

**MAJOR
MOVES**

**465/69
Northeast**

**Community Advisory Committee meeting
Church at the Crossing
March 19, 2009
9 – 11 AM
Meeting Summary**

LOCATION: The Church at the Crossing
SUBJECT: Community Advisory Committee Meeting #2
ATTENDEES: Representatives Stakeholders
NOTES BY: I-465/69 NE Outreach Team

OVERVIEW: The second Community Advisory Committee meeting was held on Thursday, March 19, 2009, at Church at the Crossing in Indianapolis. Thirteen CAC members attended.

DISCUSSION: The I-465/69 Northeast project team gave a project overview and explained the current situation and next steps in the approval process.

ACTIONS: CAC members were asked to provide comments, concerns and questions.

General Information

- Jennifer Dzwonar, public outreach lead, opened the meeting at approximately 9 a.m. with a welcome and asked CAC and team members to introduce themselves.
- Members were encouraged to attend and bring others to the Binford Redevelopment and Growth (BRAG) open house on Tuesday, March 24. At the meeting, team members will give information that was presented at the October and March CAC meetings. The meeting will be held at Divine Savior Evangelical Lutheran Church at 7315 East 75th Street, beginning at 7 p.m.
- CAC members were informed about the binder inserts, which include the PowerPoint presentation, new tabs and the INDOT/BRAG open house flier.

Project Status

- Scott Buchanan, URS project manager, presented an overview of the I-465/69 Northeast project that included a current project map, timeline and process chart.
 - The project starts on I-465, from just east of the US 31 interchange to just north of Fall Creek Road. It includes the interchanges at Keystone, Allisonville, 465/69 and 82nd Street, as well as more than two miles of I-69, crossing over 82nd Street and ending just south of the 96th Street interchange.

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- The project will add more travel (or through) lanes in each direction and provide interchange improvement, as well as add a fifth lane for ramps between interchanges. All new pavement and all new bridges except for White River and Carmel Creek will be added. The bridges at White River and Carmel Creek will be widened to add one new lane. Noise walls will be added where warranted and meetings will be held for persons in those affected areas.
- The goal of the I-465/69 Northeast project is to improve safety and increase mobility on I-465 and I-69 in northeastern Marion County.
- All the design work is based on Year 2031 traffic forecasts.
- Schedule – At the last CAC meeting in October 2008, the team was in the beginning stages of design. Now the project is through Stage 1, which means 25 percent of the design for the entire corridor is complete.
- The team is breaking the project into construction contracts, and there are currently 11 contracts. Construction is scheduled to start in 2012 and finish in 2016. However, some sections of the project may be accelerated via individual contracts:
 - Contract one is an accelerated contract for the section between the White River and Carmel Creek bridges and could advance as early as the fall of this year (2009).
 - The mainline I-465 construction between College and Carmel Creek may be accelerated to the end of this year (2009).
 - The Keystone Avenue interchange may begin about one and a half years from now, in September 2010.
 - Another accelerated contract may be for overhead bridges at North River Road and Westfield Boulevard. The construction on these bridges could begin in late summer 2009.
 - The next contract to advance could be 82nd Street and 75th Street and may be accelerated to Year 2011.
 - The Allisonville Road interchange may be advanced to 2012.
 - Because the Fall Creek Parkway to 75th Street section does not include much right of way issues or utility conflicts, this section could be advanced to begin in 2010.
 - The largest interchange - I-465/I-69 - could advance to 2012.
 - The I-69 section could begin in late 2012 or early 2013.
- Advancing sections of the project helps to give project flexibility to the design team.

Right of way

Trent Newport, design lead for the right of way process, provided a recap of the INDOT and Federal Highway Administration (FHWA) process for right of way acquisition. The first step is to identify the parcels in the design area, conduct preliminary engineering studies and develop right of way lines. Next, the appraisal phase begins. Depending on the type of parcel and the level of impacts on the parcel, two appraisals may be required. Land owners hear from INDOT at the appraisal phase if their parcel is affected. Purchasing is next in the process. Paperwork is

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prepared, notices/meetings are set and an offer is made. Section 1 near the Keystone interchange is where the most progress has been made thus far in the right of way process.

