43	11
01:00	0	0	1	0	0	2	2	1	0	0	0	0	0	0	6	37-46	5
02:00	0	0	0	0	1	5	2	0	2	0	0	0	0	0	10	33-42	8
03:00	0	0	0	0	1	6	0	1	0	1	0	0	0	0	9	31-40	7
04:00	0	0	0	1	0	3	0	1	0	0	0	0	0	0	5	29-38	3
05:00	0	0	0	1	0	0	3	3	0	0	0	0	0	0	7	39-48	6
06:00	0	1	0	1	2	9	2	2	0	0	0	0	0	0	17	30-39	11
07:00	3	0	1	0	16	29	23	6	0	0	0	0	0	0	78	35-44	52
08:00	0	0	0	5	12	45	31	5	1	0	0	0	0	0	99	36-45	76
09:00	0	1	1	4	5	17	30	5	0	0	0	0	0	0	63	36-45	47
10:00	0	0	0	1	9	30	20	5	0	0	0	0	0	0	65	36-45	50
11:00	1	0	0	1	10	47	43	4	1	1	0	0	0	0	108	36-45	90
12 PM	1	0	0	6	14	34	50	22	4	0	0	0	0	0	131	36-45	84
13:00	0	0	1	0	11	41	54	16	4	0	0	0	0	0	127	36-45	95
14:00	2	0	3	6	21	59	74	15	2	1	0	0	0	0	168	36-45	118
15:00	4	1	3	9	34	63	74	22	3	0	0	0	0	0	213	36-45	137
16:00	4	0	0	1	29	91	93	29	2	0	0	0	0	0	249	36-45	184
17:00	5	1	3	9	31	119	110	12	3	0	0	0	0	0	293	36-45	229
18:00	6	1	1	1	35	101	64	24	3	0	0	0	0	0	236	36-45	165
19:00	0	1	0	5	43	102	60	11	2	0	0	0	0	0	224	36-45	162
20:00	1	1	0	0	21	64	41	7	1	1	0	0	0	0	137	36-45	105
21:00	0	1	1	0	20	38	44	10	3	0	0	0	0	0	117	36-45	82
22:00	0	0	0	0	9	20	17	16	0	0	0	0	0	0	62	36-45	37
23:00	0	0	0	0	3	15	16	2	4	0	0	0	0	0	40	36-45	31
Total	27	9	15	52	329	946	842	221	35	4	0	0	0	0	2480		
Percent	1.1%	0.4%	0.6%	2.1%	13.3%	38.1%	34.0%	8.9%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	00:00	01:00	08:00	07:00	11:00	11:00	07:00	02:00	03:00					11:00		
Vol.	3	1	1	5	16	47	43	6	2	1					108		
PM Peak	18:00	15:00	14:00	15:00	19:00	17:00	17:00	16:00	12:00	14:00					17:00		
Vol.	6	1	3	9	43	119	110	29	4	1					293		
Total	67	15	46	113	669	1871	1598	375	49	7	2	1	0	0	4813		
Percent	1.4%	0.3%	1.0%	2.3%	13.9%	38.9%	33.2%	7.8%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%			

Stats
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 3469
 Percent in Pace : 72.1%
 Number of Vehicles > 35 MPH : 3903
 Percent of Vehicles > 35 MPH : 81.1%
 Mean Speed(Average): 39 MPH

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q5317
 Station ID: SN:023256
 N. Old S.R. 37
 N. Dunn St. to E. Audubon Dr.
 Latitude: 0' 0.000 Undefined

Southbound	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace	Number
Start	15	20	25	30	35	40	45	50	55	60	65	70	75	80		Speed	in Pace
10/13/10	0	0	0	0	0	3	3	0	0	0	0	0	0	0	6	34-43	6
01:00	0	0	0	0	0	2	2	2	0	0	0	0	0	0	6	38-47	6
02:00	0	3	1	1	0	1	1	1	0	0	0	0	0	0	8	16-25	4
03:00	0	1	0	2	0	2	1	1	0	1	0	0	0	0	8	36-45	3
04:00	0	0	0	0	1	3	7	7	0	1	0	0	0	0	19	38-47	14
05:00	0	0	0	0	2	9	21	20	8	3	1	0	0	0	64	41-50	41
06:00	2	0	1	10	4	23	52	40	12	1	0	0	0	0	135	41-50	92
07:00	1	2	2	10	15	127	138	37	7	0	0	0	0	0	339	36-45	265
08:00	2	0	1	3	11	62	96	46	6	1	0	0	0	0	228	36-45	158
09:00	0	1	0	3	11	32	67	35	12	2	1	0	0	0	164	39-48	102
10:00	2	0	1	1	3	22	53	33	6	1	0	0	0	0	121	41-50	86
11:00	3	0	3	2	6	24	54	30	9	1	0	1	0	0	133	41-50	84
12 PM	3	0	0	1	8	20	34	31	9	1	0	0	0	0	107	41-50	65
13:00	4	1	0	1	4	20	51	27	5	2	0	1	0	0	116	41-50	78
14:00	1	0	0	0	4	25	52	14	7	0	0	0	0	0	103	36-45	77
15:00	6	0	0	1	13	36	37	26	1	3	0	0	0	0	123	36-45	73
16:00	3	0	1	2	5	18	69	37	8	1	0	0	0	0	144	41-50	106
17:00	4	0	0	1	5	40	90	42	8	0	0	0	0	0	190	38-47	132
18:00	6	0	0	1	6	44	51	25	4	1	0	0	0	0	138	36-45	95
19:00	0	0	0	0	8	34	30	10	1	0	0	0	0	0	83	36-45	64
20:00	1	0	0	0	3	22	20	7	1	1	0	0	0	0	55	36-45	42
21:00	0	0	0	1	6	9	21	5	1	2	0	0	0	0	45	36-45	30
22:00	0	0	0	0	3	5	9	7	1	1	0	0	0	0	26	38-47	16
23:00	0	2	0	0	0	2	5	1	0	0	0	0	0	0	10	37-46	8
Total	38	10	8	31	118	585	964	484	106	23	2	2	0	0	2371		
Percent	1.6%	0.4%	0.3%	1.3%	5.0%	24.7%	40.7%	20.4%	4.5%	1.0%	0.1%	0.1%	0.0%	0.0%			
AM Peak	11:00	02:00	11:00	07:00	07:00	07:00	07:00	08:00	06:00	05:00	05:00	11:00	07:00	07:00			
Vol.	3	3	3	10	15	127	138	46	12	3	1	1	1	339			
PM Peak	15:00	23:00	16:00	16:00	15:00	18:00	17:00	17:00	12:00	15:00	13:00	13:00	17:00	17:00			
Vol.	6	2	1	2	13	44	90	42	9	3	1	1	190				

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q5317
 Station ID: SN:023256
 N. Old S.R. 37
 N. Dunn St. to E. Audubon Dr.
 Latitude: 0' 0.000 Undefined

Start Time	1	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	61	66	70	71	75	76	Total	Pace Speed	Number in Pace
10/14/10	15	0	0	0	0	1	4	2	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	28-37	7
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	36-45	5
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	29-38	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	30-39	4
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	42-51	10
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	41-50	33
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141	41-50	106
07:00	3	1	0	0	0	6	28	94	120	52	24	2	1	1	1	1	1	1	1	1	1	1	1	1	331	36-45	214
08:00	2	0	0	0	0	2	8	39	44	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205	40-49	143
09:00	1	0	0	0	0	0	0	6	71	46	7	0	0	0	0	0	0	0	0	0	0	0	0	0	160	41-50	117
10:00	0	0	0	0	0	2	5	37	42	18	8	3	0	0	0	0	0	0	0	0	0	0	0	0	115	36-45	79
11:00	1	1	1	2	0	0	7	19	69	35	0	3	1	1	1	1	1	1	1	1	1	1	1	1	138	41-50	104
12 PM	5	0	0	0	0	0	5	25	47	17	16	2	1	1	1	1	1	1	1	1	1	1	1	1	118	36-45	72
13:00	0	0	0	0	0	0	0	4	48	37	9	1	1	1	1	1	1	1	1	1	1	1	1	1	116	41-50	85
14:00	1	1	1	1	1	1	8	37	49	23	8	2	0	0	0	0	0	0	0	0	0	0	0	0	131	36-45	86
15:00	7	0	0	2	2	3	11	42	40	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	159	37-46	82
16:00	4	0	0	1	1	2	15	39	68	35	10	0	0	0	0	0	0	0	0	0	0	0	0	0	175	36-45	107
17:00	6	0	0	1	1	5	11	34	101	50	7	1	0	0	0	0	0	0	0	0	0	0	0	0	216	41-50	151
18:00	6	0	0	4	6	6	7	32	71	27	6	1	0	0	0	0	0	0	0	0	0	0	0	0	161	36-45	103
19:00	1	0	0	0	0	1	6	29	42	14	4	1	0	0	0	0	0	0	0	0	0	0	0	0	98	36-45	71
20:00	2	0	0	1	1	1	4	15	26	16	3	0	0	0	0	0	0	0	0	0	0	0	0	0	68	37-46	42
21:00	1	0	0	0	0	0	3	5	21	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0	45	41-50	33
22:00	0	0	0	0	0	0	6	6	6	5	4	1	0	0	0	0	0	0	0	0	0	0	0	0	31	32-41	16
23:00	0	0	0	1	1	0	6	9	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	23	35-44	15
Total	40	3	13	32	145	546	1017	146	546	23	9	2	0	2	2	2	2	2	2	2	2	2	2	2	2523		
Percent	1.6%	0.1%	0.5%	1.3%	5.7%	21.6%	40.3%	5.8%	21.6%	0.9%	0.4%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%		
AM Peak	07:00	07:00	11:00	07:00	07:00	07:00	07:00	07:00	07:00	10:00	03:00	05:00	03:00	07:00	05:00	03:00	05:00	03:00	03:00	05:00	03:00	03:00	03:00	03:00	07:00		
Vol	3	1	2	6	28	94	120	24	52	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	331		
PM Peak	15:00	14:00	18:00	18:00	16:00	15:00	17:00	17:00	17:00	12:00	12:00	18:00	12:00	18:00	18:00	12:00	12:00	12:00	12:00	18:00	18:00	18:00	18:00	18:00	17:00		
Vol	7	1	4	6	15	39	101	50	103	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	216		
Total	78	13	21	63	263	1131	1981	252	1030	46	11	4	1	4	4	4	4	4	4	4	4	4	4	4	4894		
Percent	1.6%	0.3%	0.4%	1.3%	5.4%	23.1%	40.5%	5.1%	21.0%	0.9%	0.2%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%			

Stats
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 3112
 Percent in Pace : 63.6%
 Number of Vehicles > 35 MPH : 4456
 Percent of Vehicles > 35 MPH : 91.1%
 Mean Speed(Average) : 42 MPH

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q5317
 Station ID: SN:023256
 N. Old S.R. 37
 N. Dunn St. to E. Audubon Dr.
 Latitude: 0' 0.000 Undefined

