

ADDENDUM to State Boulevard Reconstruction Project
From Spy Run to Cass Street
Fort Wayne, Allen County, Indiana
Des. No. 0400587
DHPA No. 5903

Prepared December 12, 2014

Introduction

The City of Fort Wayne, in cooperation with the Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT), conducted Section 106 consultation as part of the State Boulevard Reconstruction Project from Spy Run Avenue to Cass Street in Fort Wayne, Allen County, Indiana (Des. No. 0400587/DHPA No. 5903). Pursuant to Section 106 of the National Historic Preservation Act (1966) and 36 CFR Part 800 (2013), federal agencies are required to take into account the effects of their undertakings on both aboveground and archaeological historic properties. The FHWA issued an “adverse effect” finding for the project due to impacts to the Fort Wayne Park and Boulevard System Historic District (NRHP, 2010), Brookview-Irvington Park Historic District (NRHP, 2011) and the Bridge over Spy Run Creek (NBI No. 0200273) on February 27, 2013.

This Addendum to the State Boulevard Reconstruction Project 800.11(e) Documentation is to incorporate the Consulting Parties Proposed Alternative (CPPA) as presented by Storrow Kinsella Associates in collaboration with Transportation Solutions, LLC. Through the alternative evaluation process it has been determined that the CPPA is not reasonable as it does not sufficiently address the project’s purpose and need. This document amends the following sections of State Boulevard Reconstruction Project 800.11(e) Documentation with discussion of the CPPA.

Consulting Party Coordination:

On June 18, 2014, a Public Hearing was held for the proposed project. At the Public Hearing and in a letter dated July 18, 2014 (Appendix A – pages 1 to 3) ARCH, Inc. presented an alternative prepared by Storrow Kinsella Associates and Transportation Solutions, LLC (Appendix B – pages 4-14). Storrow Kinsella Associates and Transportation Solutions, LLC were commissioned by ARCH, Inc., Indiana Landmarks, Friends of the Parks, and the Brookview-Irvington Park Neighborhood Association to examine the background research developed for the proposed project to determine if there was an alternative that better protected the neighborhood, fulfilled the purpose and need for the project, was prudent and feasible, and avoided, minimized or mitigated the adverse effect to the neighborhood. As such, it was determined through coordination with the FHWA and INDOT that the submitted alternative should be evaluated as part of the environmental process.

The following alternative has been evaluated for the State Boulevard Reconstruction project:

Alternative 3E: CPPA - The CPPA, as presented by Storrow Kinsella Associates in collaboration with Transportation Solutions, LLC consists of a two-lane parkway alignment shifted south of existing State Boulevard between Clinton Street and the Westbrook/Edgehill Drive intersection. The transition from existing State Boulevard to the CPPA includes a single lane roundabout at the Westbrook/Edgehill Drive intersection and a two-lane signalized hybrid roundabout at the North Clinton Street intersection. The CPPA includes a new crossing of Spy Run Creek raised above the 100-year flood elevation and a multi-use path separated from the roadway. The multi-use path would utilize the existing Spy Run Creek Bridge. If the deteriorated bridge condition or flooding issues dictate removal, a new multi-use path

bridge would be constructed. Eastbrook Drive would be converted to a cul-de-sac just north of the realigned State Boulevard. Access to existing State Boulevard would be obtained by utilizing the proposed roundabout at Clinton Street. No direct access to the realigned State Boulevard would be provided at Eastbrook Drive, Oakridge Road, or Terrace Road.

This alternative would require the relocation of at least two businesses and one residential property for construction of the Clinton Street roundabout. The CPPA is estimated to cost \$9.6 million. The cost of the CPPA is elevated due to the increased construction cost associated with the larger footprint and increased infrastructure associated with the two proposed roundabouts, the addition of a second pedestrian bridge, the potential for mechanically stabilized earth (MSE) retaining walls needed to keep fill slopes from extending into Spy Run Creek and also associated with the realigned State Boulevard near the proposed Eastbrook Drive cul-de-sac.

The CPPA results in the use of the Brookview-Irvington Historic District, Fort Wayne Park and Boulevard System Historic District, the Bridge over Spy Run Creek, and Vesey Park, all 4(f) resources.

The CPPA is not reasonable as it does not satisfy the Project's purpose and need. Based on a capacity analysis prepared for the CPPA, this alternative would not address the traffic congestion issues established by the Project's primary purpose and need. The intersections of State Boulevard with Spy Run and Clinton Street would not function at an acceptable level of service in the design year. For the CPPA, the overall intersection LOS is E or F during either the AM or PM peak hours in all scenarios analyzed. The CPPA would also likely require a level one design exception* with regards to roadway geometrics as it appears the CPPA utilizes substandard curvature in the proposed relocated segment of State Boulevard resulting in substandard sight distance conditions. Therefore, the CPPA does not appear to address the safety components associated with the sight distance, geometrics, and congestion. However, while not as significant as the need to address congestion and the safety components associated with sight distance, geometrics, and congestion, the CPPA does address the flooding and Greenways Trail System connectivity components of the purpose and need by proposing to elevate the roadway above the 100-year elevation and provide a separated multi-use path. Furthermore, this alternative would require an estimated \$9.6 million project cost, approximately \$1.6 million (20% increase) more than the preferred alternative (3A) presented in the May 14, 2014, approved EA. For these reasons, the CPPA is not considered reasonable and has been eliminated from further consideration.

Addendum Appendices

Appendix A July 18, 2014 Letter from ARCH, Inc. – Pages 1-3

Appendix B The Consulting Parties Proposed Alternative (CPPA) as presented by Storrow Kinsella Associates, in collaboration with Transportation Solutions, LLC – Pages 4-14



The mission of ARCH is to advocate for the protection and preservation of historically and culturally significant assets and historic places in Allen County and northeast Indiana.

July 18, 2014

Briana M. Hope
Environmental Project Manager
American Structurepoint, Inc.
7260 Shadeland Station
Indianapolis, Indiana 46256

Dear Ms. Hope:

I am writing in reference to the June 5, 2014 updated FHWA Findings and Determinations materials provided as part of the Section 106 Review, and the May 2, 2014 Environmental Assessment for the proposed State Boulevard Reconstruction Project in Fort Wayne, Allen County, Indiana (Des. No. 0400587, DHPA No. 5903, Project No. IN20071404.) Thank you for the opportunity to comment and the work that went into preparing this and the related Environmental Assessment document for the above referenced project. I have a few specific points that I would like to address concerning the document and proposed project.