- Right of way (ROW) process:
 - Identifying (engineering)
 - Appraising
 - Moving (relocating)
- Acquisition – purchasing and buying process
- Relocation

There are some residential takes along the main corridor and very few commercial takings. In Section 1, 25 properties are affected either permanently or temporarily. When temporary right of way is needed - for example, when grading must be done - the parcel is returned to its original state (fencing, grass, etc.) and returned to the owner once construction is finished.

There are two residential relocations in the Stage 1 section that include purchasing a home and moving the resident. The closest commercial impact is at the Church at the Crossing, and the design team has made contact with the Church. The remainder of commercial impacts along the Keystone intersection is mostly sliver takes.

Future sections:

- Most significant impacts are along the southernmost I-69 corridor due to the high-density commercial area.
- Along I-465, there are several “sliver” takes, or small parcels of land.
- All affected areas are not known because design phases are not yet complete.

Timeline: The 25 parcels that have some right of way take for Section 1 have been identified. Those appraisals are near completion and the team has contacted those residents. Purchasing should begin in May 2009 and continue through July/August 2009.

Maps may be available at the next CAC meeting to show impacted parcels.

Keystone Interchange

Toby Randolph, design lead for the Keystone interchange, summarized that few changes have occurred in the design since the last CAC meeting. This section is in Stage 2, where 60 percent of design is complete.

Overview –

- Partial Cloverleaf
 - Eliminates left turns from Keystone Avenue
 - Free flow traffic
 - Drivers are accustomed to configuration
- Design elements

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- Arterial view map shown
 - I-465 has 4 thru lanes and 1 auxiliary lane
 - 4 thru lanes NB & 2 thru lanes SB on Keystone w/ shoulders
 - Barrier wall separates Keystone & Collector/distributor lanes
 - Dual lane exit ramps from I-465
 - Dual and triple right turn lanes at ramp intersections
 - Dual left turn lanes at ramp intersections
 - 2 traffic signals at ramp intersections
 - Dual lane entrance loop ramp from SB Keystone to EB I-465
 - Single lane entrance loop ramp from NB Keystone to WB I-465
 - Limiting right of way impacts with the use of retaining walls, slope grading, guardrails, etc.
- New to the design:
At 96th Street northbound to accommodate the four through lanes going north, the lane must be widened at 96th St and 98th streets. Southbound will be completed the same way.

A video of future traffic movements was shown.

CAC Member Questions and Answers

Q: If you used a Single Point Urban Interchange (SPUI) at this interchange instead of a partial cloverleaf, would you be able to take less land in the right of way process?

A: Although the SPUI design does take less right of way than the partial cloverleaf design, the current interchange already takes more right of way than a SPUI. Therefore, the partial cloverleaf will not take any additional right of way than what currently exists.

The partial cloverleaf was also chosen because of the traffic operation in the area.

Q: With the traffic forecasting, have you accounted that truck traffic will decrease because it will no longer be allowed on Keystone Avenue north of 96th Street?

A: As the traffic exists now, the Keystone Avenue is a much less preferred alternative for trucks over US 31. We are projecting for only 7 percent truck traffic.

Q: Do you plan to put noise walls around the Keystone interchange?

A: No, we do not currently plan to place noise walls at Keystone Avenue based upon the noise analysis. However, noise walls are warranted along I-465 from College to Keystone avenues.

Q: Where are you on the decision regarding the intersection at 96th St. and Keystone Ave.?

A: The same intersection at 96th Street will remain, as that intersection is not part of the 465-69 project. The construction limits for this project go to the south edge of 96th Street, but results in some widening north of 96th Street. 96th Street will not be affected and

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INDOT is not eliminating the signal. The signal will be upgraded. The design team has been coordinating with the City of Carmel and their future plans for this intersection.

Q: Does Carmel own 96th Street?

A: Carmel has jurisdiction over 96th, as well as Keystone Avenue north of 96th Street.

Q: As you do the widening up to 98th Street, will traffic lanes be closed down?

A: There will still be access during construction.

Q: Someone was contacted by an appraisal company regarding their commercial property being used for three years for temporary use. What does this mean?

A: The construction contractors will make temporary use of property during construction, but three years is just the INDOT standard agreement. The construction time will be much shorter, more likely one year of use during construction.

Q: Do you mean the lights and fencing that are there will not be taken down until it is time for construction?

A: Correct.

Q: Will the area around 96th and Keystone be used as a staging area? If not, where is the staging area?