Start Time	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace	Number in Pace
10/13/10	15	20	30	35	40	45	50	55	60	65	70	75	999	32	36-45	24
01:00	0	0	0	2	7	7	3	1	0	0	0	0	0	20	34-43	14
02:00	0	6	2	4	3	3	1	0	0	0	0	0	0	21	16-25	8
03:00	0	1	4	0	3	3	2	0	1	0	0	0	0	13	20-29	6
04:00	0	0	0	5	3	7	7	0	1	0	0	0	0	23	38-47	14
05:00	0	0	1	5	12	24	21	8	3	2	0	0	0	76	41-50	45
06:00	4	1	1	6	25	58	44	13	1	0	0	0	0	153	41-50	102
07:00	1	2	12	39	148	153	40	7	0	0	0	0	0	405	36-45	301
08:00	8	0	8	28	105	122	49	6	1	0	0	0	0	330	36-45	227
09:00	0	1	6	16	55	96	40	13	2	1	0	0	0	231	36-45	151
10:00	6	0	4	15	50	79	38	6	1	0	0	0	0	205	36-45	129
11:00	7	1	9	19	56	78	32	10	1	0	1	0	0	221	36-45	134
12 PM	6	0	4	25	68	79	42	10	1	0	0	0	0	236	36-45	147
13:00	5	1	2	15	68	101	38	7	3	0	1	0	0	243	36-45	169
14:00	3	0	9	33	116	97	32	7	1	0	0	0	0	299	36-45	213
15:00	9	0	6	44	102	99	46	2	3	0	0	0	0	318	36-45	201
16:00	8	0	5	29	112	179	63	9	2	0	0	0	0	409	36-45	291
17:00	7	0	1	35	152	191	57	9	0	0	0	0	0	457	36-45	343
18:00	11	0	2	38	132	97	29	4	1	0	0	0	0	314	36-45	229
19:00	1	1	1	34	109	75	16	1	0	0	0	0	0	238	36-45	184
20:00	2	0	5	28	83	60	11	1	1	0	0	0	0	192	36-45	143
21:00	0	0	2	19	52	54	10	1	2	0	0	0	0	140	36-45	106
22:00	0	0	1	10	25	28	12	2	1	1	0	0	0	81	36-45	53
23:00	0	3	1	4	11	21	4	2	0	0	1	0	0	47	36-45	32
Total	78	16	92	458	1510	1720	638	120	26	4	3	0	0	4704		
Percent	1.7%	0.3%	2.0%	9.7%	32.1%	36.6%	13.6%	2.6%	0.6%	0.1%	0.1%	0.0%	0.0%			
AM Peak	08:00	02:00	07:00	07:00	07:00	07:00	08:00	06:00	05:00	05:00	11:00			07:00		
Vol.	8	6	12	39	148	153	49	13	3	2	1			405		
PM Peak	18:00	23:00	14:00	15:00	17:00	17:00	16:00	12:00	13:00	22:00	13:00			17:00		
Vol.	11	3	9	44	152	191	63	10	3	1	1			457		

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q5317
 Station ID: SN:023256
 N. Old S.R. 37
 N. Dunn St. to E. Audubon Dr.
 Latitude: 0' 0.000 Undefined

Start Time	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
10/14/10	15	20	25	30	35	40	45	50	55	60	65	70	75	999	29-38	14
01:00	0	0	0	0	6	8	4	3	0	0	0	0	0	24	35-44	9
02:00	0	0	0	0	0	5	4	3	0	1	0	0	0	14	35-44	10
03:00	0	0	0	0	1	8	2	2	2	0	0	0	0	15	31-40	11
04:00	0	0	0	0	1	10	0	4	1	1	0	1	0	19	42-51	11
05:00	0	0	0	0	0	7	2	8	1	0	0	0	0	19	41-50	39
06:00	0	0	0	0	1	5	20	19	5	2	0	1	0	54	41-50	110
07:00	6	1	1	6	44	123	143	58	24	2	0	0	0	409	36-45	266
08:00	2	0	0	7	20	84	130	49	10	1	1	0	0	304	36-45	214
09:00	1	1	1	4	11	46	101	51	7	0	0	0	0	223	40-49	152
10:00	0	0	0	3	14	67	62	23	8	3	0	0	0	180	36-45	129
11:00	2	1	2	1	17	66	112	39	1	4	1	0	0	246	36-45	178
12 PM	6	0	0	6	19	59	97	39	20	2	1	0	0	249	36-45	156
13:00	0	0	0	0	15	57	102	53	13	1	1	0	0	243	36-45	159
14:00	3	1	4	7	29	96	108	38	10	3	0	0	0	299	36-45	204
15:00	11	1	5	12	45	102	116	62	16	1	1	0	0	372	36-45	218
16:00	8	0	1	3	44	130	161	64	12	0	1	0	0	424	36-45	291
17:00	11	1	4	14	42	153	211	62	10	1	0	0	0	509	36-45	364
18:00	12	1	5	7	42	133	135	51	9	1	0	0	0	397	36-45	268
19:00	1	1	0	6	49	131	102	25	6	1	0	0	0	322	36-45	233
20:00	3	1	1	1	25	79	67	23	4	1	0	0	0	205	36-45	146
21:00	1	1	1	0	23	43	65	22	6	0	0	0	0	162	36-45	108
22:00	0	0	0	0	15	29	23	21	4	1	0	0	0	93	36-45	52
23:00	0	0	1	0	5	21	25	5	5	0	1	0	0	63	36-45	46
Total	67	12	28	84	474	1492	1859	767	181	27	9	2	0	5003		
Percent	1.3%	0.2%	0.6%	1.7%	9.5%	29.8%	37.2%	15.3%	3.6%	0.5%	0.2%	0.0%	0.0%			
AM Peak	07:00	00:00	11:00	08:00	07:00	07:00	07:00	07:00	07:00	11:00	03:00	05:00	03:00	07:00		
Vol.	6	1	2	7	44	123	143	58	24	4	1	1	1	409		
PM Peak	18:00	14:00	15:00	17:00	19:00	17:00	17:00	16:00	12:00	14:00	18:00	18:00	17:00	17:00		
Vol.	12	1	5	14	49	153	211	64	20	3	1	1	1	509		
Total	145	28	67	176	932	3002	3579	1405	301	53	13	5	0	9707		
Percent	1.5%	0.3%	0.7%	1.8%	9.6%	30.9%	36.9%	14.5%	3.1%	0.5%	0.1%	0.1%	0.0%			

Stats
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 6581
 Percent in Pace : 67.8%
 Number of Vehicles > 35 MPH : 8359
 Percent of Vehicles > 35 MPH : 86.1%
 Mean Speed(Average) : 41 MPH

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q532
 Station ID: SN:023257
 N. Old S.R. 37
 N. Hillview Dr. to N. Dunn St.
 Latitude: 0' 0.000 Undefined

Northbound	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	80	27	31-40	21
10/13/10	0	0	0	2	5	16	3	1	0	0	0	0	0	0	11	33-42	9
01:00	0	0	0	0	1	6	2	1	0	0	0	0	0	0	40	31-40	28
02:00	0	0	0	2	16	12	9	1	0	0	0	0	0	0	17	30-39	14
03:00	0	0	0	1	7	7	2	0	0	0	0	0	0	0	7	38-47	5
04:00	0	0	0	0	2	1	2	2	0	0	0	0	0	0	14	31-40	8
05:00	1	1	0	0	3	5	1	1	1	1	0	0	0	0	18	35-44	12
06:00	0	0	0	1	1	7	5	4	0	0	0	0	0	0	81	31-40	46
07:00	7	5	2	8	20	26	12	1	0	0	0	0	0	0	101	31-40	64
08:00	2	9	1	5	26	38	17	3	0	0	0	0	0	0	66	35-44	45
09:00	2	2	1	3	11	29	16	2	0	0	0	0	0	0	87	35-44	55
10:00	3	3	2	4	16	35	20	4	0	0	0	0	0	0	90	35-44	61
11:00	3	4	0	5	14	42	19	3	0	0	0	0	0	0	124	36-45	89
12 PM	5	2	1	3	17	47	42	6	1	0	0	0	0	0	125	36-45	95
13:00	1	2	2	3	19	57	38	3	0	0	0	0	0	0	188	32-41	117
14:00	5	6	0	12	39	77	40	8	0	1	0	0	0	0	178	36-45	104
15:00	5	0	2	22	37	51	53	5	2	1	0	0	0	0	253	36-45	194
16:00	5	2	1	11	31	123	71	9	0	0	0	0	0	0	253	31-40	168
17:00	11	5	5	17	52	116	40	7	0	0	0	0	0	0	175	31-40	127
18:00	8	5	2	8	45	82	23	2	0	0	0	0	0	0	152	31-40	119
19:00	2	4	1	5	40	79	21	0	0	0	0	0	0	0	122	35-44	95
20:00	0	0	0	4	21	69	26	2	0	0	0	0	0	0	86	35-44	59
21:00	1	0	1	3	17	35	24	4	1	0	0	0	0	0	48	36-45	36
22:00	0	0	0	1	8	18	18	2	1	0	0	0	0	0	33	36-45	26
23:00	0	0	0	2	2	16	10	3	0	0	0	0	0	0	2296		
Total	61	51	21	122	450	994	514	74	6	3	0	0	0	0			
Percent	2.7%	2.2%	0.9%	5.3%	19.6%	43.3%	22.4%	3.2%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	08:00	07:00	07:00	08:00	11:00	10:00	06:00	05:00	05:00					08:00		
Vol.	7	9	2	8	26	42	20	4	1	1					101		
PM Peak	17:00	14:00	17:00	15:00	17:00	16:00	16:00	16:00	15:00	14:00					16:00		
Vol.	11	6	5	22	52	123	71	9	2	1					253		

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q532
 Station ID: SN:023257
 N. Old S.R. 37
 N. Hillview Dr. to N. Dunn St.
 Latitude: 0' 0.000 Undefined

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
10/14/10	15	20	25	30	35	40	45	50	55	60	65	70	75	76	999	33-42	10
01:00	0	0	0	0	3	3	7	0	0	0	0	0	0	0	6	33-42	5
02:00	0	0	0	1	0	2	2	1	0	0	0	0	0	0	10	34-43	8
03:00	0	0	0	0	2	3	2	0	1	0	0	0	0	0	9	33-42	7
04:00	0	0	0	0	1	2	0	0	0	0	0	0	0	0	4	28-37	3
05:00	0	0	0	1	1	2	2	3	0	0	0	0	0	0	9	39-48	7
06:00	0	0	0	0	5	6	4	1	0	0	0	0	0	0	16	31-40	11
07:00	3	9	1	8	21	30	13	3	0	0	0	0	0	0	88	31-40	51
08:00	6	12	3	3	25	33	21	4	0	0	0	0	0	0	107	31-40	58
09:00	2	0	0	6	7	33	14	3	0	0	0	0	0	0	65	35-44	47
10:00	1	3	3	6	12	28	14	1	0	0	0	0	0	0	68	34-43	43
11:00	0	2	3	6	18	56	21	4	1	0	0	0	0	0	111	33-42	77
12 PM	2	1	4	13	15	52	50	4	1	0	0	0	0	0	142	36-45	102
13:00	3	3	1	9	26	53	30	10	1	0	0	0	0	0	136	35-44	83
14:00	3	3	8	15	34	61	50	9	0	0	0	0	0	0	183	36-45	111
15:00	9	1	2	15	50	71	48	7	1	0	0	0	0	0	205	31-40	121
16:00	6	1	4	15	41	103	66	5	0	0	0	0	0	0	241	36-45	169
17:00	7	5	6	13	47	116	63	12	1	0	0	0	0	0	270	36-45	179
18:00	3	2	2	21	44	97	49	7	2	0	0	0	0	0	227	35-44	146
19:00	1	3	5	12	43	89	57	5	0	0	0	0	0	0	215	36-45	146
20:00	3	0	0	3	30	50	34	6	1	0	0	0	0	0	128	35-44	85
21:00	2	0	1	5	19	47	35	4	0	0	0	0	0	0	113	36-45	82
22:00	2	0	0	1	4	23	18	9	1	0	0	0	0	0	58	36-45	41
23:00	0	0	0	1	4	16	12	3	1	1	0	0	0	0	38	36-45	28
Total	53	45	43	155	454	981	615	103	11	1	0	0	0	1	2462		
Percent	2.2%	1.8%	1.7%	6.3%	18.4%	39.8%	25.0%	4.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	08:00	11:00	08:00	08:00	03:00						11:00		
Vol.	6	12	3	8	25	56	21	4	1						111		
PM Peak	15:00	17:00	14:00	18:00	15:00	17:00	16:00	17:00	18:00	23:00					17:00		
Vol.	9	5	8	21	50	116	66	12	2	1					270		
Total	114	96	64	277	904	1975	1129	177	17	4					4758		
Percent	2.4%	2.0%	1.3%	5.8%	19.0%	41.5%	23.7%	3.7%	0.4%	0.1%							
15th Percentile :																	
50th Percentile :																	
85th Percentile :																	