1. We concur that the project as currently proposed will cause an Adverse Effect under Section 106 and Section 4(f) to the three historic properties (Fort Wayne Park and Boulevard System Historic District, Brookview-Irvington Park Historic District, and the Bridge carrying State Boulevard over Spy Run Creek) located within the APE.
2. We believe that purpose of any Section 106 Review is as identified in 36 CFR 800.1(a) to “seek to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.” Pursuant to that purpose, we believe that the Findings and Determinations materials provided on June 5, 2014 adequately identifies historic properties, and assesses effects of the project as currently proposed. However, we believe that the third portion of the identified goal to “seek ways to avoid, minimize or mitigate any adverse effects on historic properties” is inadequate. To further the discussion, ARCH, Indianal Landmarks, Friends of the Parks, and the Brookview-Irvington Park Neighborhood Association commissioned Storrow Kinsella Associates and Transportation Solutions to examine the background research developed for this project to see if there was

an alternative that better protected the neighborhood, fulfilled the purpose and need for the project, was prudent and feasible and avoided, minimized or mitigated the adverse effect to the neighborhood. We believe that the alternative plan (the "Alternative"), presented by ARCH to American Structurepoint at the June 18, 2014 Public Hearing for the Environmental Assessment, and provided to American Structurepoint, FHWA, INDOT and Indiana SHPO by e-mail delivery on June 24, 2014 and June 26, 2014, better addresses historic preservation concerns while accommodating the purpose and need of the Federal undertaking.

3. We believe that the Alternative is provided during the completion of the Section 106 Review and is thus governed by the guidance in 36 CFR 800.1(c). This guidance mandates that the Alternative must undergo unrestricted consideration by the agency official, as indicated in 36 CFR 800.1(c), which directs the agency official to complete the Section 106 process in a manner "that such actions do not restrict the subsequent consideration of alternatives to avoid, minimize or mitigate the undertaking's adverse effects on historic properties."

4. We believe that the Alternative is presented in agreement with direction contained in 36 CFR 800.3(b) which directs the agency official to coordinate the Section 106 Review with "... the overall planning schedule for the undertaking and with any reviews required under other authorities...." including NEPA and Section 4(f) of the Department of Transportation Act. We further believe that guidance contained in 36 CFR 800.8(a)(1) encouraging agencies to "consider their section 106 responsibilities as early as possible in the NEPA process..." provides further impetus to consider the Alternative plan under both the 4(f) and NEPA processes.

5. We believe that the Alternative meets the identified Purpose and Need for the project. As stated in the May 2, 2014 Environmental Assessment, the Purpose and Need for the project is as follows;

"The primary purpose of the proposed project is to improve corridor connectivity along State Boulevard for both motorists and pedestrians alike. Currently, the existing corridor does not provide a safe environment for motorists, bicyclists, or pedestrians as the existing roadway is significantly congested and exhibits substandard sight distance and geometrics. In addition, State Boulevard is often impassable due to roadway flooding caused by Spy Run or the Saint Mary's River.

The need for this project derives from the traffic congestion along the corridor between Cass Street and Spy Run Avenue, the substandard sight distances at various intersections along the corridor, roadway flooding, and the substandard horizontal geometrics between Cass Street and Clinton Street. The State Boulevard project corridor also becomes congested at the intersections due to the reduction in lanes through this segment. In addition, pedestrian safety is compromised due to this level of congestion and insufficient sight distance at the substandard horizontal curves. Pedestrian facilities do not currently provide connectivity between the Greenways Trail System."

We believe that the Alternative meets the purpose of the project by improving corridor connectivity for both motorists and pedestrians. The identified problems of congestion, substandard sight distance, and geometrics are all addressed in the Alternative. Roadway flooding as well is addressed, although this remains a concern for both the currently proposed project and the Alternative. The nearly adjacent and recently completed US 27 Bridge Reconstruction project (Des. No. 0200914 and 0101527) experienced roadway flooding a little over a year after the project's conclusion, demonstrating the need for a thorough investigation and remediation of a larger problem. Regarding the need for the project, we believe that the Alternative addresses the identified congestion, substandard sight distance, and geometrics concerns as well as the pedestrian safety concerns.

6. We believe that the Alternative significantly "minimizes, mitigates or avoids" adverse Effect to historic properties as is identified as a purpose of Section 106, and makes "special effort to preserve...historic sites" as is the stated purpose of Section 4(f).

Comparing the enumerated Adverse Effect of the current plan as stated on page 206-209 of the Environmental Assessment, the Alternative proposal results in far less damage under both Sections 106 and 4(f), making it a prudent and feasible alternative that causes the least overall harm. In the Fort Wayne Park and Boulevard System Historic District, and in the Brookview-Irvington Historic District, the Alternative avoids to a much greater degree the removal and disruption of the NRHP-listed State Boulevard, minimizes the amount of new land disruption by using land previously altered through the removal of "flood-buyout" houses, and retains the plan of the Arthur Shurcliff-designed plat. In addition, the Alternative avoids the demolition of NRHP-listed residences entirely. The Alternative mitigates the disruption and bifurcation of the Shurcliff-designed plat by the use of a curvilinear "new" State Boulevard replicating the scale of the "original" State Boulevard, providing the driver and pedestrian alike with a similar feel, design and setting.

7. We believe that the Draft Memorandum of Agreement (MOA) as presented in the May 2, 2014 Environmental Assessment and the June 5, 2014 Section 106 Review will need to be modified, particularly if the Alternative is adopted as the basis for proceeding forward in this project. We agree that the use of Context Sensitive Solutions (CSS) is preferred, but would like to see that any such CSS solutions be implemented where feasible rather than merely "considered" as is suggested in the Draft MOA.

Sincerely,



Michael Galbraith
Executive Director, ARCH, Inc.

Enc; "Alternative" Plan (SKA + Transportation Solutions for ARCH, Inc., Indiana Landmarks, et al)



storror kinsella associates

urban design & planning for places | connections | strategies

December 9, 2013

Mr. Michael Galbraith
Executive Director
ARCH, Inc.
818 Lafayette Street
Fort Wayne, IN 46802

Re: State Boulevard Reconstruction – Alternative Concepts
Fort Wayne, Indiana

Dear Mike and Consulting Parties Team,

Storror Kinsella Associates, in collaboration with Transportation Solutions, LLC has completed our analysis, evaluation and development of a sketch plan reconstruction alternative for the five-lane roadway widening project currently being proposed by the City of Fort Wayne.