A: INDOT does not purchase right of way for staging areas – only for permanent right of way or temporary construction right of way.

Concern: Residents do not want staging area at 86th Street and Keystone Avenue interchange because it has been used several times before. When this happens, it destroys the wildlife, trees, etc.

Response: When all design work is completed, a location will be scouted for the staging area. There are no concrete plans to make a staging area at 86th and Keystone. Like on the Super 70 project, construction companies usually make arrangements with private land owners to rent land for a term.

Q: What are the rules about cleaning up the staging area when construction is finished? Are there any environmental rules?

A: It depends on whether the land is privately owned or not. There are many environmental rules that must be followed.

Q: What are you going to do about the over bridges?

A: The bridges will be totally reconstructed and raised. Because I-465 will be wider, the bridges will need to be wider/longer. Westfield and North River road bridges will be closed at certain points during construction.

Q: When will the work affecting Keystone Avenue and 96th Street occur?

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A: Officially 2012, but we hope to advance to the fall of 2010. Mainline bridges will be completed first to accommodate Keystone, and work on North River Road and Westfield will most likely begin this year.

Allisonville interchange

Angela DeWees, design lead for the Allisonville interchange, gave an overview and discussed updates at the Allisonville Road interchange.

- Single Point Urban Interchange (SPUI)
 - Better alternative and accepted nationally and in Indiana
 - Less expensive to build
 - Less likely to affect or be affected by congestion at 82nd Street and 86th Street
 - Some ramp construction offline can reduce traffic restrictions
- Design elements
 - One traffic signal at ramp intersection - left turns occur simultaneously
 - Three thru lanes NB & SB on Allisonville with curb and gutter on outside edge
 - Raised median separates left turn lanes from opposing thru lanes
 - Dual left turn lanes from Allisonville to I-465
 - Dual exit lanes from EB I-465 to NB Allisonville and WB I-465 to SB Allisonville
 - Will look very similar to the Emerson Avenue interchange on the south side of Indianapolis
- Design updates since previous CAC meeting include:
 - Bike lanes from 82nd Street to 86th Street. This is a continuation of the City of Indianapolis' bike lane project from Fall Creek to 86th Street.
 - Eliminated left-turn access from Allisonville south of I-465.

VISSIM model shown

A signal will be located inside intersection, and traffic studies will be completed on the signal timing before placing it into service.

CAC Member Questions and Answers

Q: Left turns across the Allisonville median will be eliminated?

A: At this time the recommendation is to eliminate the left turns. Right turns will be permitted. Heavy traffic volume, backups and safety requirements necessitate the elimination of the left turns south of I-465 on Allisonville based on 2031 traffic volume.

**Note: More information on this decision is attached at the end of the minutes.*

Q: Have you considered access from the south to get to the gas station, i.e. a frontage road?

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- A: The businesses are boxed in and there is not a lot of room, but that is something we can look into.
- Q: Bicycle lanes are a concern. As a driver, will I need to stop in the middle lane to pass a bike?
- A: The bike lanes at this major intersection are for experienced cyclists. The bike lanes were added at the request of the City of Indianapolis Parks Department. A turn signal could possibly be added.
- Q: Is there pedestrian access from Allisonville Road East along 82nd Street to Castleton Mall?
- A: No. Sidewalks are extended and will stop at first drive east of 465.

465/69 and 82nd Street Interchanges

Jeff Noble, design team lead for the I-465/I-69 interchange, and Jay Vorisek, design team lead for the 82nd Street interchange and I-69 mainline, discussed the I-465/I-69 and 82nd Street interchanges.

- Design status
 - Currently the I-465/I-69 and 82nd Street interchanges are at Stage 1 development, which equals 25 percent of the design plan. At this point, that design plan was submitted, and INDOT is giving its comments. The design team welcomes input from the CAC.
- Design goals
 - Increase capacity by adding lanes
 - Separate local and express movements - reduce the weaving that occurs interstate to interstate
 - Minimize right of way, environmental and construction impacts
- Capacity Improvements

The Collective-Distributor (CD) road system separates local movements from freeway traffic movements. The lanes will be signed appropriately.

Internal lanes are express lanes which are freeway to freeway movements.
External lanes are local lanes which give access to 82nd Street and Binford Boulevard.