Stats
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 3104
 Percent in Pace : 65.2%
 Number of Vehicles > 30 MPH : 4207
 Percent of Vehicles > 30 MPH : 88.4%
 Mean Speed(Average) : 37 MPH

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q532
 Station ID: SN:023257
 N. Old S.R. 37
 N. Hillview Dr. to N. Dunn St.
 Latitude: 0' 0.000 Undefined

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
10/13/10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	8	31-40	7
01:00	0	0	0	0	2	5	0	0	0	0	0	0	0	0	6	30-39	6
02:00	0	0	0	0	2	4	0	0	0	0	0	0	0	0	4	36-45	3
03:00	0	0	0	1	3	6	5	1	1	0	0	0	0	0	17	33-42	11
04:00	0	1	0	0	2	13	7	2	0	0	0	0	0	0	25	34-43	20
05:00	0	0	0	4	7	16	31	9	2	0	0	0	0	0	69	36-45	47
06:00	0	0	0	2	14	55	56	6	1	1	0	0	0	0	135	36-45	111
07:00	3	0	1	2	88	148	72	3	0	0	0	0	0	0	317	31-40	236
08:00	3	2	0	6	28	90	70	9	1	0	0	0	0	0	209	36-45	160
09:00	3	3	0	5	22	54	53	7	2	0	0	0	0	0	149	36-45	107
10:00	1	2	0	0	10	58	32	3	0	0	0	0	0	0	106	36-45	90
11:00	1	4	0	4	6	46	62	7	0	0	0	0	0	0	130	36-45	108
12 PM	1	1	1	1	10	31	35	12	0	0	0	0	0	0	92	36-45	66
13:00	1	1	0	4	6	44	41	5	2	0	0	0	0	0	104	36-45	85
14:00	6	3	1	3	22	49	33	7	0	0	0	0	0	0	124	36-45	82
15:00	4	8	2	2	18	57	32	4	1	1	0	0	0	0	129	36-45	89
16:00	1	4	1	3	18	64	47	3	0	0	0	0	0	0	141	36-45	111
17:00	10	9	2	6	27	98	50	2	0	0	0	0	0	0	204	36-45	148
18:00	7	3	1	4	24	68	27	1	0	0	0	0	0	0	135	33-42	95
19:00	2	4	1	7	15	46	8	0	0	0	0	0	0	0	83	31-40	61
20:00	0	0	0	2	12	34	7	0	0	0	0	0	0	0	55	31-40	46
21:00	2	4	0	1	12	17	5	2	0	0	0	0	0	0	43	31-40	29
22:00	0	2	0	1	4	6	9	1	0	0	0	0	0	0	23	35-44	15
23:00	0	0	0	0	2	6	4	0	0	0	0	0	0	0	12	34-43	11
Total	45	51	10	58	354	1017	687	86	10	2	0	0	0	0	2320		
Percent	1.9%	2.2%	0.4%	2.5%	15.3%	43.8%	29.6%	3.7%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	11:00	07:00	08:00	07:00	07:00	07:00	05:00	05:00	06:00					07:00		
Vol.	3	4	1	6	88	148	72	9	2	1					317		
PM Peak	17:00	17:00	15:00	19:00	17:00	17:00	17:00	12:00	13:00	15:00					17:00		
Vol.	10	9	2	7	27	98	50	12	2	1					204		

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q532
 Station ID: SN:023257
 N. Old S.R. 37
 N. Hillview Dr. to N. Dunn St.
 Latitude: 0' 0.000 Undefined

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
10/14/10	0	0	1	1	2	1	1	1	0	0	0	0	0	0	7	23-32	4
01:00	0	0	0	0	1	6	0	1	0	0	0	0	0	0	8	31-40	7
02:00	0	0	0	0	0	2	3	0	0	0	0	0	0	0	5	34-43	5
03:00	0	0	1	1	2	1	4	0	0	2	0	0	0	0	11	35-44	5
04:00	0	1	0	0	1	6	6	2	0	0	0	0	0	0	16	35-44	12
05:00	0	1	1	1	3	6	28	7	1	1	0	0	0	0	49	38-47	36
06:00	0	0	0	0	11	52	58	11	0	0	0	0	0	0	132	36-45	110
07:00	3	0	0	4	70	132	91	13	0	0	0	0	0	0	313	36-45	223
08:00	3	1	0	2	25	76	63	5	0	1	0	0	0	0	176	36-45	139
09:00	2	1	1	0	10	58	58	7	1	0	0	0	0	0	138	36-45	116
10:00	1	0	1	4	15	58	24	5	1	0	0	0	0	0	109	36-45	82
11:00	3	1	0	3	10	53	53	5	0	0	0	0	0	0	128	36-45	106
12 PM	2	0	0	2	8	51	29	13	2	0	0	0	0	0	107	36-45	80
13:00	4	1	0	0	10	35	41	8	1	0	0	0	0	0	100	36-45	76
14:00	2	0	2	4	16	49	37	9	0	0	0	0	0	0	119	36-45	86
15:00	4	5	2	5	22	58	47	6	2	0	0	0	0	0	151	36-45	105
16:00	8	8	1	10	36	58	61	8	0	0	0	0	0	0	190	36-45	119
17:00	9	3	3	12	39	83	73	9	1	0	0	0	0	0	232	36-45	156
18:00	4	5	2	6	28	67	57	7	0	0	0	0	0	0	176	36-45	124
19:00	2	4	2	3	20	37	24	5	0	0	0	0	0	0	97	35-44	61
20:00	2	1	1	2	16	26	21	0	0	0	0	0	0	0	69	35-44	47
21:00	3	1	0	0	6	18	14	3	0	0	0	0	0	0	45	35-44	32
22:00	3	2	0	0	9	11	5	4	1	0	0	0	0	0	35	31-40	20
23:00	0	0	0	0	1	11	6	1	0	0	0	0	0	0	19	35-44	17
Total	55	35	18	60	361	955	804	130	10	4	0	0	0	0	2432		
Percent	2.3%	1.4%	0.7%	2.5%	14.8%	39.3%	33.1%	5.3%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	04:00	00:00	07:00	07:00	07:00	07:00	07:00	05:00	03:00					07:00		
Vol.	3	1	1	4	70	132	91	13	1	2					313		
PM Peak	17:00	16:00	17:00	17:00	17:00	17:00	17:00	12:00	12:00						17:00		
Vol.	9	8	3	12	39	83	73	13	2						232		
Total	100	86	28	118	715	1972	1491	216	20	6	0	0	0	0	4752		
Percent	2.1%	1.8%	0.6%	2.5%	15.0%	41.5%	31.4%	4.5%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%			

Stats
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 3463
 Percent in Pace : 72.9%
 Number of Vehicles > 30 MPH : 4420
 Percent of Vehicles > 30 MPH : 93.0%
 Mean Speed(Average) : 38 MPH

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q532
 Station ID: SN:023257
 N. Old S.R. 37
 N. Hillview Dr. to N. Dunn St.
 Latitude: 0' 0.000 Undefined

Start Time	16:20	21:25	26:30	31:35	36:40	41:45	46:50	51:55	56:60	61:65	66:70	71:75	76:999	Total	Pace Speed	Number in Pace
10/13/10	0	0	0	7	21	3	2	0	0	0	0	0	0	35	31-40	28
01:00	1	0	0	3	10	2	1	0	0	0	0	0	0	17	33-42	15
02:00	0	0	2	16	14	10	2	0	0	0	0	0	0	44	31-40	30
03:00	0	0	2	10	13	7	1	1	0	0	0	0	0	34	31-40	23
04:00	0	0	0	4	14	9	4	0	0	0	0	0	0	32	35-44	23
05:00	1	0	4	10	21	32	10	3	1	0	0	0	0	83	36-45	53
06:00	0	0	3	15	62	61	10	1	1	0	0	0	0	153	36-45	123
07:00	10	3	10	108	174	84	4	0	0	0	0	0	0	398	31-40	282
08:00	5	1	11	54	128	87	12	1	0	0	0	0	0	310	36-45	215
09:00	5	5	8	33	83	69	9	2	0	0	0	0	0	215	36-45	152
10:00	4	5	4	26	93	52	7	0	0	0	0	0	0	193	36-45	145
11:00	4	8	9	20	88	81	10	0	0	0	0	0	0	220	36-45	169
12 PM	6	3	4	27	78	77	18	1	0	0	0	0	0	216	36-45	155
13:00	2	3	7	25	101	79	8	2	0	0	0	0	0	229	36-45	180
14:00	11	9	15	61	126	73	15	0	1	0	0	0	0	312	36-45	199
15:00	9	8	24	55	108	85	9	3	2	0	0	0	0	307	36-45	193
16:00	6	6	14	49	187	118	12	0	0	0	0	0	0	394	36-45	305
17:00	21	14	23	79	214	90	9	0	0	0	0	0	0	457	36-45	304
18:00	15	8	12	69	150	50	3	0	0	0	0	0	0	310	31-40	219
19:00	4	8	12	55	125	29	0	0	0	0	0	0	0	235	31-40	180
20:00	0	0	6	33	103	33	2	0	0	0	0	0	0	177	33-42	138
21:00	3	4	4	29	52	29	6	1	0	0	0	0	0	129	32-41	82
22:00	0	2	2	12	24	27	3	1	0	0	0	0	0	71	36-45	51
23:00	0	0	2	4	22	14	3	0	0	0	0	0	0	45	36-45	36
Total	106	102	180	804	2011	1201	160	16	5	0	0	0	0	4616		
Percent	2.3%	2.2%	3.9%	17.4%	43.6%	26.0%	3.5%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	08:00	08:00	07:00	07:00	08:00	08:00	05:00	05:00					07:00		
Vol.	10	11	11	108	174	87	12	3	1					398		
PM Peak	17:00	17:00	15:00	17:00	17:00	16:00	12:00	15:00	15:00					17:00		
Vol.	21	14	24	79	214	118	18	3	2					457		

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: PK
 Weather: Warm, sunny

Site Code: q532
 Station ID: SN:023257
 N. Old S.R. 37
 N. Hillview Dr. to N. Dunn St.
 Latitude: 0' 0.000 Undefined

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
10/14/10	1	20	25	30	35	40	45	50	55	60	65	70	75	999	20	37-46	13
01:00	0	0	1	1	5	4	8	1	0	0	0	0	0	0	14	31-40	10
02:00	0	0	0	0	2	8	2	2	0	0	0	0	0	0	15	36-45	13
03:00	0	0	1	1	0	7	6	1	0	0	0	0	0	0	20	32-41	10
04:00	0	1	0	2	4	4	6	0	1	2	0	0	0	0	20	34-43	14
05:00	0	1	0	2	4	8	6	3	0	0	0	0	0	0	58	38-47	40
06:00	0	1	1	2	4	8	30	10	1	1	0	0	0	0	148	36-45	120
07:00	6	9	1	12	91	162	104	16	0	0	0	0	0	0	401	36-45	266
08:00	9	13	3	5	50	109	84	9	0	1	0	0	0	0	283	36-45	193
09:00	4	1	1	6	17	91	72	10	1	0	0	0	0	0	203	36-45	163
10:00	2	3	4	10	27	86	38	6	1	0	0	0	0	0	177	36-45	124
11:00	3	3	3	9	28	109	74	9	1	0	0	0	0	0	239	36-45	183
12 PM	4	1	4	15	23	103	79	17	3	0	0	0	0	0	249	36-45	182
13:00	7	4	1	9	36	88	71	18	2	0	0	0	0	0	236	36-45	159
14:00	5	3	10	19	50	110	87	18	0	0	0	0	0	0	302	36-45	197
15:00	13	6	4	20	72	129	95	13	3	0	0	0	0	1	356	36-45	224
16:00	14	9	5	25	77	161	127	13	0	0	0	0	0	0	431	36-45	288
17:00	16	8	9	25	86	199	136	21	2	0	0	0	0	0	502	36-45	335
18:00	7	7	4	27	72	164	106	14	2	0	0	0	0	0	403	36-45	270
19:00	3	7	7	15	63	126	81	10	0	0	0	0	0	0	312	36-45	207
20:00	5	1	1	5	47	76	55	6	1	0	0	0	0	0	197	36-45	131
21:00	5	1	1	5	25	65	49	7	0	0	0	0	0	0	158	36-45	114
22:00	5	2	0	1	13	34	23	13	2	0	0	0	0	0	93	36-45	57
23:00	0	0	0	1	5	27	18	4	1	1	0	0	0	0	57	36-45	45
Total	108	80	61	215	815	1936	1419	233	21	5	0	0	0	1	4894		
Percent	2.2%	1.6%	1.2%	4.4%	16.7%	39.6%	29.0%	4.8%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	10:00	07:00	07:00	07:00	07:00	07:00	03:00	03:00					07:00		
Vol.	9	13	4	12	91	162	104	16	1	2					401		
PM Peak	17:00	16:00	14:00	18:00	17:00	17:00	17:00	17:00	12:00	23:00				15:00	17:00		
Vol.	16	9	10	27	86	199	136	21	3	1				1	502		
Total	214	182	92	395	1619	3947	2620	393	37	10	0	0	0	1	9510		
Percent	2.3%	1.9%	1.0%	4.2%	17.0%	41.5%	27.5%	4.1%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%			