We are confident that the resulting report provides a foundation for ARCH, Inc. and the Consulting Parties Team to have a constructive dialog with the City and its consultant. The *Consulting Parties Proposed Alternative* (CPPA) provides a solution that restores Spy Run Creek Parkway continuity, and maintains the integrity of the Brookview-Irvington historic neighborhood while meeting overall economic development, flood control, connectivity and beautification goals.

Please note that this report is a "sketch plan" alternative. We have made a good-faith effort to consider existing conditions and the purpose and need of the project, but must emphasize that additional design and study will be needed before this proposed alternative can be fully incorporated into the City's project.

The costs for the CPPA appear to be of similar magnitude or less than the City's Preferred Alternative, based on comparative lane-miles, bridge cross section and length, and probable right-of-way acquisition. In addition, the long term maintenance costs are comparable or less for the CPPA, based on thoroughfare lane length reduction from 5,175 to 2,100 feet.

The CPPA, as a two-lane facility, appears to be able to accommodate the 2005 peak hour recorded traffic volume of 750 vehicles per hour per lane. Additional analysis of the corridor as a whole will be needed to assess the future expected performance of the proposed alternative.

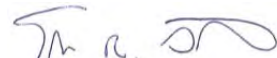
We remain available to answer questions and assist you and the City with moving an improved State Boulevard Reconstruction Project forward into implementation.

Sincerely,
STORROW KINSELLA ASSOCIATES


Margaret T. Storror, Principal


John W. Kinsella, Principal

TRANSPORTATION SOLUTIONS, LLC


Thomas R. Sturmer, Principal

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City of Fort Wayne

Park and Boulevard System

Historic District, Fort Wayne, Allen County, Indiana

Key Map

 National Register Boundary

- Parks**
1. Franke
 2. McCormick
 3. McCulloch
 4. McMillen
 5. Memorial
 6. Nuckols
 7. Old Fort
 8. Reservoir
 9. Rockhill
 10. Weisser
 11. Williams
- Parkways (includes riverfront parks):**
- I. Maumee River
i. Lakeside
- II. Spy Run Creek (Brookview)
i. Lawton
ii. Vesey
- III. St. Joseph River
i. Johnny Appleseed
- IV. St. Mary's River
i. Bloomingdale
ii. Camp Allen
iii. Foster
iv. Guldlin
v. Orff/Thieme Drive Overlook
vi. Roosevelt
vii. Swinney (East & West)

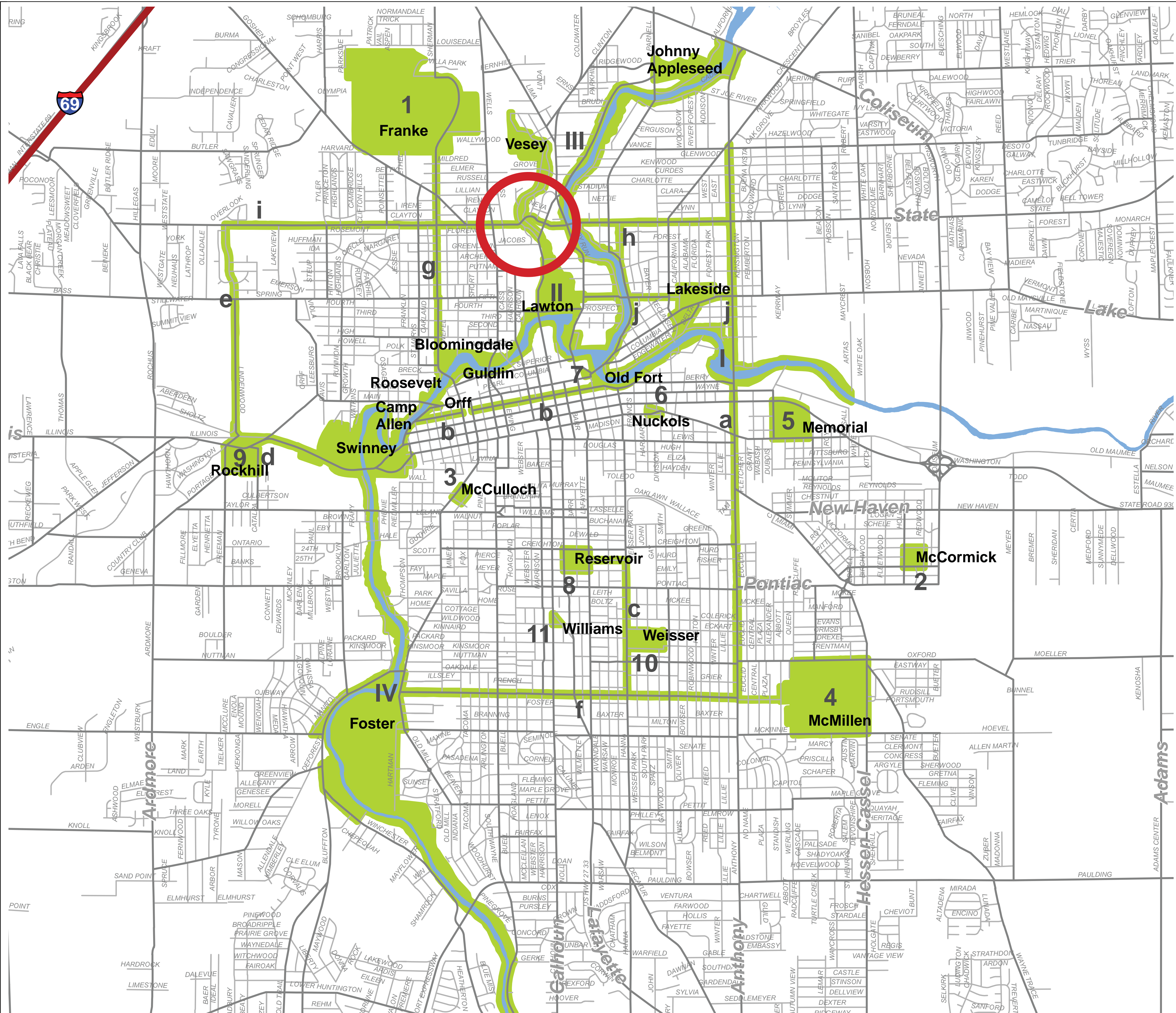
- Boulevards:**
- a. Anthony Boulevard
 - b. Berry Street
 - c. Hanna/Taber Street
 - d. Jefferson Boulevard
 - e. Lindenwood Avenue (Brookside)
 - f. Rudisill Boulevard
 - g. Sherman Boulevard (Kekionga)
 - h. St. Joseph Boulevard
 - i. State Boulevard (Pfeifer)
 - j. Tennessee Avenue/Lake Avenue