I-465/69 interchange ramps:

- I-465 NB to I-69 NB - 2 express lanes and 1 local lane
- I-465 EB to I-69 NB – 2 express lanes – flyover, 1 local lane – loop
- I-69 SB to I-465 SB – 2 express lanes and 1 local lane

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- I-69 SB to I-465 WB – 2 express lanes and 1 local

I-465 Mainline lanes:

- I-465 NB – 4 lanes to 6 and 7 lanes
- I-465 WB – 4 lanes to 6/7 lanes
- I-465 SB – 4 lanes to 7/6/5 lanes – lane reduction to pass under the Fall Creek Bridge and NB the opposite is 5/6/7 lanes
- I-465 EB – 3 lanes to 6/7 lanes
- I-69 SB to I-465 WB – 2 express and 1 local lane

Four to seven lanes for both northbound to southbound will improve movements and reduce weaving.

75th Street (Binford Blvd to Shadeland):

- 2 lanes to 4/5 lanes
- Improvements of sidewalks and curb
- No medians

I-69 lanes North of I-465:

- I-69 NB – 4 lanes to 7 lanes (4 express /3 local)
- I-69 SB – 3/4 lanes to 7 lanes (4 express /3 local)

A major change for drivers heading east to north is the current one lane of capacity will change to three lanes of capacity.

At the next CAC meeting, the design team will have more information regarding what will be built at the Binford and 75th Street area.

- Nickel Plate Railroad Line:
The design team is in discussions with the owners and the City of Indianapolis. The new design accommodates the double track system underneath all the bridges for possible future rail service. Pedestrians will not have access to the site except to a possible commuter station, which was a request of CIRT and the City of Indianapolis.
- 82nd Street interchange ramps:
 - Reconstructed interchange will be very similar to existing interchange
 - NB Off-ramp – add 1 lane to 2 lanes
 - SB Off-ramp – add 1 lane to 2 lanes
 - Many ROW impacts in this area but no total takes of properties
 - Use of many retaining walls to reduce property takes, drainage facilities

CAC members were concerned about south traffic on I-69 which may mistakenly end up on Binford Boulevard. The CD system eliminates that problem.

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CAC Member Questions and Answers

Q: Is the 96th Street interchange involved in this CD system?

A: No. This project ends just south of the 96th Street ramps.

Q: If you are coming north from 75th Street on Binford, are you in a feeder lane to exit to 82nd Street?

A: Yes, and you will be able to make a decision to exit at 82nd Street or keep north on I-69.

Transportation Management Plan Process

Rich Hill, design team lead on the maintenance of traffic during construction, explained how the design team and INDOT use the design manual and safety and mobility policy to create the Transportation Management Plan. The plan keeps traffic moving while providing adequate/safe work areas for the construction crews.

The process consists of a review of traffic control alternatives and alternative routes. For example, this project may recommend an alternate truck route for I-465 using I-70. A plan for emergency responses is being developed in coordination with local officials and businesses. Final recommendations were presented to INDOT for review and approval in late February 2009.

During construction:

- Three lanes of traffic will be maintained in each direction on I-465 and I-69.
- All movements that currently exist at interchanges and at intersections will be maintained. There may be a need for short-term closures, but the intent is to minimize those.
- A minimum of two lanes will be maintained in each direction on Keystone, Allisonville and 82nd Street. During final design, additional lanes will be provided if feasible in some stages.

I-465

1st Stage of construction:

- Shift two eastbound lanes toward the median and one eastbound lane onto the westbound median shoulder (counterflow lane) separating the traffic by concrete barriers
- The Counterflow lane will not have access to exit at interchanges or the other two (2) lanes within the contract limits
- Advance signage will be used
- Trucks will be restricted from counterflow lane

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2nd Stage of construction:

- Eastbound traffic will be shifted to completed outside eastbound lanes/shoulder
- Westbound lanes will remain as in Stage 1
- Advance signage will be used

3rd Stage of construction:

- Place all traffic on the eastbound side
- Contractors will have all westbound direction to construct westbound lanes in one stage
- Access to/from interchange ramps will be maintained for eastbound and westbound traffic
- Advance signage will be used

Two (2) stages of traffic management for I-69:

- The southbound and northbound CD roads will be constructed on the outside in Stage 1, with traffic moved to the inside lanes during construction
- During Stage 2, traffic will be shifted to the outside on the completed pavement and the inside lanes will be completed
- The same 2 Stage concept will be utilized on the far east end of I-465 where 5/6 lanes total will be constructed

The VISSIM animation was shown.