Stats

10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 6567
 Percent in Pace : 69.1%
 Number of Vehicles > 30 MPH : 8627
 Percent of Vehicles > 30 MPH : 90.7%
 Mean Speed(Average) : 37 MPH

15th Percentile :
 50th Percentile :
 85th Percentile :
 95th Percentile :

City of Bloomington
 Engineering Department
 401 N. Morton St., Suite 130
 Bloomington, IN 47404
 812-349-3417

For: HPMS
 Counted By: Paul
 Weather: Sunny, warm

Site Code: q534
 Station ID:
 N. Old State Road 37
 Bet. N. Walnut St. and N. Stone Mill Rd.
 Latitude: 0' 0.000 Undefined

Start Time	21-Apr-08		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	Eastbou	Westbou	Eastbou	Westbou	Eastbou	Westbou	Eastbou	Westbou	Eastbou	Westbou	Eastbou	Westbou	Eastbou	Westbou	Eastbou	Westbou
12:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AM																
01:00	13	11	26	14	*	*	*	*	*	*	*	*	*	*	20	12
02:00	10	10	16	6	*	*	*	*	*	*	*	*	*	*	13	8
03:00	7	7	1	6	*	*	*	*	*	*	*	*	*	*	4	6
04:00	5	7	2	9	*	*	*	*	*	*	*	*	*	*	4	8
05:00	6	16	2	14	*	*	*	*	*	*	*	*	*	*	4	15
06:00	2	40	5	44	*	*	*	*	*	*	*	*	*	*	4	42
07:00	26	143	30	108	*	*	*	*	*	*	*	*	*	*	28	126
08:00	87	351	75	354	*	*	*	*	*	*	*	*	*	*	81	352
09:00	100	257	103	207	*	*	*	*	*	*	*	*	*	*	102	232
10:00	98	158	115	180	*	*	*	*	*	*	*	*	*	*	106	169
11:00	76	115	91	131	*	*	*	*	*	*	*	*	*	*	84	123
12:00	145	108	164	125	*	*	*	*	*	*	*	*	*	*	154	116
PM																
01:00	119	127	206	135	*	*	*	*	*	*	*	*	*	*	162	131
02:00	141	132	159	114	*	*	*	*	*	*	*	*	*	*	150	123
03:00	179	136	176	131	*	*	*	*	*	*	*	*	*	*	178	134
04:00	210	157	219	139	*	*	*	*	*	*	*	*	*	*	214	148
05:00	279	177	262	151	*	*	*	*	*	*	*	*	*	*	270	164
06:00	336	172	327	178	*	*	*	*	*	*	*	*	*	*	332	175
07:00	224	147	243	164	*	*	*	*	*	*	*	*	*	*	234	156
08:00	202	120	162	128	*	*	*	*	*	*	*	*	*	*	182	124
09:00	177	102	167	75	*	*	*	*	*	*	*	*	*	*	172	88
10:00	124	57	119	69	*	*	*	*	*	*	*	*	*	*	122	63
11:00	79	39	60	30	*	*	*	*	*	*	*	*	*	*	70	34
12:00	35	13	32	20	*	*	*	*	*	*	*	*	*	*	34	16
Lane Day	0	0	2762	2532	0	0	0	0	0	0	0	0	0	0	2724	2565
AM Peak	5282	2602	5294	5289	0	0	0	0	0	0	0	0	0	0	5289	5289
Vol.	11:00	07:00	11:00	07:00											11:00	07:00
PM Peak	145	351	164	354											154	352
Vol.	17:00	16:00	17:00	17:00											17:00	17:00
ADT	336	177	327	178											332	175
Comb. Total	0	0	5294	5289	0	0	0	0	0	0	0	0	0	0	5289	5289
ADT	ADT 5,288	ADT 5,288	ADT 5,288	ADT 5,288											ADT 5,288	ADT 5,288

CRASH DATA

N Dunn and Old State Route 37 Crashes, 2008-2010

Figure 1. Geographic Distribution of Crashes, 2008-2010

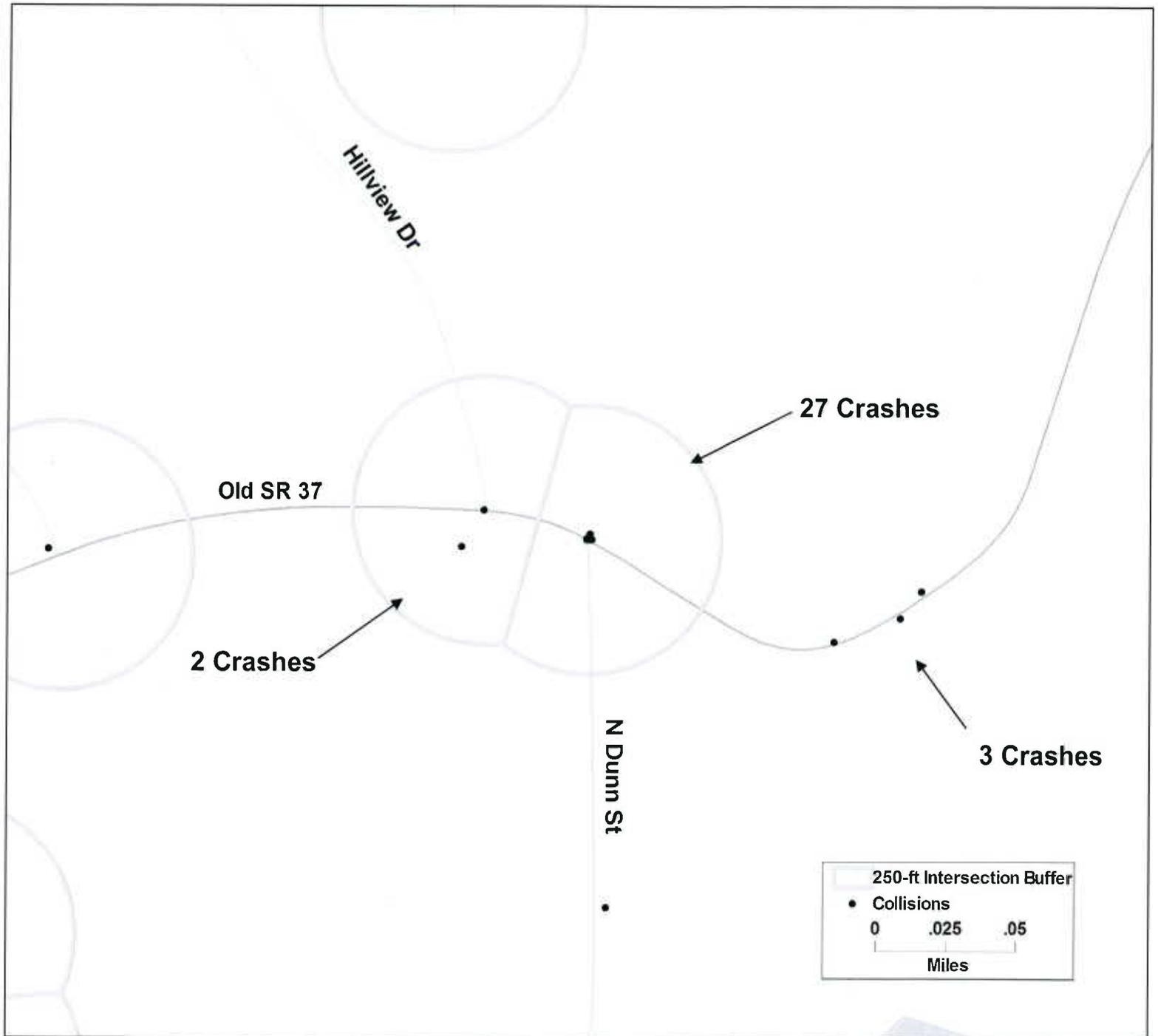


Table 1. Top Primary Crash Factors: N Dunn St and Old SR 37, 2008-2010

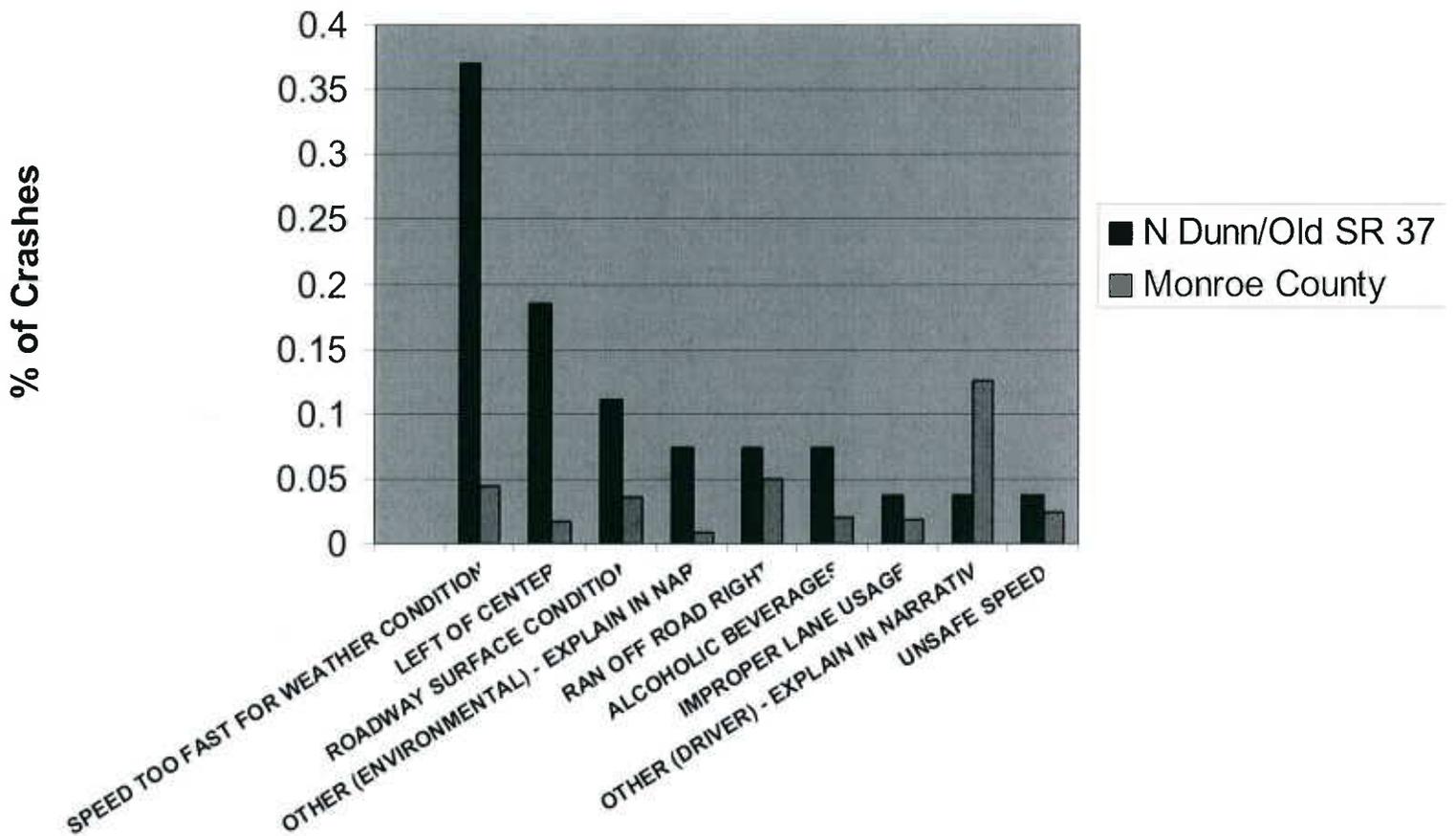
Rank	Primary Factor	Severity				3-Year Total	% of Total
		Fatal Injury	Incapacitating Injury	Non-Incapacitating Injury	No Injury/Unknown		
1	SPEED TOO FAST FOR WEATHER CONDITIONS	0	1	4	5	10	37.0%
2	LEFT OF CENTER	0	0	2	3	5	18.5%
3	ROADWAY SURFACE CONDITION	0	0	1	2	3	11.1%
4	OTHER (ENVIRONMENTAL) - EXPLAIN IN NARR	0	0	0	2	2	7.4%
5	RAN OFF ROAD RIGHT	0	0	1	1	2	7.4%
6	ALCOHOLIC BEVERAGES	0	0	1	1	2	7.4%
7	IMPROPER LANE USAGE	0	0	1	0	1	3.7%
8	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	0	0	0	1	1	3.7%
9	UNSAFE SPEED	0	0	1	0	1	3.7%