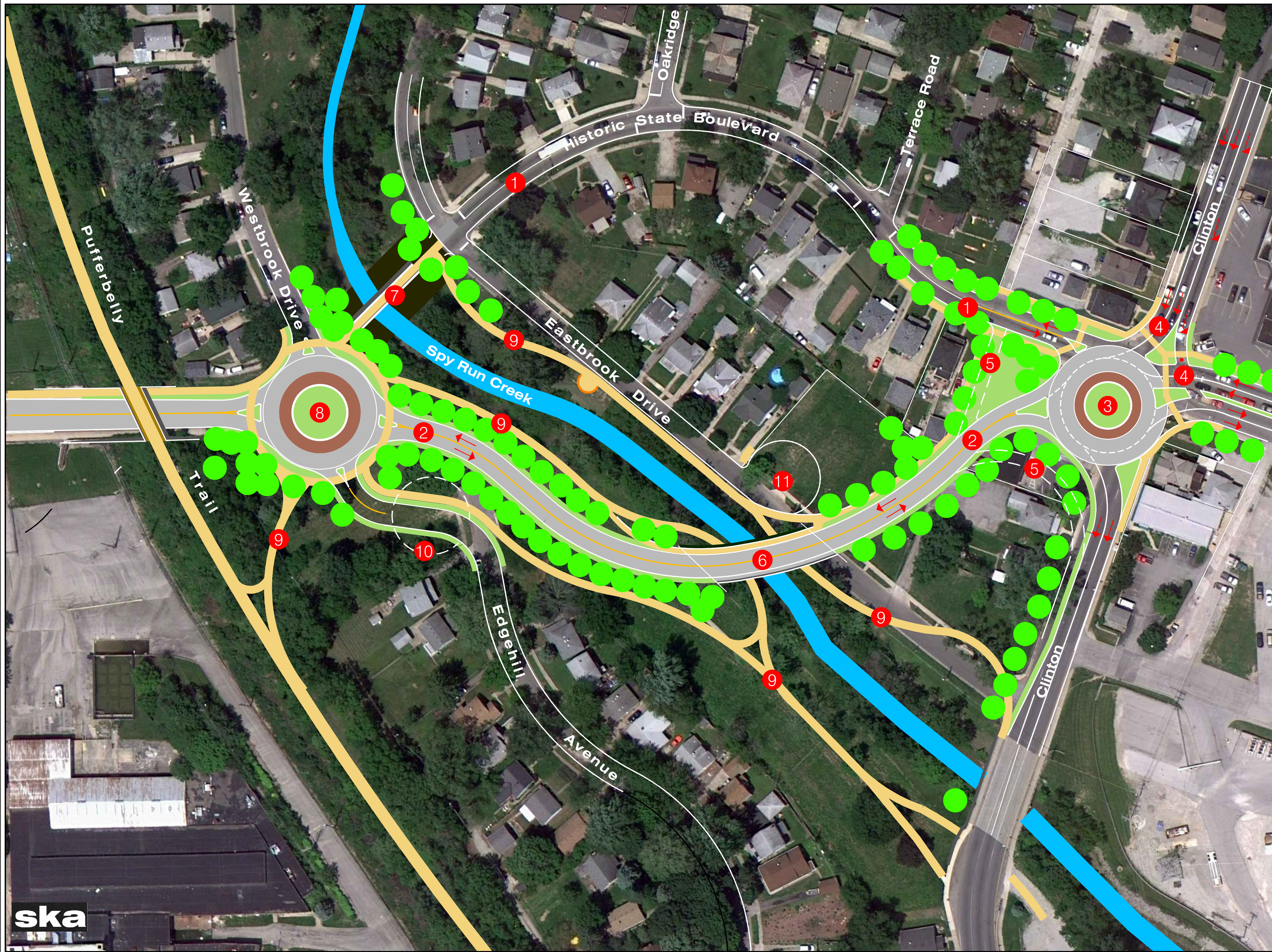
Note: This exhibit based on City of Fort Wayne Park and Boulevard System Historic District Key Map, prepared by The Westerly Group, Inc. and Storrow Kinsella Associates, 5/24/2010.



Study Area December 9, 2013



© 2013 SKA X:\1305_FW State Blvd\3Work\04Draw\ExhibitB_CPPA_1305.dwg 12/10/13



Plan Keynotes

- 1 Historic State Boulevard convert as local street & bike boulevard
- 2 New State Boulevard alignment
- 3 Clinton/State 2-lane hybrid urban roundabout with signalized eastbound left turn bypass
- 4 "Smart" roundabout signal -metered approaches to create gaps and balance flow during peak periods, and to provide pedestrian crossing synchronized with those phases (short/rolling yield or stop signal phases)
- 5 Optional bypass lanes to reduce roundabout circulating traffic loads
- 6 New Spy Run Creek 2-lane bridge
- 7 Spy Run Creek bike/ped bridge
 - Retrofit existing bridge or
 - New multi-use path bridge
- 8 Westbrook/Edgehill single lane urban roundabout w/ local street access
- 9 Bike-Ped path system
- 10 Edgehill Avenue cul de sac alternative
- 11 Eastbrook Drive cul de sac

Note: this is a sketch-level diagrammatic concept drawing. Roadway elements are proximate in scale and intended to illustrate general feasibility and proof of concept. Additional traffic engineering and roadway geometric study is required for project scope development.