There will be off-peak traffic lane closures and occasional night construction.

CAC Member Questions and Answers

Q: I have concerns about the construction noise during the night.

A: We will follow INDOT's and FHWA's policies regarding construction noise, as well as any local ordinances, if any, that govern decibel levels at night. All construction plans will be presented to local governing agencies, at which time the noise issue will be addressed.

Intelligent Transportation Systems (ITS)

Dan Shamo, design lead for the intelligent transportation systems, spoke on the ITS plan.

Construction workzone areas tend to be high accident areas.

ITS been used for 20 years but it is new to transportation engineering. ITS uses technology to improve and control traffic flow by gathering information. If traffic is stopped for one minute, it takes five minutes to return traffic to regular flow.

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- ITS components:
Locations: The ITS facility is located at 21st just west of Post Road. There is another ITS center located in northwest Indiana. Both work in conjunction with the Indiana State Police.
- Traffic monitoring equipment:
 - Vehicle sensors
 - Cameras – there are over 200 cameras throughout Indiana
 - Message signs (overhead)
 - Communications network – will be a fiber optic network and is less vulnerable to interference
- Hoosier Helpers – Program started in 1990 and provides roadside assistance, removes debris from highways and can change electronic signs if necessary. A Hoosier Helper van will be on display following the meeting.
- In road work zones during construction:
 - Close monitoring of traffic conditions
 - Information will be given to the public via message signs, radio - AM 530
 - Close coordination with emergency response agencies

Closing comments

Aimee Kindred closed the meeting by encouraging CAC members to speak to the design team individually for more detailed questions. Additionally, an invitation was given to view the Hoosier Helper van and attend the open house on Tuesday, March 24, at Divine Savior Evangelical Lutheran Church at 7315 East 75th Street.

Notice for the next CAC meeting will be delivered at least three weeks prior. Aimee Kindred thanked the attendees and the meeting was adjourned.

***More information on the decision to eliminate left turns from Allisonville between 82nd and 86th streets:**

When the project team discussed the interchange at the October 2008 CAC meeting, only the analysis of the interchange and ramps were complete, so the thought was that the left turns might pose an issue, but it hadn't yet been confirmed. After the team reviewed the traffic analysis of the 82nd and 86th street areas this spring, it became clear that there would be a need to use all the lanes between 82nd and 86th streets as storage lanes, making left turns impossible.

Based on the queue analysis memo, which is attached to these minutes, the existing NB left turn lane to Kelly Lane (approximately 550' from 82nd Street) needs to be closed because 500' storage is required for southbound left turns and 785' storage for southbound right turns at 82nd Street. One option would be to move the northbound left-turn access point to the north; however, that would place the new driveway closer to the interchange (approximately 400' from the new ramp) and would require a break in the limited access right of way that would be inconsistent with INDOT design policy and standards. It is the combination of these reasons that INDOT is proposing the northbound left turn to Kelly Lane be closed.

The documents regarding the decision that are attached to these minutes include:

- A queue analysis and storage length recommendation memo
- Figure 86-4A from INDOT's design manual showing INDOT's current policy regarding providing limited access right of way at interchanges
- Preliminary design exhibit from Allisonville Road at Kelly Lane showing no left turns across median and closure of two driveways (one on the east side and one on the west side). The proposed design configuration is shown in black over existing features in dashed gray.

Representatives from INDOT and the design team met with members of affected businesses from the westside of Allisonville Road on April 15 to discuss the elimination of northbound left turns and one of the entry points to Kelly Lane. INDOT and the design team will take another look at all of the options and get back in touch with the affected businesses before the next CAC meeting that is planned for mid-summer.

MEMORANDUM

Date: April 2, 2009

To: Angela DeWees, PE
R.W. Armstrong
Union Station
300 South Meridian St.
Indianapolis, IN 46225-1193

CC: Scott Buchanan, URS
Robin Thompson, URS
Michelle Gottschalk, INDOT
Steve Davidson, PTG

From: Tobias Randolph, PE, PTOE

Subject: I-465/Allisonville SPUI Interchange – Queuing Analysis
I-465 Northeast Side Road Reconstruction/Added Travel Lanes Project

At your request, we conducted queuing analysis at the I-465/Allisonville Road SPUI interchange, Allisonville Road/86th Street and Allisonville Road/82nd Street intersections. Our analysis at this time was conducted using many of the geometric elements found in the design file provided by RWA this past week.