Table 2. Top Primary Crash Factors: Monroe County, 2008-2010

Rank	Primary Factor	Severity				3-Year Total	% of Total
		Fatal Injury	Incapacitating Injury	Non-Incapacitating Injury	No Injury/Unknown		
1	FAILURE TO YIELD RIGHT OF WAY	2	36	621	1,811	2,470	19.9%
2	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	2	12	253	1,282	1,549	12.5%
3	FOLLOWING TOO CLOSELY	0	11	384	1,119	1,514	12.2%
4	UNSAFE BACKING	0	1	23	1,170	1,194	9.6%
5	RAN OFF ROAD RIGHT	6	14	167	438	625	5.0%
6	SPEED TOO FAST FOR WEATHER CONDITIONS	0	4	105	439	548	4.4%
7	DRIVER DISTRACTED - EXPLAIN IN NARRATIVE	1	3	140	386	530	4.3%
8	DISREGARD SIGNAL/REG SIGN	0	10	155	288	453	3.6%
9	ROADWAY SURFACE CONDITION	0	7	56	387	450	3.6%
10	ANIMAL/OBJECT IN ROADWAY	1	8	43	372	424	3.4%

Figure 2. Primary Crash Factors, 2008-2010

Primary Crash Factors at N Dunn St/Old SR 37 vs Monroe County



Master Record Number	Year	Month	Day	Weekend?	Hour	Collision Type	Injury Type	Primary Factor	Reported Location	Latitude	Longitude
502878	2003	11	5	Weekday	1500	1-Car	No injury/unknown	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	DUNN & SR37	39.164448	-86.528096
283581	2003	5	7	Weekend	2300	1-Car	No injury/unknown	RAN OFF ROAD LEFT	DUNN & SR37	39.164448	-86.528096
211615	2003	10	3	Weekday	1100	1-Car	No injury/unknown	RAN OFF ROAD RIGHT	DUNN & SR37	39.164448	-86.528096
797314	2003	10	6	Weekend	2300	2-Car	No injury/unknown	ROADWAY SURFACE CONDITION	DUNN & SR37	39.164448	-86.528096
503588	2003	8	2	Weekday	1400	2-Car	Non-incapacitating	LEFT OF CENTER	DUNN & SR37	39.164448	-86.528096
502456	2003	7	3	Weekday	1300	1-Car	Non-incapacitating	NONE (DRIVER)/OTHER	DUNN & SR37	39.164448	-86.528096
283676	2003	7	3	Weekday	1200	1-Car	Non-incapacitating	RAN OFF ROAD RIGHT	DUNN & SR37	39.164448	-86.528096
719130	2003	4	5	Weekday	900	3+ Cars	Non-incapacitating	UNSAFE SPEED	DUNN & SR37	39.164448	-86.528096
90006542	2003	10	6	Weekday	900	1-Car	Non-incapacitating	UNSAFE SPEED	DUNN & SR37	39.164448	-86.528096
1488150	2004	5	5	Weekday	1100	2-Car	Fatal	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & SR37	39.164448	-86.528096
1445064	2004	5	7	Weekend	700	2-Car	Fatal	UNSAFE SPEED	DUNN & SR37	39.164448	-86.528096
1908323	2004	10	7	Weekend	300	1-Car	No injury/unknown	ANIMAL/OBJECT IN ROADWAY	DUNN & SR37	39.164448	-86.528096
1933679	2004	10	4	Weekday	700	2-Car	No injury/unknown	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	N DUNN & SR37	39.164448	-86.528096
1908185	2004	8	6	Weekday	900	1-Car	No injury/unknown	RAN OFF ROAD RIGHT	DUNN & SR37	39.164448	-86.528096
1934008	2004	11	7	Weekend	700	1-Car	No injury/unknown	RAN OFF ROAD RIGHT	DUNN & SR37	39.164448	-86.528096
1486995	2004	10	4	Weekday	900	2-Car	No injury/unknown	ROADWAY SURFACE CONDITION	DUNN & SR37	39.164448	-86.528096
900334157	2004	8	6	Weekday	1700	1-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & SR37	39.164448	-86.528096
1487041	2004	7	1	Weekday	2100	3+ Cars	Non-incapacitating	LEFT OF CENTER	DUNN & SR 37	39.164448	-86.528096
1908234	2004	8	3	Weekday	1800	2-Car	Non-incapacitating	LEFT OF CENTER	DUNN & OLD SR 37	39.208048	-86.528704
1933637	2004	10	3	Weekday	1500	1-Car	Non-incapacitating	NONE (DRIVER)/OTHER	DUNN & SR37	39.164448	-86.528096
1933838	2004	10	3	Weekday	1500	2-Car	Non-incapacitating	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	DUNN & OLD SR37	39.164448	-86.528096
1444671	2004	3	2	Weekday	100	1-Car	Non-incapacitating	RAN OFF ROAD RIGHT	DUNN & SR37	39.164448	-86.528096
1445023	2004	5	4	Weekday	1300	1-Car	Non-incapacitating	RAN OFF ROAD RIGHT	DUNN & OLD SR 37	39.164448	-86.528096
1836880	2005	1	7	Weekend	1300	2-Car	No injury/unknown	FAILURE TO YIELD RIGHT OF WAY	DUNN & SR37	39.164448	-86.528096
1842879	2005	11	3	Weekday	1200	2-Car	No injury/unknown	FAILURE TO YIELD RIGHT OF WAY	N DUNN & SR37	39.164448	-86.528096
1792120	2005	12	5	Weekday	1300	2-Car	No injury/unknown	LEFT OF CENTER	DUNN & SR37	39.164448	-86.528096
1290932	2005	9	1	Weekend	700	1-Car	No injury/unknown	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	DUNN & SR37	39.164448	-86.528096
1836144	2005	1	7	Weekend	800	1-Car	Non-incapacitating	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	DUNN & SR 37	39.164448	-86.528096
1743896	2005	7	5	Weekday	1200	1-Car	Non-incapacitating	RAN OFF ROAD RIGHT	DUNN & OLD SR 37	39.251296	-86.500832
1990847	2005	11	1	Weekday	2000	1-Car	Non-incapacitating	ROADWAY SURFACE CONDITION	DUNN & OLD SR 37	39.2291723	-86.528699
1748105	2005	10	2	Weekday	300	1-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & SR37	39.164448	-86.528096
900549640	2006	9	6	Weekend	1900	Pedestrian	Incapacitating	ANIMAL/OBJECT IN ROADWAY	DUNN & SR37S		
900549639	2006	9	6	Weekend	1900	Moped/Motorcycle	Incapacitating	OVERCORRECTING/OVERSTEERING	DUNN & SR37S		
900528586	2006	8	6	Weekday	1400	2-Car	No injury/unknown	BRAKE FAILURE OR DEFECTIVE	N DUNN & OLD STATE RD 37 NORTH RD	39.208	-86.5287423
900572904	2006	10	7	Weekend	2000	2-Car	No injury/unknown	FAILURE TO YIELD RIGHT OF WAY	DUNN & SR37N	39.164448	-86.528096
900464516	2006	5	4	Weekday	1600	2-Car	No injury/unknown	LEFT OF CENTER	DUNN & OLD STATE 37 RD	39.208	-86.5287163
900497309	2006	7	3	Weekday	900	1-Car	No injury/unknown	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	DUNN & OLD ST RD 37 N RDS	39.208	-86.5287102
900524148	2006	8	4	Weekday	1200	1-Car	No injury/unknown	OTHER (VEHICLE) - EXPLAIN IN NARRATIVE	OLD SR 37 AT NORTH DUNN & SR37		
900567401	2006	10	2	Weekday	1400	1-Car	No injury/unknown	RAN OFF ROAD RIGHT	DUNN & N OLD 37 RTE	39.2185862	-86.528699
900561852	2006	10	5	Weekday	1200	1-Car	No injury/unknown	ROADWAY SURFACE CONDITION	DUNN & N OLD STATE ROAD 37 ST	39.208048	-86.528704
900586688	2006	11	1	Weekend	1300	1-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & SR37N	39.164448	-86.528096
900455948	2006	4	6	Weekday	800	1-Car	No injury/unknown	UNSAFE SPEED	DUNN & SR37N		
900586699	2006	11	1	Weekend	1200	2-Car	Non-incapacitating	LEFT OF CENTER	DUNN & SR37N	39.164448	-86.528096
900464743	2006	5	1	Weekend	1100	2-Car	Non-incapacitating	ROADWAY SURFACE CONDITION	DUNN & N OLD STATE ROAD 37 ST	39.208	-86.5287163
900460245	2006	4	1	Weekday	1400	2-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & SR37N		
900460056	2006	4	5	Weekday	1900	1-Car	Non-incapacitating	UNSAFE SPEED	DUNN ST & OLD HWY 37 NORTH	39.174445	-86.528699
900722144	2007	8	2	Weekday	1500	1-Car	No injury/unknown	BRAKE FAILURE OR DEFECTIVE	DUNN ST & SR37N	39.164448	-86.528096
900763295	2007	10	5	Weekday	1500	2-Car	No injury/unknown	LEFT OF CENTER	N DUNN & OLD 37 NORTH RTE		
900763304	2007	10	5	Weekday	1900	3+ Cars	No injury/unknown	LEFT OF CENTER	N DUNN & OLD SR 37 NORTH RTE	39.208048	-86.528704
900762027	2007	10	3	Weekday	1400	1-Car	No injury/unknown	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	N OLD SR 37 HWY & N DUNN	39.208048	-86.528704
900652493	2007	3	5	Weekend	700	3+ Cars	No injury/unknown	ROADWAY SURFACE CONDITION	N DUNN ST & SR37N	39.164448	-86.528096
900799076	2007	12	7	Weekend	200	2-Car	No injury/unknown	ROADWAY SURFACE CONDITION	N DUNN & Old State Road 37		
900745423	2007	9	3	Weekday	2000	2-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & OLD STATE ROAD 37 RD	39.208048	-86.528704
900710151	2007	7	6	Weekday	1800	2-Car	Non-incapacitating	LEFT OF CENTER	CR37N & DUNN		
900763299	2007	10	5	Weekday	1700	2-Car	Non-incapacitating	LEFT OF CENTER	N DUNN & OLD SR 37 NORTH RTE	39.208048	-86.528704
900775179	2007	11	2	Weekday	1800	2-Car	Non-incapacitating	LEFT OF CENTER	DUNN & OLD 37 NORTH RD		