0 50' 100'
Scale 1"=50'-0"

December 9, 2013

Storow Kinsella Associates urban design & planning for places | connections | strategies
in collaboration with
Transportation Solutions, LLC. | connecting the dots

Consulting Parties:
ARCH, Inc./ Historic Landmarks Foundation of Indiana
Brookview-Irvington Neighborhood Associations

Fort Wayne Historic State Boulevard
Consulting Parties Sketch Plan Alternatives Study
City of Fort Wayne Project/INDOT DES# 0400587

Sketch Plan

B

BENEFITS COMPARISON

Alternative	Connectivity Improvement	New roadway alignment length	Reconstruction alignment length	Residential Impacts	Commercial Impact	Total historic relocations or impacts	Other impacts	State Blvd. historic bridge impacts	State Boulevard Safety Improvement			Congestion Improvement	Reduce flooding	Alternative	
									Motorists	Bicyclists	Pedestrians			Feasible?	Prudent?
City's Preferred Alternative	Regional connectivity improved for through motorist, bicyclist, and pedestrian movements. Connectivity reduced for neighborhood residents.	1035 LF 5 lanes sidewalk or trail both sides	5175 lane feet 2070 sidewalk feet	15	None?	State Blvd historic parkway system compromised. Neighborhood bisected by new raised alignment. Historic bridge removed. Traffic speed and volumes increased through neighborhood.	View sheds affected for some residents. Historic neighborhood context affected. Five-lane raised roadway out of scale with residential neighborhood.	Historic bridge to be removed and replaced for flood elevation and structural deficiency reasons.	A portion of Old State Boulevard will be converted to local use with significant reduction in traffic volumes. New east-west alignment designed to current federal standards. Intersection capacities improved.	No bicycle accommodation currently exists. New multi-use path provided along new alignment.	New sidewalks provided along new alignment. Appropriate pedestrian crossings assumed to be provided at intersections.	Added lanes and intersection improvements reduce travel delays in overall system. The localized portion of State Boulevard will be a lower speed travel environment.	Raised elevation of State Boulevard and larger hydraulic bridge opening will help to reduce localized flooding frequency.	Yes	This is the City's Preferred Alternative. The Purpose and Need items are addressed, however the impact to the historic neighborhood and parkway system is significant.
Consulting Parties Proposed Alternative	State Boulevard corridor (and Greenways Trail System) connectivity improved for through motorist, bicyclist, and pedestrian movements. Historic State Boulevard will function as bicycle boulevard.	1048 LF 2 lanes 2 sidewalks	2096 lane feet 2096 sidewalk feet	One loss of alley access	Three: 1) Gas Station Store acquisition or relocation; 2) impact to garage and storage shed; 3) site impact.	Minimum historic structure impacts. State Boulevard historic integrity respected. Historic Bridge removed or rehabilitated for pedestrian/bicycle use because of deteriorated condition.	One commercial property on south side of State Boulevard at Clinton Street relocated to allow construction of a five-legged hybrid roundabout. Partial impacts on 2 additional commercial properties.	Historic bridge to be rehabilitated or removed and replaced for flood elevation and structural deficiency reasons. Pedestrian bridge with narrower profile impacts flooding to a lesser degree and provides east/west connectivity.	Significantly reduced volumes on existing State Boulevard alignment improves safety. Lower posted speed limit possible. New alignment meets goal of regional connectivity.	Existing State Boulevard converted to a low volume shared use roadway suitable for travel by bicycle.	Vehicle volumes greatly reduced along existing alignment. Sidewalks to be improved along existing alignment and provided along the new alignment.	Regional through traffic given more direct route. Intersection levels-of-service may be improved by a "smart" roundabout at Clinton and a single-lane roundabout at Westbrook.	Flood frequency reduced along new alignment due to raised bridge and roadway elevation.	Yes	This option addresses the Purpose and Need with less impacts to the historic resources. Magnitude of costs similar to the City's Preferred Alternative.

COST (RELATIVE) COMPARISON

Alternative	New alignment length	New alignment width	Bridge length	Bridge width	Bridge elevation	Residential relocations	Other residential impacts	Commercial relocations	Intersection Types			Bridge removals	New pedestrian bridges	Local Streets Affected	
									Westbrook Drive	Oakridge Drive	Clinton Street			Pavement removed	Pavement added/rehabilitated
City's Preferred Alternative	1035 Linear Feet (5175 lane feet)	5 Travel Lanes + 2 Sidewalks	150 LF 750 lane feet	Five lanes, curb and gutter, sidewalks and a 10-foot multi-use path on one side.	Bridge raised 7-feet above existing bridge elevation.	15 structures: Est. value \$1M	Any?	None?	Two-way stop controlled + energy and maintenance costs.	New Side-street stop controlled intersection.	Three-way signalized intersection + energy and maintenance costs.	Existing historic bridge.	One over State Boulevard for Pufferbelly Trail.	In vicinity of existing bridge and at both ends of existing alignment between Spy Run Creek and Clinton Street.	Oakridge Drive connector, "bulbouts " at termini of existing alignment.
Consulting Parties Proposed Alternative	1050 Linear Feet (2010 lane feet)	2 Travel Lanes + 2 Sidewalks	140 LF 280 lane feet	Two lanes, curb and gutter, and sidewalks both sides.	Same.	Two residences south of Clinton Street roundabout?	Alley access impacted for one residence. Net Benefit to Contributing Structures in District.	1 complete take and 2 partial Impacts: unknown cost.	Single-lane roundabout. Est. cost: \$500,000 + landscape maintenance costs.	No new intersection.	Multi-lane hybrid roundabout with traffic metering signalization: Est. cost: \$2M + energy and maintenance costs.	Existing historic bridge rehabilitated or replaced.	One over State Boulevard for Pufferbelly Trail, replace existing State Boulevard bridge with a new pedestrian or rehabilitate existing bridge.	In vicinity of existing bridge only.	Rehabilitate existing State Boulevard alignment to create bike boulevard and pedestrian connector.

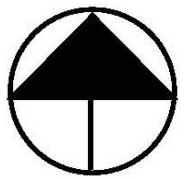
Description: City's Preferred Alternative	New four lane roadway with raised median and/or center turn lane for that portion of State Boulevard that lies between North Clinton Street and Westbrook Drive. Realigned section raised up to 7-feet at new bridge for floodway consideration. New sidewalks and/or multi-use side path along both sides of roadway. New pedestrian bridge and approach ramps for future Pufferbelly Trail.
Description: Consulting Parties Proposed Alternative	Relocate the thoroughfare function of State Boulevard to south of Spy Run Creek from Westbrook Drive east to Clinton Street to minimize impacts to historic properties and parkway. Develop the thoroughfare as a two-lane roadway with sidewalks on both sides between a single-lane roundabout at Westbrook and two-lane hybrid roundabout at Clinton and State with no intersections between them to optimize flow and volume. The roundabouts help condition traffic to a steady state at a reduced speed. The Clinton/State intersection is a "smart" roundabout using advanced technologies consisting of signal metered approaches and traffic sensing to help balance flow, create gaps, and provide for pedestrian connectivity through the roundabout area. Existing bridge rehabilitated or replaced with new pedestrian/bicycle bridge to provide connectivity with future Pufferbelly Trail. Sidewalks along existing alignment to be improved.