As part of our analysis we also tested several storage lane lengths, different from those found in the RWA design file, for the northbound and southbound left-turn lanes on Allisonville Road between 86th Street and 82nd Street intersections. The following Table 1 shows the storage lane lengths found in the RWA design file and our recommended storage lane lengths based on queuing analysis which would be adequate to accommodate the forecasted turns between 82nd and 86th Streets along Allisonville without back blocking into the adjacent through traffic lanes and with very minimal, if any, interference from adjacent through lane traffic queues.

Table 1: Recommended Left-Turn Storage Lane Lengths

Description	RWA Design File	PARSONS Recommended
<i>North of SPUI Interchange</i>		
SB Left-turn at SPUI	520 feet	320 feet
NB Left-turn at 86th Street	250 feet	450 feet
<i>South of SPUI Interchange</i>		
NB Left-turn at SPUI	830 feet	670 feet
SB Left-turn at 82th Street	340 feet	500 feet

The 95th percentile queue lengths were determined after five simulation runs using the *SimTraffic* software package for both the AM and PM peak hours. The *SimTraffic* queue results summary for the subject locations analyzed are included in Table 2 on the next page.

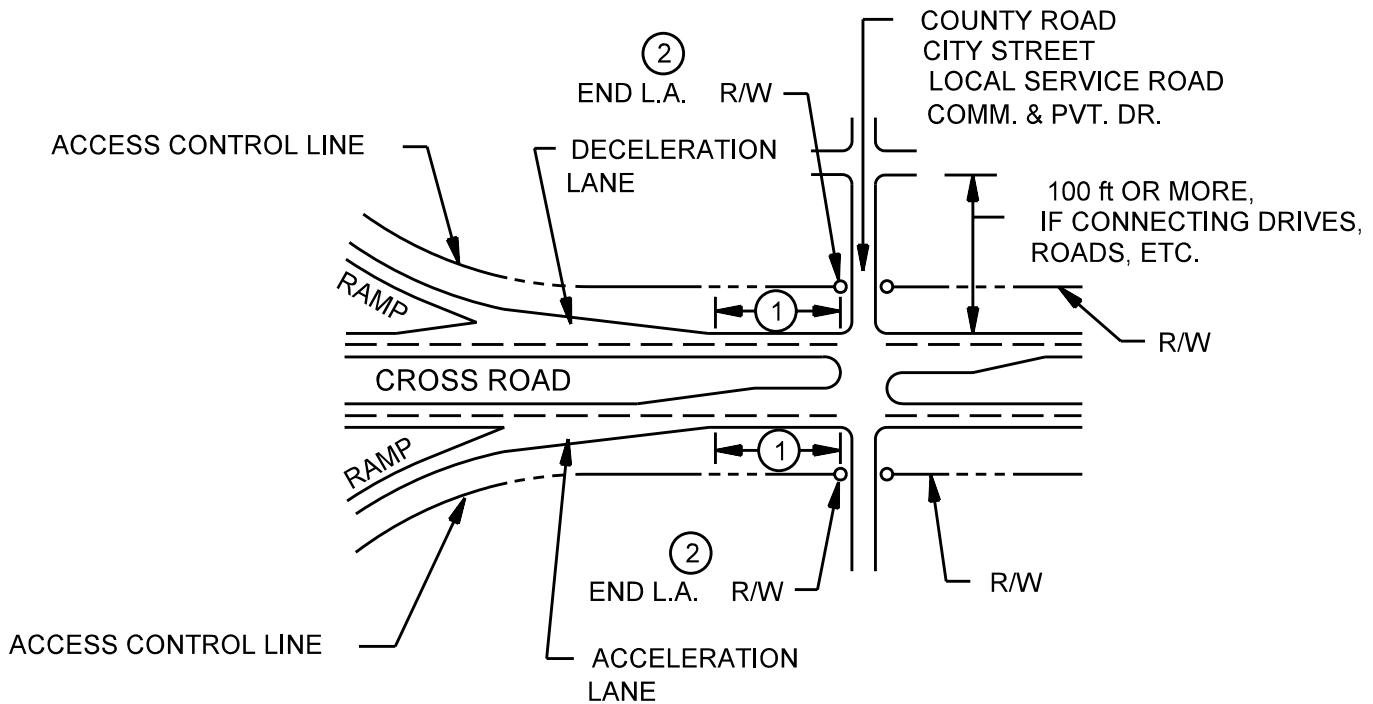
Table 2: I-465/Allisonville - SPUI Interchange
95th Percentile Queue Lengths Based on *SimTraffic* Output¹