Master Record Number	Year	Month	Day	Weekend?	Hour	Collision Type	Injury Type	Primary Factor	Reported Location	Latitude	Longitude
900764215	2007	10	7	Weekend	1300	1-Car	Non-incapacitating	ROADWAY SURFACE CONDITION	DUNN STREET & Old State Road 37	39.208048	-86.528704
900649985	2007	3	6	Weekday	1300	1-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & OLD STATE RD 37 HWY		
900686552	2007	6	6	Weekday	1200	2-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & Old State Road 37		
900953112	2008	9	4	Weekday	1200	Moped/Motorcycle	Fatal	LEFT OF CENTER	DUNN & OLD STATE ROAD 37 NORTH RD		
900836470	2008	2	6	Weekday	1500	1-Car	No injury/unknown	ALCOHOLIC BEVERAGES	N DUNN & OLD ST RD 37 RD	39.2450716	-86.52872
900934948	2008	7	4	Weekday	1500	2-Car	No injury/unknown	LEFT OF CENTER	N DUNN & N OLD SR RTE	39.20802	-86.52872
900845709	2008	2	5	Weekday	1900	1-Car	No injury/unknown	OTHER (ENVIRONMENTAL) - EXPLAIN IN NARR	N DUNN & OLD STATE ROAD 37 RD	39.208048	-86.528704
900850036	2008	2	4	Weekday	01	1-Car	No injury/unknown	RAN OFF ROAD RIGHT	DUNN & OLD STATE ROAD 37 RD	39.208048	-86.528704
900973027	2008	10	3	Weekday	1700	1-Car	No injury/unknown	ROADWAY SURFACE CONDITION	NORTH DUNN & OLD STATE ROAD 37 RD		
900993920	2008	11	3	Weekday	1100	2-Car	No injury/unknown	ROADWAY SURFACE CONDITION	N DUNN & SR37N		
900885544	2008	4	3	Weekday	01	1-Car	Non-incapacitating	ALCOHOLIC BEVERAGES	N DUNN & OLD STATE RD 37 RD	39.208048	-86.528704
900900752	2008	5	3	Weekday	1700	2-Car	Non-incapacitating	LEFT OF CENTER	N DUNN & SR37N	39.2076208	-86.5286359
900975623	2008	10	3	Weekday	1300	2-Car	Non-incapacitating	LEFT OF CENTER	DUNN & OLD ST RD 37 N RD	39.20802	-86.528694
900954193	2008	10	3	Weekday	1300	1-Car	Non-incapacitating	RAN OFF ROAD RIGHT	N DUNN & NORTH OLD SR 37 RD	39.208048	-86.528704
90095622	2008	10	3	Weekday	1300	1-Car	Non-incapacitating	RAN OFF ROAD RIGHT	DUNN & OLD STATE ROAD 37 RD	39.208048	-86.528704
900954193	2008	9	5	Weekday	2000	2-Car	Non-incapacitating	ROADWAY SURFACE CONDITION	DUNN & OLD STATE ROAD 37 RD	39.208048	-86.528704
900995984	2008	11	7	Weekend	1200	2-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & OLD STATE RD 37 RD	39.208048	-86.528704
901046140	2009	1	2	Weekday	1000	2-Car	No injury/unknown	LEFT OF CENTER	DUNN STREET & NORTH OLD STATE ROAD 37 RDS	39.208048	-86.528704
901164725	2009	8	6	Weekend	2300	1-Car	No injury/unknown	OTHER (ENVIRONMENTAL) - EXPLAIN IN NARR	DUNN & NORTH OLD ST STATE RD	39.20802	-86.5286984
901164548	2009	8	6	Weekday	1800	1-Car	No injury/unknown	ROADWAY SURFACE CONDITION	DUNN & OLD STATE RD 37 N RD	39.2609508	-86.52872
901179067	2009	9	1	Weekday	2000	2-Car	No injury/unknown	ROADWAY SURFACE CONDITION	DUNN & OLD SR 37 RD	39.208048	-86.528704
901178504	2009	9	3	Weekday	300	2-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & OLD STATE RD 37 HWY	39.208048	-86.528704
901179806	2009	9	3	Weekday	1700	1-Car	No injury/unknown	TIRE FAILURE OR DEFECTIVE	DUNN & SR37N		
901189674	2009	10	6	Weekend	2100	2-Car	Non-incapacitating	IMPROPER LANE USAGE	DUNN & SR37N	39.208024	-86.528728
901132721	2009	7	7	Weekend	1300	2-Car	Non-incapacitating	LEFT OF CENTER	N DUNN & N OLD SR 37 RD	39.208048	-86.528704
901111336	2009	5	2	Weekday	2300	1-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & OLD STATE RD 37 RD	39.208048	-86.528704
901148258	2009	7	5	Weekday	1700	2-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & OLD SR 37 ST	39.208048	-86.528704
901201425	2009	10	3	Weekday	1700	3+ Cars	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & SR37N	39.164448	-86.528096
901159517	2009	8	7	Weekend	1200	1-Car	Non-incapacitating	UNSAFE SPEED	NORTH DUNN & NORTH OLD ST RD 37 HWY	39.20802	-86.52872
901531987	2010	11	7	Weekend	1700	2-Car	Incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & OLD STATE RD 37 RD	39.208048	-86.528704
901339116	2010	4	6	Weekday	1300	2-Car	No injury/unknown	LEFT OF CENTER	N DUNN & OLD SR 37 RD	39.208048	-86.528704
901562612	2010	12	5	Weekday	400	1-Car	No injury/unknown	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	DUNN & OLD SR 37 NORTH HWY	39.208048	-86.528704
901471595	2010	7	3	Weekday	2200	2-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & NORTH OLD STATE ROAD 37 RD	39.208048	-86.528704
901471601	2010	7	3	Weekday	2200	1-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & NORTH OLD STATE ROAD 37 RD	39.208048	-86.528704
901508399	2010	10	7	Weekend	1400	2-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & OLD SR 37 N RD	39.208048	-86.528704
901533897	2010	11	3	Weekday	1400	1-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & N OLD STATE ROAD 37 RD	39.208048	-86.528704
901489755	2010	8	5	Weekday	800	1-Car	Non-incapacitating	RAN OFF ROAD RIGHT	DUNN & SR37N	39.207758	-86.5286964
901340132	2010	4	1	Weekend	1400	1-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & N OLD STATE RD 37 RD	39.208048	-86.528704
901348612	2010	5	4	Weekday	2100	Moped/Motorcycle	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & SR37N	39.2075003	-86.5270758
901521214	2010	10	3	Weekday	1100	1-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & N OLD SR37 RD		
901684096	2011	8	3	Weekday	200	Moped/Motorcycle	Fatal	UNSAFE SPEED	DUNN & OLD SR 37 RD	39.208048	-86.528704
901713054	2011	10	1	Weekend	1100	1-Car	No injury/unknown	RAN OFF ROAD RIGHT	N DUNN & N OLD SR 37	39.208048	-86.528704
901649804	2011	6	1	Weekend	900	1-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN ST & N OLD SR 37	39.208048	-86.528704
901747954	2011	12	2	Weekday	2200	1-Car	No injury/unknown	SPEED TOO FAST FOR WEATHER CONDITIONS	N DUNN & N OLD STATE ROAD 37 RD	39.208048	-86.528704
901580993	2011	1	6	Weekday	1700	2-Car	Non-incapacitating	LEFT OF CENTER	NORTH DUNN & NORTH OLD SR 37 RD	39.208048	-86.528704
901616490	2011	4	2	Weekday	1600	2-Car	Non-incapacitating	LEFT OF CENTER	DUNN & OLD STATE ROAD 37 RD	39.208048	-86.528704
901569919	2011	1	3	Weekday	1700	2-Car	Non-incapacitating	SPEED TOO FAST FOR WEATHER CONDITIONS	DUNN & OLD SR 37 RD	39.20802	-86.528746

CAPACITY ANALYSIS RESULTS

HCM Unsignalized Intersection Capacity Analysis
 3: Hillview Dr/Dunn St & Old SR 37

Projected 2032 - AM Peak
 2/16/2012

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	56	11	32	256	0	4	0	6	0	9	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	62	12	36	284	0	4	0	7	0	10	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	284			74			468	435	68	442	441	284
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	284			74			468	435	68	442	441	284
tC, single (s)	4.1			4.1			7.1	6.7	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.2	3.4	3.5	4.0	3.3
p0 queue free %	100			98			99	100	99	100	98	96
cM capacity (veh/h)	1289			1538			473	479	973	510	496	759
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	80	320	11	38								
Volume Left	6	36	4	0								
Volume Right	12	0	7	28								
cSH	1289	1538	684	666								
Volume to Capacity	0.00	0.02	0.02	0.06								
Queue Length 95th (ft)	0	2	1	5								
Control Delay (s)	0.6	1.0	10.4	10.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.6	1.0	10.4	10.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			32.8%		ICU Level of Service				A			
Analysis Period (min)			15									

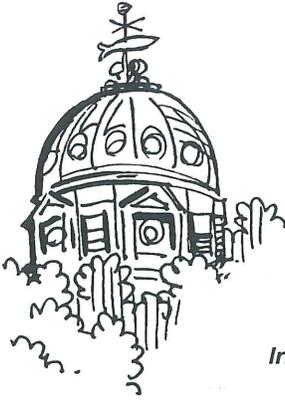
HCM Unsignalized Intersection Capacity Analysis
 3: Hillview Dr/Dunn St & Old SR 37

Projected 2032 - PM Peak
 2/16/2012

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	23	230	6	13	141	2	14	7	34	2	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	26	256	7	14	157	2	16	8	38	2	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	159			262			501	498	259	538	500	158
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	159			262			501	498	259	538	500	158
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			97	98	95	99	100	100
cM capacity (veh/h)	1433			1314			471	462	785	420	456	893
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	288	173	61	7								
Volume Left	26	14	16	2								
Volume Right	7	2	38	4								
cSH	1433	1314	623	649								
Volume to Capacity	0.02	0.01	0.10	0.01								
Queue Length 95th (ft)	1	1	8	1								
Control Delay (s)	0.8	0.7	11.4	10.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.8	0.7	11.4	10.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			28.9%		ICU Level of Service				A			
Analysis Period (min)			15									

Intersection				
Intersection Delay (sec/veh)	5.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	80	320	11	38
Demand Flow Rate (pc/h)	80	320	12	38
Vehicles Circulating (pc/h)	46	10	68	324
Vehicles Exiting (pc/h)	316	70	58	6
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	4.0	5.9	3.8	4.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LR	LTR
Assumed Moves	LTR	LTR	LR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	80	320	12	38
Capacity, Entry Lane (pc/h)	1079	1119	1056	817
Entry HV Adjustment Factor	1.000	1.000	0.917	0.995
Flow Rate, Entry (vph)	80	320	11	38
Capacity, Entry (vph)	1079	1119	968	813
Volume to Capacity Ratio	0.074	0.286	0.011	0.046
Control Delay (sec/veh)	4.0	5.9	3.8	4.9
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	1	0	0

Intersection				
Intersection Delay (sec/veh)	5.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	289	173	62	6
Demand Flow Rate (pc/h)	289	173	62	6
Vehicles Circulating (pc/h)	16	50	284	187
Vehicles Exiting (pc/h)	177	296	21	36
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	5.7	4.8	4.9	3.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LR
Assumed Moves	LTR	LTR	LTR	LR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	289	173	62	6
Capacity, Entry Lane (pc/h)	1112	1075	851	937
Entry HV Adjustment Factor	1.000	1.000	0.999	1.000
Flow Rate, Entry (vph)	289	173	62	6
Capacity, Entry (vph)	1112	1075	849	937
Volume to Capacity Ratio	0.260	0.161	0.073	0.006
Control Delay (sec/veh)	5.7	4.8	4.9	3.9
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	1	1	0	0



OFFICE OF
MONROE COUNTY COMMISSIONERS
100 West Kirkwood Avenue
The Courthouse Room 322
BLOOMINGTON, INDIANA 47404

Telephone 812-349-2550
Facsimile 812-349-7320

Iris F. Kiesling, President

Julie Thomas, Vice President

Patrick Stoffers, Member

November 27, 2013

Josh Desmond, Director
Bloomington / Monroe County Metropolitan Planning Organization
401 N. Morton Street, Suite 160, P. O. Box 100
Bloomington, Indiana 47402

RE: Highway Safety Improvement Program (HSIP); Old SR 37 North and Dunn Street.