Note: Information obtained from Section 106 Findings of Adverse Impacts report (approved August 27, 2012) and other information shared by ARCH. Concept plans for City alternatives not available at this time.

December 9, 2013



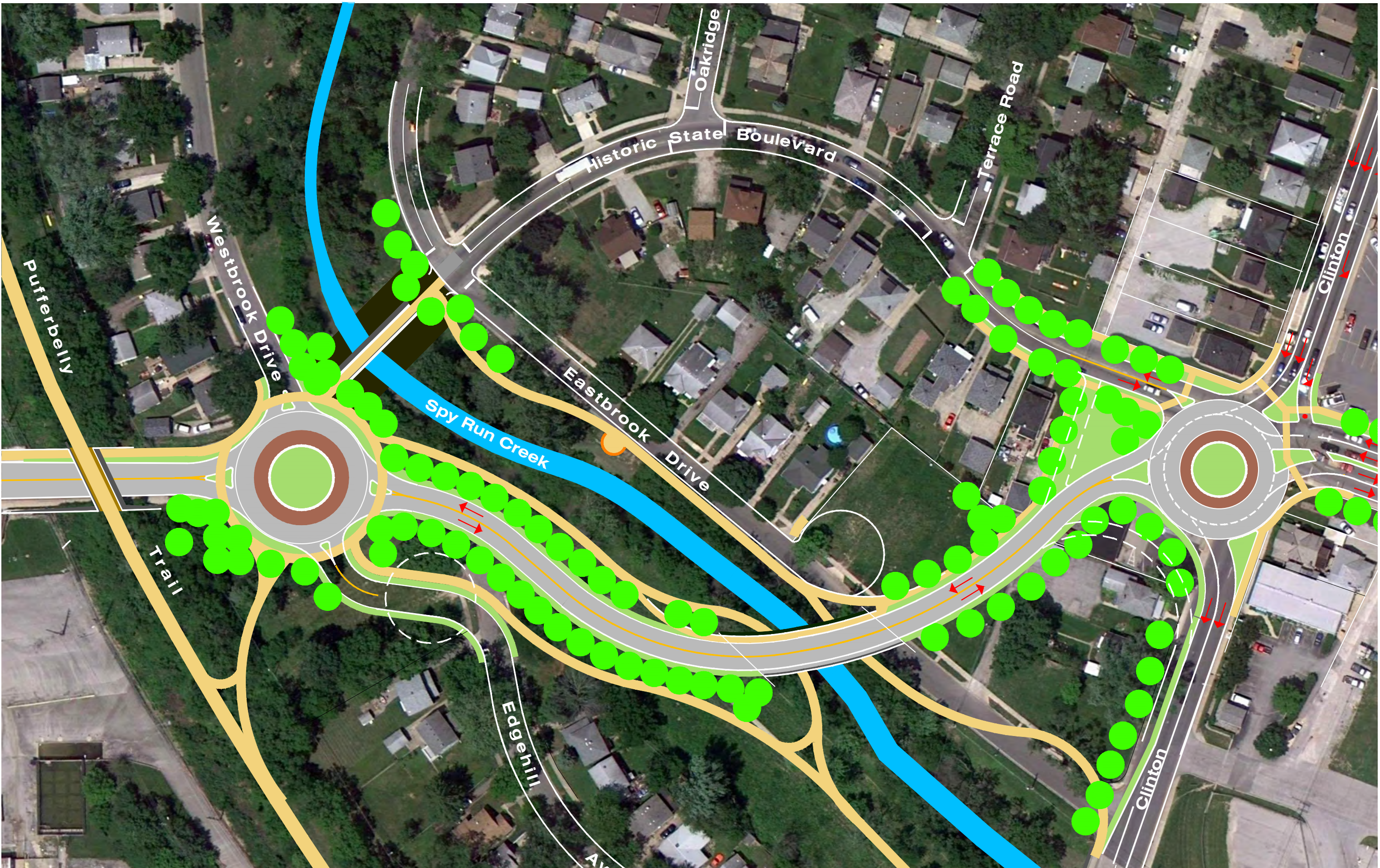
City's Preferred Alternative



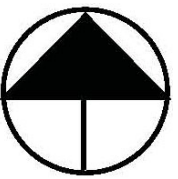
Purpose and Need

Shown above is a model of the City's Preferred Alternative; a new four lane roadway with raised median and/or center turn lane between North Clinton Street and Westbrook Drive. It is replacing a section of the existing two-lane State Boulevard in the City of Fort Wayne Park and Boulevard System Historic District.

The Park and Boulevard System Historic District represents a thoroughfare system designed in the early 1900's for the purpose of economic development, flood control, connectivity, and beauty. The proposed City's Preferred Alternative has many of the same purposes and characteristics, and, without reference to context, will be a significant upgrade to the City's thoroughfare system. However the segment between Clinton Street and Westbrook Drive does have historic context that the scale of the new boulevard will compromise.



Consulting Parties Proposed Alternative



Scale and Appropriateness

Shown above is the Consulting Parties Proposed Alternative, featuring a two-lane roadway able to accommodate the 2005 peak hour traffic volume of 750 vehicles per hour per lane. It restores Spy Run Creek Parkway continuity and maintains the integrity of the Brookview-Irvington Historic neighborhood.

The costs of the Consulting Parties proposed alternative appear to be of similar magnitude or less than the City's Preferred Alternative based on comparative lane-miles, bridge cross-section and length, and probable acquisition scope. The long term maintenance costs are comparable or less based on thoroughfare length reduction from 5175 to 2100 lane feet.

Fort Wayne Historic State Boulevard Consulting Parties Proposed Alternative

to the City of Fort Wayne, Indiana, State Boulevard Reconstruction Project
INDOT DES# 0400587

prepared for
ARCH, Inc.
by

Storrow Kinsella Associates + Transportation Solutions, LLC

This investigation has been undertaken on behalf of ARCH, Inc., in response to a current City of Fort Wayne proposal to straighten and widen the portion of State Boulevard that lies between North Clinton Street and Westbrook Drive. This section of State Boulevard is within the Brookview-Irvington Historic District neighborhood. Additionally, State Boulevard and Spy Run Creek Parkway, both components of the Fort Wayne Park and Boulevard System Historic District, intersect within the project area.