Intersection/Approach		Movement (No. of Lanes/Storage Length)	95 th percentile Queue Length (ft)	95 th percentile Queue Length (ft)
			AM Peak	PM Peak
Allisonville/86 th Street	NB	Left (2 lanes / 450ft each)	*/*	184/407
		Thru (3 lanes)	105/125/100	514/532/556
		Right (2 lanes / 1 continuous & other 365ft)	*/*	539/337
	SB	Left (2 lanes / 250ft each)	*/212	220/288
Thru (2 thru / 1 shared thru+right)		1123/1145/983	604/537/648	
EB	Left (1 lane / 60ft)	*	128	
	Thru (1thru / 1 shared thru+right)	*/233	331/344	
WB	Left (2 lanes & 1 shared thru+left)	160/102/172	381/1389/1245	
	Right (1 lane / continuous)	*	1315	
Allisonville/I-465 EB&WB on/off ramps	NB	Left (2 lanes/ 670ft each)	115/132	130/153
		Thru (3 lanes)	184/204/200	169/187/189
		Right (1 lane / 675ft)	285	143
	SB	Left (2 lanes / 320ft each)	267/280	138/170
Thru (3 lanes)		115/115/116	268/215/224	
EB	Left (2 lanes / 770ft each)	216/276	442/487	
	Right (1 lane / 810ft)	415	439	
WB	Left (2 lanes / 800ft each)	210/209	404/571	
	Right (2 lanes / 900ft each)	113/*	768/734	
Allisonville/82 nd Street	NB	Left (2 lanes / 230ft each)	168/173	*/*
		Thru (3 lanes)	163/166/189	255/273/458
		Right (1 lane / 400ft)	174	461
	SB	Left (2 lanes / 500ft each)	230/243	377/400
Thru (2 thru)		309/420	314/539	
EB	Right (1 lane / continuous)	625	784	
	Left (2 lanes / 320ft each)	274/319	376/576	
WB	Thru (2 thru / 1 shared thru+right)	175/326/323	1127/1024/1015	
	Left (2 lanes / 300ft each)	108/558	208/629	
	Thru (2 lanes)	955/951	944/966	
		Right (1 lane / continuous)	1042	1160

Source: *SimTraffic* Queuing and Blocking Report.

*Queue length less than 100 feet.

¹ The values contained in this table are based on optimized traffic signal timing for a specific cycle length, split and offset.



- ① FULL ACCESS CONTROL LINE SHOULD EXTEND ALONG THE CROSS ROAD BEYOND THE RAMP TERMINAL TAPER EXTREMITY (BOTH SIDES OF ROAD) 100 ft MINIMUM TO 200 ft DESIRABLE IN URBAN AREAS AND 300 ft MINIMUM TO 500 ft DESIRABLE IN RURAL AREAS. THE AUXILIARY LANE TERMINATING THE GREATER DISTANCE FROM THE INTERCHANGE AREA SHOULD GOVERN.
- ② THE END OF ACCESS CONTROL SHALL BE AT OPPOSITE POINTS, WHERE FEASIBLE.

Notes:

1. This figure illustrates a typical outer connection for divided facilities in rural and urban areas.
2. Where high-traffic crossroads, streets, commercial drives or signalized intersections are located or may be potentially constructed just beyond the interchange outer connectors, extension of the limited access right-of-way beyond the limits shown should be consider enhance operational safety and efficiency and to minimize congestion. Where a signalized intersection is anticipated, the distances should be increased to 600 ft minimum, 800 ft desirable, where feasible in urban areas.

L.A. R/W AT INTERCHANGES (CASE I)

Figure 86-4A

Curve Data

P.I. Sta. = 318+47.54 Line "B-SR37-A"

$\Delta = 1^\circ 43' 00.00"$ (LT)

R = 49,110.67'

T = 735.77'

L = 1,471.43'

E = 5.51'

S.E. = N.C.