Dear Mr. Desmond,

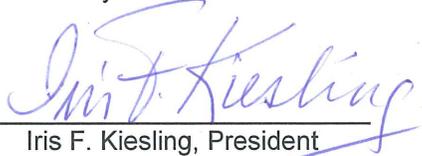
Thank you for the opportunity to submit this letter of support for Highway Safety Improvement Program funding for the realignment of Old State Road 37 North at Dunn Street. We appreciate the continued support from the MPO for this community's needs and believe this project will provide safety improvements to this part of the City of Bloomington and Monroe County.

This letter also serves as a letter of commitment for the development of the project. Due to a portion of the project being in County jurisdiction, we have appropriated \$100,000 to this improvement to this area. The City Engineer has kept the County Public Works Director / Highway Engineer informed of the progress on the project to date. We see it truly as improving the safety needs for our citizens and visitors.

Therefore, I provide my steadfast and highest support for this project. Please feel free to contact me at your convenience if you have any questions or comments on this matter.

Sincerely,

Monroe County Board of Commissioners


Iris F. Kiesling, President

IK/ww

Cc: Bill Williams, Monroe County Public Works Director/Highway Engineer



MEMORANDUM

To: MPO Technical Advisory and Citizens Advisory Committee Members
From: Anna Dragovich, Senior Transportation Planner
Date: January 22, 2014
Re: Transportation Improvement Program (TIP) Amendments

Bloomington Transit

Bloomington Transit has requested that the following project be amended in to the TIP in order to continue to develop their mobility manager program. The amendment adds \$25,000 of FTA 5317 to fiscal year 2014 and coincides with another project which already exists in the TIP.

Bloomington Transit Projects			Fiscal Year			
			2014	2015	2016	2017
Project:	Mobility Management Program	FTA 5317	\$ 25,000			
Description:	Volunteer driver program & vouchers for accessible taxi service.	Local	\$ 10,000			
DES#:	1383559					
Support:	Coordinated Human Services Plan and Des#1298241	TOTAL	\$ 35,000	\$ -	\$ -	\$ -

Indiana Department of Transportation

The Indiana Department of Transportation (INDOT) has requested to add two new projects to the TIP. Both projects entail roadway resurfacing, one on State Route 446 and the other on State Route 46. Both projects are scheduled for fiscal year 2015.

State of Indiana Projects		Funding Source	Fiscal year			
			2014	2015	2016	2017
Project:	State Route 446					
Location:	SR 446, E Moores Pike to SR 46	PE				
Description:	Surface treatment of SR 446 from E Moores Pike to SR 46	RW				
DES#	1383223	CN		\$ 146,742		
Support:		State		\$ 36,686		
Allied Projects:	State Route 46 Des#1383224	TOTAL				

Bloomington/Monroe County Metropolitan Planning Organization

State of Indiana Projects		Funding Source	Fiscal year			
			2014	2015	2016	2017
Project:	State Route 46					
Location:	SR 46, Red Hill Road to end of concrete section near SR 37	PE				
Description:	Surface treatment to SR 46 from Red Hill Road to end of concrete section near SR 37	RW				
DES#	1383224	CN	STP State	\$ 1,200,803		
Support:				\$ 300,201		
Allied Projects:	SR 446 Des#1383223	TOTAL				

City of Bloomington

The City of Bloomington has requested the addition of two new projects and one old project which already exists in the TIP. The first new project is a pedestrian curb ramp improvement project which will be using Highway Safety Improvement Program (HSIP) funding in 2014. The second new project is a Transportation Alternatives Program (TAP) project for city bikeways projects in 2015. The third project, Old SR 37 and Dunn, is an existing project that has been awaiting the MPO's HSIP process and so, has been shown as illustrative up until the most recent selection process.

City of Bloomington Projects		Funding Source	Fiscal year			
			2014	2015	2016	2017
Project:	Pedestrian Curb Ramps					
Location:	Downtown Bloomington	PE				
Description:	Retrofitting or reconstructing intersection curb ramps to ensure compliance with ADA. (Rogers St., Indiana RR tracks, Indiana Ave., and 2nd St.) and the 3rd St./Atwater and 10th St. corridors through IU	RW				
DES#		CN	HSIP	\$ 423,720		
Support:	ADA Transition Plan		Local	\$ 47,080		
Allied Projects:		TOTAL		\$ 470,800		

City of Bloomington Projects		Funding Source	Fiscal Year			
			2014	2015	2016	2017
Project:	Old SR 37 & Dunn St. Intersection Improvements					
Location:	At the intersection of Old SR 37 & Dunn St.	PE				
Description:	Improve horizontal and vertical geometry and sight distance at the intersection and on approaches	RW	STP Local	\$ 100,000 \$ 25,000		
DES#:	1297060	CN	HSIP		\$ 1,616,471	
Support:	LRTP		STP Local		\$ 40,000 \$ 190,000	
Allied Projects:	Proposed development on Old SR 37	TOTAL	\$ -	\$ 125,000	\$ 1,846,471	\$ -

Bloomington/Monroe County Metropolitan Planning Organization

City of Bloomington Projects		Funding Source	Fiscal year			
			2014	2015	2016	2017
Project:	2015 Bikeways Projects	PE Local	\$ 75,000			
Location:	Various					
Description:	Pavement marking for on-street bicycle facilities as outlined in the City's Bikeways Implementation Plan	RW				
DES#:		CN TA Local		\$ 200,000		
Support:	Bikeways Implementation Plan			\$ 50,000		
Allied Projects:		TOTAL	\$ 75,000	\$ 250,000		

Monroe County

The following projects are currently in the TIP and have been waiting on the MPO's TAP selection process. Until this time they have been shown as illustrative, or essentially have been unfunded. The TAP selection process was for funding in fiscal years 2014 and 2015 which is why 2016 funding for Karst Farm phase 3 continues to be shown as illustrative. The project will have the opportunity to apply for funding again once funding is determined and the next call for projects takes place.

Monroe County Projects		Funding Source	Fiscal Year			
			2014	2015	2016	2017
Project:	Karst Farm Greenway (Phase IIa)	PE Local	\$ 8,000			
Location:	Vernal Pike to Woodyard Rd.					
Description:	Preliminary engineering, Right-of-Way and construction of a multi-use trail for non-motorized use, including site amenities (~1.1 miles long)	RW Local	\$ 91,200			
DES#:	0902263	CN TE* TA Local	\$ 430,000			
Support:	LRTP, MCATGSP, BATGSP, ERCP			\$ 120,400		
Allied Projects:	Ellettsville Heritage Trail, B-Line Trail	TOTAL	\$ 787,200	\$ -	\$ -	\$ -

Monroe County Projects		Funding Source	Fiscal Year			
			2014	2015	2016	2017
Project:	Karst Farm Greenway (Phase 3)	PE TA Local	\$ 38,400	Note: The figures in italics represent illustrative funding		
Location:	From railbanked area to Hartstrait Road		\$ 9,600			
Description:	Construction of multi-use trail	RW TA Local		\$ 8,000		
DES#:	1382431	CN TA Local		\$ 2,000		
Support:	LRTP, MCATGSP, BATGSP, ERCP				\$ 220,800	
Allied Projects:	Other Karst Farm Phases, Ellettsville Heritage Trail, B-Line Trail	TOTAL	\$ 48,000	\$ 10,000	\$ 276,000	\$ -

Requested Action

The Technical Advisory and Citizens Advisory Committees are requested to make recommendations to the Policy Committee on the proposed TIP amendments.



Transportation Improvement Program Project Form

INSTRUCTIONS: This form must be completed in order for a new project to be considered for inclusion in the Transportation Improvement Program (TIP) **OR** to make changes to an existing project already programmed in the TIP. Please complete the applicable sections, attach support materials, and return to BMCMPPO staff at the address listed below.

Mail: Bloomington/Monroe County MPO
401 N. Morton Street Suite 160
PO Box 100
Bloomington, IN 47402

-OR- email: mpo@bloomington.in.gov
fax: (812)349-3535

I. PUBLIC AGENCY INFORMATION (Fill in all applicable fields):

- Monroe County City of Bloomington Town of Ellettsville INDOT
- Rural Transit Indiana University Bloomington Transit _____

Contact Name (ERC): Lew May **Phone:** 332-5688 **Fax:** 332-3660

Address: 130 W. Grimes Lane

Email: mayl@bloomingtontransit.com

II. PROJECT INFORMATION (Fill in all applicable fields):

Project Name: Mobility Management **DES Number:** # _____

Is this project already in the TIP? Yes No

Project Location (detailed description of project termini or attach an illustration): Monroe County and contiguous counties.

Brief Project Description: Continue to develop a mobility management program to improve mobility for persons with disabilities who don't have access to public transportation services in Monroe County. Project elements would include development of a consumer education program to be used to train persons with disabilities on how to use the various transportation resources available in the area as well as the continued provision of vouchers for accessible taxi service for persons with disabilities who don't have access to public transportation services in Monroe County. Such vouchers could be used for intra-county service between Monroe County and contiguous counties.

Support for the Project (e.g. Local plans, LRTP, TDP, etc.): Coordinated Human Services-Public Transportation Plan.

Allied Projects (other projects related to this one): Mobility Management Project 2013-2014

ITS: Does the project have an Intelligent Transportation Systems component? No If so, is the project included in the MPO's ITS architecture? _____



Bloomington/Monroe County Metropolitan Planning Organization

TIP Project Form (Updated 12/15/10)

Project Cost: Identify *ALL* anticipated project costs for all phases, including total anticipated project costs beyond the four years to be programmed in the TIP (i.e. outlying years). Please identify any illustrative phases or costs in *italics*. Note: FY runs from July 1 to June 30; so FY2012 starts 7/1/11 and ends 6/30/12.

Phase	Funding Source	FY 2012	FY 2013	FY 2014	FY 2015	Outlying Years
Mobility & Vouchers	5317 Local	\$	\$	\$ 25,000	\$	\$
		\$	\$	\$ 10,000	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		Totals:		\$	\$	\$ 35,000

Construction Engineering/Inspection: Does the project include an acceptable percentage of construction costs set aside for construction engineering or inspections? Yes No N/A

Year of Implementation Cost: Has a four percent (4%) inflation factor been applied to all future costs? Yes No

III. COMPLETE STREETS - Complete the fields below as follows (refer to the Complete Streets Policy for more information):

New Projects – If a public agency wishes to request a new project to be included in the TIP, then section III **MUST** be completed.

Existing Projects – If a project is already included in the current, adopted TIP (compliant or exempt) and changes have occurred or will occur to the project which would have bearing on the Complete Streets Policy information on file, then all of section III must be updated and resubmitted for consideration.

Applicability and Compliance – Check one of the following:

Compliant - The project will accommodate all users of the corridor. The project is new construction or reconstruction of local roadways that will use federal funds through the BMCMPPO for **any** phase of project implementation. *Additional Information items 1-8 (below) must be submitted for compliant projects.*

Exempt - The project is unable to accommodate all users of the corridor due to certain circumstances or special constraints, as detailed in Section IV of the CS Policy. *Additional Information items 1, 4-8 (below) must be submitted for exempt projects.*

Reason for exemption: _____

Not Applicable - The project is not subject to the Complete Streets Policy because it is a transit project, a non-road project, a resurfacing activity that does not alter the current/existing geometric designs of the roadway, a 'grandfathered' local roadway project included in the TIP before the adoption of the policy, or is a project that uses federal funds which the BMCMPPO does NOT have programming authority. *No Additional Information items (below) have to be provided for projects to which the Complete Streets Policy does not apply.*



Transportation Improvement Program Project Request Form

NOTE: This form must be completed in its entirety in order for a new project to be considered for inclusion into the Transportation Improvement Program (TIP) **OR** to make changes to an existing project already programmed in the TIP.