The project's impact on historic resources gives standing to the concerns of the Consulting Parties.

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1 Purpose of this investigation

The intention of the investigation is to determine if there is a viable alternative to the City proposal, within the State Boulevard corridor, that reasonably addresses the connectivity and congestion mitigation purposes of that proposal, while avoiding its considerable impacts on the integrity of the overlapping historic districts through which it passes. The investigation does not address the viability of alternative corridors identified as part of the project's Section 106 process other than suggesting that they appear to need further study for their potential contribution to overall network east-west connectivity and congestion mitigation. Likewise the investigation does not address aspects of other State Boulevard project segments that lead to this focus area. It does suggest that lessons learned in this focus area could inform the larger system.

A description of the city's preferred alternative and critiques of its impacts by multiple consulting parties are available in the project's Section 106 documentation thus are not repeated here in the interest of brevity. The critiques include but are not limited to concerns regarding induced traffic, inappropriate scale, and disruption to the character and continuity of historic resources in the project area.

2 Description of the Consulting Parties Proposed Alternative (CPPA: See Exhibit B)

The CPPA diverts east-west crosstown traffic through the district of concern as a new 1000-foot+/- long *two-lane parkway* alignment, generally south of Spy Run Creek, a natural divide. It is intended to improve crosstown connectivity and relieve congestion in a manner that does not induce additional traffic volume and with scale and geometrics that respect the intrinsic qualities of both the Brookview-Irvington Historic District and the Historic Park and Boulevard System.

The transition to this parkway from existing State Boulevard occurs at Clinton Street on the east and at the Westbrook/Edgehill intersection on the west. That transition is enabled by a traffic calming single-lane roundabout at Westbrook/Edgehill, and by a two-lane signalized hybrid roundabout at the higher volume North Clinton Street intersection. The two roundabouts bookend a new terrain, uninterrupted two-lane parkway linkage as a system that modifies motorist behavior to a slower but steady-state stream between the roundabouts. This configuration allows less space-consuming geometrics (vertical and horizontal alignment and clear zone constraints) and much fewer vehicular conflict points, while accommodating expected volumes through operational efficiencies achieved by those reductions.

The CPPA parkway alignment replicates the scale and curvilinearity of the existing historic boulevard, while allowing the latter to revert to a low speed/low volume pedestrian-friendly local street and bicycle boulevard. Thus both the historic and the proposed new segment respect the characteristics of the Historic Park and Boulevard System, *and* the Brookview-Irvington Historic District neighborhoods, by their contextual scale and alignment.

A consideration for detailed development of this parkway alignment and its new crossing of Spy Run Creek, both of which will be raised above flood elevation (a project purpose), is that these elements be sensitively designed such that they integrate well with both the creek and with the Edgehill Avenue neighborhood. The narrow roadway cross-section will help facilitate that spatial integration by lessening the need for obtrusive retaining walls. For that reason a multi-purpose path is proposed to be separated from the roadway (other than at the bridge) as part of the existing pathway system, rather than as sidewalks adjacent to the roadway.

The provision of functionally interdependent roundabouts at east and west ends of the approximately 1000-foot distance of the proposed New State Boulevard alignment facilitates use of a two-lane configuration for this segment. The linked roundabouts will modulate traffic flow through this lower speed (but uninterrupted) segment such that the less-than-750 peak hour vehicles per lane per hour, as recorded in 2005, can be accommodated. A hybrid two-lane

roundabout is proposed to replace the Clinton Street/State Boulevard signalized intersection, while a single lane roundabout would occur at the Westbrook/Edgehill intersection with State Boulevard.

3 Clinton Street roundabout capacity

Clinton Street roundabout capacity is proposed to be maximized by several methods to allow the target traffic throughput discussed above:

A

A fairly new roundabout traffic management method, installation of metering signals at roundabout entries, creates gaps in dominant peak period flow to minimize excessive queues and delays at each successive downstream entry. Such roundabout signalization can be more effective than additional roundabout lanes, and can reduce the complexity associated with three-lane roundabouts. The signals would be controlled by queue detectors.¹

B

A left-turn by-pass lane is proposed from southbound Clinton to eastbound State Boulevard to reduce roundabout circulating traffic by an estimated 250 vehicles per hour, based on 2005 traffic volumes. It would be controlled by the queue detector system as well, and could further reduce the need for a third circulating lane.

C

Additional reduction of the Clinton-State roundabout circulating traffic can be affected, if necessary, by providing a westbound bypass (slip) lane from Historic State Boulevard to the new parkway segment, just west of its splitter island, and optionally from the new parkway's eastbound lane to southbound Clinton, immediately south of the roundabout. The contribution of either or both bypass lanes to roundabout efficiency should be determined during detailed roundabout design and weighed against the possible need for additional right-of-way to accommodate them.

4 Pedestrian accommodation

Pedestrian accommodation is shown through the roundabout for probable pedestrian routes and to provide connections to the Pufferbelly Trail system. *Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way* (PROWAG) recommends signalization for pedestrian crosswalks at high-vehicular volume roundabouts, and requires them for crossings of two or more contiguous roundabout lanes. The required signalization can be integrated into the phasing of demand-cycles of the vehicular signal system discussed above for the Clinton Street roundabout to minimize disruption to vehicular flow while still accommodating pedestrian connectivity.

5 Bicycle accommodation

Bicycle travel through this district can be accommodated along Historic State Boulevard which, once converted to local traffic as proposed here, will be well-suited to become a bicycle boulevard. As a local street, all-way stops can be introduced along that segment for additional traffic-calming for bicycle and pedestrian safety. In the interest of a narrow roadway, multi-use paths at a separate and lower elevation alignment would replace sidewalks along the proposed, new two-lane parkway section.

¹ National Cooperative Highway Research Program Report 672 Roundabouts: an Informational Guide
Chapter 7/7.5.1, Signalization/Metering

Should flooding or structural issues dictate removal of the State Boulevard Bridge, a proposed bicycle-pedestrian bridge in its location will provide additional neighborhood connectivity to the Pufferbelly Trail.