D.S. = 45 mph

Curve Data

P.I. Sta. = 338+68.81 Line "B-SR37-A"

$\Delta = 0^\circ 48' 00.00"$ (RT)

R = 71,619.75'

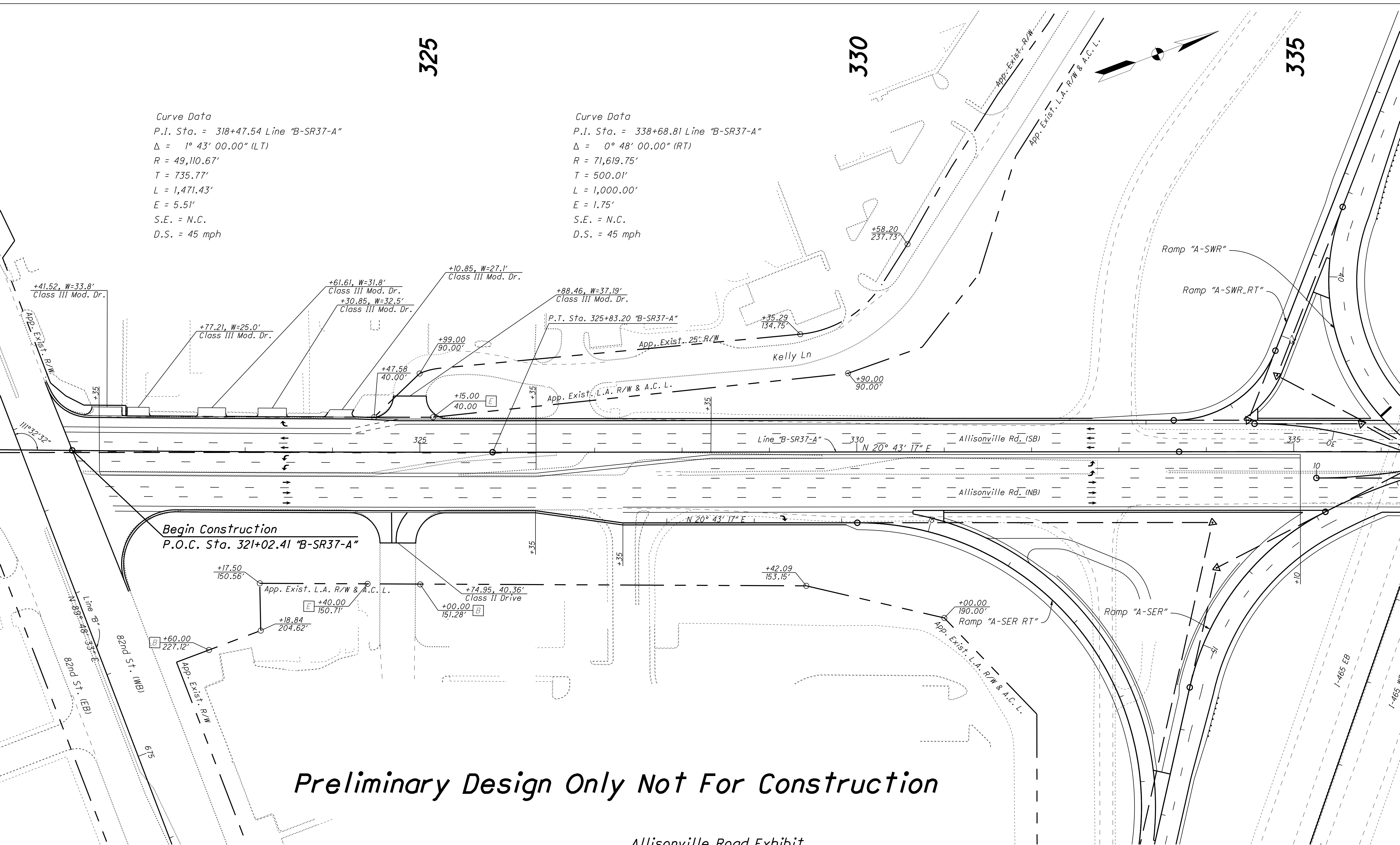
T = 500.01'

L = 1,000.00'

E = 1.75'

S.E. = N.C.

D.S. = 45 mph



Preliminary Design Only Not For Construction