Please complete all parts, including signature verification, and attach all support materials before returning to BMCMPPO staff at the address listed below.

Mail: Bloomington/Monroe County MPO
 401 N. Morton Street Suite 160
 PO Box 100
 Bloomington, IN 47402

-OR-

email: mpo@bloomington.in.gov
 fax: (812) 349-3535

1. Public Agency Information (Fill in all applicable fields):

- | | | | |
|--|--|---|---|
| <input type="checkbox"/> Monroe County | <input type="checkbox"/> City of Bloomington | <input type="checkbox"/> Town of Ellettsville | <input checked="" type="checkbox"/> INDOT |
| <input type="checkbox"/> Rural Transit | <input type="checkbox"/> Indiana University | <input type="checkbox"/> Bloomington Transit | <input type="checkbox"/> _____ |

Contact Name (ERC): Jason Lowther **Phone:** 812-524-3758 **Fax:** _____

Address: INDOT 185 Agrico Lane, Seymour IN 47274

Email: _____

2. Project Information (Fill in all applicable fields):

- **Project Name:** SR 446 **DES Number:** # 1383223
- **Is this project already in the TIP?** Yes No
- **Project Location (detailed description of project termini or attach an illustration):** SR 446, E Moores Pike to SR 46
- **Brief Project Description:** Surface Treatment, Ultrathin Bonded Wearing Course
- **Support for the Project (e.g. Local plans, LRTP, TDP, etc.):** _____
- **Allied Projects (other projects related to this one):** 1383224 on SR 46, Will be under same contract
- **ITS Components:** Does the project have an Intelligent Transportation Systems component? No
 If so, is the project included in the MPO's ITS architecture? _____

3. Financial Plan

Identify *ALL* anticipated project costs for all phases, including total anticipated project costs beyond the four years to be programmed in the TIP (i.e. outlying years). Please identify any illustrative phases or costs in *italics*.

Note: Fiscal Years run from July 1 to June 30 (For example, FY 2014 starts 7/1/13 and ends 6/30/14).

Phase	Funding Source	FY 2014	FY 2015	FY 2016	FY 2017	Outlying Years
CN		\$	\$	\$	\$	\$
	STP	\$	\$ 146,742	\$	\$	\$
		\$	\$ 36,686	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
	Totals:	\$	\$ 183,428.	\$	\$	\$

- Construction Engineering/Inspection:**

Does the project include an acceptable percentage of construction costs set aside for construction engineering or inspections? Yes No N/A

- Year of Implementation Cost:**

Has a four percent (4%) inflation factor been applied to all future costs? Yes No

4. Complete Streets

- New Projects:** If this is a new project to be included in the TIP and the Complete Streets policy is applicable, then Section 4 **MUST** be completed.
- Existing Projects:** If this project is already included in the currently adopted TIP (compliant or exempt) and changes have occurred or will occur to the project which would have bearing on the Complete Streets Policy information on file, then all of Section 4 must be updated and resubmitted for consideration.
- Not Applicable:** If this project is not subject to the Complete Streets Policy, check the **Not Applicable** box and proceed to Section 5.

Complete Streets Applicability and Compliance – Check one of the following:

Not Applicable – If Complete Streets Policy is Not Applicable, please skip to Section 5. The project is not subject to the Complete Streets Policy because it is a transit project, a non-road project, a resurfacing activity that does not alter the current/existing geometric designs of the roadway, a ‘grandfathered’ local roadway project included in the TIP before the adoption of the policy, or is a project that uses federal funds which the BMCMPPO does NOT have programming authority. *No Additional Information items (below) have to be provided for projects to which the Complete Streets Policy does not apply.*

Compliant - The project will accommodate all users of the corridor. The project is new construction or reconstruction of local roadways that will use federal funds through the BMCMPPO for **any** phase of project implementation. *Additional Information items 1-8 (below) must be submitted for compliant projects.*

Exempt - The project is unable to accommodate all users of the corridor due to certain circumstances or special constraints, as detailed in Section IV of the CS Policy. *Additional Information items 1, 4-8 (below) must be submitted for exempt projects.* Reason for exemption: _____

Additional Information – Attach to this application form the following information as required by the Complete Streets Policy. If any fields are unknown at the time of application, the applicant may indicate that “specific information has not yet been determined.” For any sections marked as unknown, information should be submitted as soon as it is available.

- 1) **Detailed Scope of Work** – Provide relevant details about the project that would be sufficient to use when seeking consulting services (detailed project description, vehicular elements, non-vehicular elements, new construction/reconstruction).
- 2) **Performance Standards** – List specific performance standards for multimodal transportation, including, but not limited to: transit, pedestrian, bicycle, and automobile users, ADA and Universal Design, environmental, utilities, land use, right of way, historic preservation, maintenance of services plan, and any other pertinent design components in relation to current conditions, during implementation/construction, and upon project completion.
- 3) **Measurable Outcomes** – Identify measurable outcomes the project is seeking to attain (e.g. safety, congestion and/or access management, level-of-service, capacity expansion, utility services, etc.)
- 4) **Project Timeline** – Identify anticipated timelines for consultant selection, public participation, design, right-of-way acquisition, construction period, and completion date.
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- 8) **Stakeholder List** – Identify the key parties/agencies/stakeholders/interest groups anticipated to be engaged during project development and their respective purpose and roll for being on the list.

5. Signature Verification

I hereby certify that the information submitted as part of this form is accurate. Furthermore, if applicable, I certify the project follows the Complete Streets Policy.

Signature

Date



Transportation Improvement Program Project Request Form

NOTE: This form must be completed in its entirety in order for a new project to be considered for inclusion into the Transportation Improvement Program (TIP) **OR** to make changes to an existing project already programmed in the TIP.

Please complete all parts, including signature verification, and attach all support materials before returning to BMCMPPO staff at the address listed below.

Mail: Bloomington/Monroe County MPO
401 N. Morton Street Suite 160
PO Box 100
Bloomington, IN 47402

-OR-

email: mpo@bloomington.in.gov
fax: (812) 349-3535

1. Public Agency Information (Fill in all applicable fields):

- Monroe County
 City of Bloomington
 Town of Ellettsville
 INDOT
 Rural Transit
 Indiana University
 Bloomington Transit

Contact Name (ERC): Jason Lowther Phone: 812-524-3758 Fax: _____

Address: INDOT 185 Agrico Lane, Seymour IN 47274

Email: _____

2. Project Information (Fill in all applicable fields):

- Project Name: SR 46 DES Number: # 1383224
- Is this project already in the TIP? Yes No
- Project Location (detailed description of project termini or attach an illustration): SR 46, Red Hill Road to end of concrete section near SR 37
- Brief Project Description: Surface Treatment, Ultrathin Bonded Wearing Course
- Support for the Project (e.g. Local plans, LRTP, TDP, etc.): _____
- Allied Projects (other projects related to this one): 1383223 on SR 446, Will be under same contract
- ITS Components: Does the project have an Intelligent Transportation Systems component? No
If so, is the project included in the MPO's ITS architecture? _____

Additional Information – Attach to this application form the following information as required by the Complete Streets Policy. If any fields are unknown at the time of application, the applicant may indicate that “specific information has not yet been determined.” For any sections marked as unknown, information should be submitted as soon as it is available.

- 1) **Detailed Scope of Work** – Provide relevant details about the project that would be sufficient to use when seeking consulting services (detailed project description, vehicular elements, non-vehicular elements, new construction/reconstruction).
- 2) **Performance Standards** – List specific performance standards for multimodal transportation, including, but not limited to: transit, pedestrian, bicycle, and automobile users, ADA and Universal Design, environmental, utilities, land use, right of way, historic preservation, maintenance of services plan, and any other pertinent design components in relation to current conditions, during implementation/construction, and upon project completion.
- 3) **Measurable Outcomes** – Identify measurable outcomes the project is seeking to attain (e.g. safety, congestion and/or access management, level-of-service, capacity expansion, utility services, etc.)
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401 N. Morton Street Suite 160
PO Box 100
Bloomington, IN 47402

-OR- email: mpo@bloomington.in.gov
fax: (812) 349-3535

1. Public Agency Information (Fill in all applicable fields):

- Monroe County City of Bloomington Town of Ellettsville INDOT
 Rural Transit Indiana University Bloomington Transit _____

Contact Name (ERC): Adrian Reid, P.E. Phone: 812-349-3417 Fax: 812-349-3520

Address: 410 North Morton Street / Suite 130 / P.O. Box 100 / Bloomington, IN 47402

Email: reida@bloomington.in.gov

2. Project Information (Fill in all applicable fields):

- Project Name: Old 37 & North Dunn Street Curve Correction DES Number: # 1297060
- Is this project already in the TIP? Yes No
- Project Location (detailed description of project termini or attach an illustration): Intersection of Old State Route 37 & North Dunn Street
- Brief Project Description: Curve correction and intersection improvements at Old SR 37 & North Dunn Street
- Support for the Project (e.g. Local plans, LRTP, TDP, etc.): LRTP
- Allied Projects (other projects related to this one): Cascades Trail
- ITS Components: Does the project have an Intelligent Transportation Systems component? No
If so, is the project included in the MPO's ITS architecture? _____

3. Financial Plan

Identify *ALL* anticipated project costs for all phases, including total anticipated project costs beyond the four years to be programmed in the TIP (i.e. outlying years). Please identify any illustrative phases or costs in *italics*.

Note: Fiscal Years run from July 1 to June 30 (For example, FY 2014 starts 7/1/13 and ends 6/30/14).

Phase	Funding Source	FY 2014	FY 2015	FY 2016	FY 2017	Outlying Years
ROW	STP	\$	\$ 100,000	\$	\$	\$
	Local	\$	\$ 25,000	\$	\$	\$
		\$	\$	\$	\$	\$
CON	STP	\$	\$	\$ 40,000	\$	\$
	HSIP	\$	\$	\$ 1,616,471	\$	\$
	Local	\$	\$	\$ 190,000	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
	Totals:	\$	\$	\$ 1,846,471	\$	\$

- **Construction Engineering/Inspection:**

Does the project include an acceptable percentage of construction costs set aside for construction engineering or inspections? Yes No N/A

- **Year of Implementation Cost:**

Has a four percent (4%) inflation factor been applied to all future costs? Yes No

4. Complete Streets

- **New Projects:** If this is a new project to be included in the TIP and the Complete Streets policy is applicable, then Section 4 **MUST** be completed.
- **Existing Projects:** If this project is already included in the currently adopted TIP (compliant or exempt) and changes have occurred or will occur to the project which would have bearing on the Complete Streets Policy information on file, then all of Section 4 must be updated and resubmitted for consideration.
- **Not Applicable:** If this project is not subject to the Complete Streets Policy, check the **Not Applicable** box and proceed to Section 5.

Complete Streets Applicability and Compliance – Check one of the following:

Not Applicable – If Complete Streets Policy is Not Applicable, please skip to Section 5. The project is not subject to the Complete Streets Policy because it is a transit project, a non-road project, a resurfacing activity that does not alter the current/existing geometric designs of the roadway, a ‘grandfathered’ local roadway project included in the TIP before the adoption of the policy, or is a project that uses federal funds which the BMCMPPO does NOT have programming authority. *No Additional Information items (below) have to be provided for projects to which the Complete Streets Policy does not apply.*

Compliant - The project will accommodate all users of the corridor. The project is new construction or reconstruction of local roadways that will use federal funds through the BMCMPPO for **any** phase of project implementation. *Additional Information items 1-8 (below) must be submitted for compliant projects.*

Exempt - The project is unable to accommodate all users of the corridor due to certain circumstances or special constraints, as detailed in Section IV of the CS Policy. *Additional Information items 1, 4-8 (below) must be submitted for exempt projects.* Reason for exemption: No multi-use path on Old SR 37 east of Dunn St.

Additional Information – Attach to this application form the following information as required by the Complete Streets Policy. If any fields are unknown at the time of application, the applicant may indicate that “specific information has not yet been determined.” For any sections marked as unknown, information should be submitted as soon as it is available.

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