Pedestrian accommodations at the roundabouts should be configured to accommodate bicycles for those cyclists not comfortable riding with traffic through the roundabouts.

Additionally the existing trails along Spy Run Creek should be fully integrated with the proposed Pufferbelly Trail (see Exhibit B) to fulfill this project's multimodal objectives.

6 Transit accommodation

Citilink Route #8 serves this area along southbound North Clinton Street, paired with northbound Spy Run Avenue 800 feet to the east. The current North Clinton stop is in a travel lane immediately south of State Boulevard. The Consulting Parties recommend that a bus turnout be provided either south of the roundabout, or more preferably to north of the roundabout between building setback line and existing curb line, to minimize travel lane disruption, but requiring additional permanent right-of-way.

Citilink Route #6 uses east and westbound State Boulevard and north and southbound Westbrook Drive, and is potentially improved by the proposed roundabout at State/Westbrook. Paired in-lane bus stops are recommended on Westbrook just north of the roundabout to better serve this area.

7 Urban design considerations

The roundabout elements, if sensitively designed, can become gateway markers along the Clinton Street procession towards the city center, as well as become markers for this historic district along the park and boulevard system. The parkway section itself can become a beautiful passage through the convergence of the historic parkway and neighborhood, somewhat mending a route that has been compromised over many years of roadway expansion and ad hoc development prior to its historic designation. This is particularly important to a well-developed Section 4F argument that this intervention results in a net benefit to the historic resources it affects (or as in this case, celebrates). Leveraging the project to enhance Spy Run Creek Parkway as a public park, and reduction of existing traffic impacts to the historic neighborhood are compelling benefits that the original City Preferred Alternate could not claim but which the CPPA can....if executed well.

Another consideration is that Spy Run Creek Parkway was compromised several years ago when Westbrook Drive, a classic *City Beautiful* parkway along residential properties on one side and the meandering creek and variable open space of the park on the other, was terminated at Edgehill Avenue just south of State Boulevard, where it now enters a neighborhood street. The CPPA alignment along the south side of the creek restores much of the historic parkway's integrity by taking it to a more contextual terminus.

8 Floodway/Floodplain considerations

Floodway impacts appear lessened by the proposed alternative because of the reduced width of the two-lane roadway in addition to the provision of a comparable bridge opening along the new alignment. Spy Run Creek flood hydrology will require careful analysis and design such that this project lessens flood severity through removal of current impediments and through development of storage capacity potential of the open space surrounding the creek. That potential can be enlarged by investigation during the project's detailed design.

9 Detailed development of the CPPA

Assuming agreement can be reached regarding this proposed alternative, continuing oversight regarding its detailed development and implementation should be integrated into the project development process. It is extremely important to the Consulting Parties that execution of roadway elements and their urban design setting be context sensitive in scale, materials and detail such that the vision of George Kessler and Arthur Shurcliff, for the Park and Boulevard System and for the Brookview-Irvington District, respectively, be honored and can become a model for how the city balances its infrastructure needs with its heritage. With this caveat, the Consulting Parties will support the city's effort to improve this section of State Boulevard.

10 Cost discussion: comparative magnitude of cost

Comparison of costs between the City Preferred Alternative (City) and the Consulting Parties Proposed Alternative (CPPA) are of relative magnitude based on predictable differentials of project scope. Detailed cost analysis is dependent on more detailed development of the proposed alternative design, as well as on a better understanding of the cost basis for the City alternative.

	CPPA	City	Comments
Roadway	2100 lane feet	5175 lane feet, landscaped center median	CPPA option may cost about half of City's alternative
Bridges	New two-lane/140-150' long vehicular bridge New 16' wide x 100' long bike-ped bridge Remove existing two-lane vehicular bridge or retrofit as local traffic and bike boulevard link	5-lane 150' long new vehicular bridge Remove existing two-lane bridge	CPPA bridge costs reduced significantly because of reduced cross section
Major intersections	Two-lane hybrid roundabout at North Clinton Street	One signalized intersection with additional turn lanes at North Clinton Street	Multi-lane hybrid roundabout will cost significantly more than improved conventional signalized intersection
Secondary intersections	One single lane roundabout (minimal secondary neighborhood road improvements)	Two five-lane intersections (including left turn lanes) and substantial reconfiguration of neighborhood streets	Simplified interface with neighborhood streets anticipated to result in a net cost reduction for these elements
Residential acquisition	0	15 (at \$55-75,000 average assessed valuation)	Residential acquisition much less (approaching zero)
Commercial acquisition	1 total, with partial impacts on 2 additional parcels	0	Commercial acquisition much more Combined residential and commercial acquisition-relocation expected to be similar

11 Summary of the Findings

1

The CPPA, as a two-lane facility, appears to be able to accommodate the 2005 peak hour recorded traffic volume of 750 vehicles per hour per lane. Additional analysis of the corridor as a whole will be needed to assess the future expected performance of this new facility.

2

The costs for the CPPA appear to be of similar magnitude or less than the City Preferred Alternative, based on comparative lane-miles, bridge cross-section and length, and probable acquisition scope. The latter may be achieved through the offset of reduced residential relocation scope compensating for the higher individual valuation of commercial properties in general.

3

The long term maintenance costs are comparable or less for the CPPA, based on thoroughfare length reduction from 5175 to 2100 lane feet.

4

The CPPA provides greater safety through elimination of most intersection left turn conflicts, pedestrian/vehicle conflicts, and through the lower speeds associated with roundabouts, their approaches and linkages. Reduction in accident rates and their severity for roundabouts vs. conventional signalized intersections has been well documented by multiple FHWA and insurance industry studies utilizing data accumulated during the high rate of adoption of roundabouts by state and local agencies because of their safety and efficiency characteristics.

5

The CPPA minimizes negative impacts on historic properties and districts. The removal of existing traffic volume impacts is expected to result in neighborhood stabilization and reinvestment in the project area.

6

The CPPA provides an additional benefit to the historic districts by restoring the sense of Spy Run Creek/Westbrook Drive's parkway continuity, which had been compromised by earlier floodway-roadway improvements that terminated Westbrook Drive at Edgehill Avenue.

7

The CPPA meets the stated goals of the thoroughfare plan and reconciles that plan with the National Register-listed Park and Boulevard System.

8

The CPPA has the support of the affected neighborhoods and remonstrating parties which will facilitate the project moving forward expeditiously.