AKRF

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Draft Memorandum

To: Christine Klein, NYSDOT Region 9

From: Michael Beattie and Anthony Russo

Date: July 20, 2012

Re: Concord Resort – Synchro Analysis

cc: Chris Robbins; AKRF

This draft memorandum provides our response to NYSDOT comments dated July 18, 2012 on the Synchro analysis prepared for the Concord Resort DEIS.

COMMENTS AND RESPONSES

1. Please submit the calculated yellow and red clearances for each intersection based on operating speed.

   Yellow and red times for existing signals were based on signal timing sheets received from NYSDOT. Red and yellow times for the proposed signals at Interchange 106 were not calculated. Based on the volumes and presenting a conservative analysis, yellow times were set at four seconds and red times set at two seconds at the proposed signalized intersections.

2. Eight second minimum initial green time at all signals.

   Minimum greens for existing signals were based on signal timing sheets received from NYSDOT. The existing signals have minimum green times at eight seconds or greater depending on the intersection.

   For the new signals proposed at the Route 17 eastbound ramps/Cimmaron Road (overpass), Joyland Road/Cimmaron Road, and the Route 17 westbound ramps/Cimmaron Road intersections, the signals were coded with an eight second minimum green.

3. All NYSDOT signals can be programmed to extend green phases to accommodate pedestrian calls. The model can ignore pedestrian times within their phases.

   Comment noted and will be considered when developing future mitigation to signal timings.

4. All NYSDOT signals are fully actuated.

   Comment noted and will be considered when developing future mitigation to signal timings.

5. The signals at Route 17 WB ramp, Anawana Lake Road, Home Depot and Concord Road are a coordinated system. They should be evaluated and reported this way. Alternatively, a recommendation can be made that these signals run free and document the improvements.

   Based on the signal timing sheets received from DOT, there were no inputs showing these signals operating as a coordinated system (attached are two examples of the signal timing sheets showing only information for free running signals). Therefore, signals were coded as running free.

6. Please submit the existing conditions and then the impact from only the Concord development unless there is concrete evidence that another substantial project will be completed prior to the opening of Phase 1 of the Concord project.

   Based on SEQRA requirements, the CALP project (located on Concord Road) and the associated trip generation and roadway improvements need to be included for the Phase 1 Build analysis. We are currently in discussions with the Town of Thompson to potentially conduct a sensitivity test without the CALP project; however, that analysis has not been approved.

7. When will the roundabout analysis be available for comparison?

   AKRF met with NYSDOT's roundabout group in Albany on June 19, 2012 (meeting minutes will be provided). Different conceptual options were discussed as well as preferred analysis tools. The interchange options (both with and without roundabouts) will be discussed during the upcoming July 26, 2012 meeting with NYSDOT Region 9 to determine which interchange options should be analyzed between the DEIS and the FEIS.

No coordination

N4 42 / Concord

Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green	30		16		30			
Gap, Ext	6		3		6		0.1	
Max 1	35		20		35			
Max 2								
Yel Clearance	3.9	3.5	3.5	3.5	3.9	3.5	3.5	3.5
Red Clearance	1	1.5	1	1.5	1	1.5	1.5	1.5
Walk								
Ped Clearance								
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								

Options [1.1.2]

	1	2	3	4	5	6	7	8
Enable	1		1		1			
Min Recall	1				1			
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls			1					
Auto Flash Entry								
Auto Flash Exit								
Dual Entry		1		1		1		1
Enable Simul Gap	1	1	1	1	1	1	1	1
Gaurantee Passag								
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								

Options+ [1.1.3]

	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Phase								
Red Rest On Gap								
Omit Yellow								
Ped Delay								
Gm/Ped Delay								

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	0	0	1	1	13	0	0	13	1	25	0	0		1	37	0	0		1
2	0	0	2	1	14	0	0	14	1	26	0	0		1	38	0	0		1
3	0	0	3	1	15	0	0	15	1	27	0	0		1	39	0	0		1
4	0	0	4	1	16	0	0	16	1	28	0	0		1	40	0	0		1
5	0	0	5	1	17	0	0	17	1	29	0	0		1	41	0	0		1
6	0	0	6	1	18	0	0	18	1	30	0	0		1	42	0	0		1
7	0	0	7	1	19	0	0	19	1	31	0	0		1	43	0	0		1
8	0	0	8	1	20	0	0	20	1	32	0	0		1	44	0	0		1
9	0	0	9	1	21	0	0	21	1	33	0	0		1	45	0	0		1
10	0	0	10	1	22	0	0	22	1	34	0	0		1	46	0	0		1
11	0	0	11	1	23	0	0	23	1	35	0	0		1	47	0	0		1
12	0	0	12	1	24	0	0	24	1	36	0	0		1	48	0	0		1

Split	1	2	3	4	5	6	7	8	Split	1	2	3	4	5	6	7	8
1 Coord	0	0	0	0	0	0	0	0	13 Coord	0	0	0	0	0	0	0	0
2 Coord	0	0	0	0	0	0	0	0	14 Coord	0	0	0	0	0	0	0	0
3 Coord	0	0	0	0	0	0	0	0	15 Coord	0	0	0	0	0	0	0	0
4 Coord	0	0	0	0	0	0	0	0	16 Coord	0	0	0	0	0	0	0	0
5 Coord	0	0	0	0	0	0	0	0	17 Coord	0	0	0	0	0	0	0	0
6 Coord	0	0	0	0	0	0	0	0	18 Coord	0	0	0	0	0	0	0	0
7 Coord	0	0	0	0	0	0	0	0	19 Coord	0	0	0	0	0	0	0	0
8 Coord	0	0	0	0	0	0	0	0	20 Coord	0	0	0	0	0	0	0	0
9 Coord	0	0	0	0	0	0	0	0	21 Coord	0	0	0	0	0	0	0	0
10 Coord	0	0	0	0	0	0	0	0	22 Coord	0	0	0	0	0	0	0	0
11 Coord	0	0	0	0	0	0	0	0	23 Coord	0	0	0	0	0	0	0	0
12 Coord	0	0	0	0	0	0	0	0	24 Coord	0	0	0	0	0	0	0	0

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1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
1A&1B	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
2	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)
3	Detection; Sample Time and Unit Parameters related to detection
4	Preemption and Alternate Phase Time and Phase Options
5	Annual Schedule
6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)
7	Communications; Secutiry; I/O Setup

STD8

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1	RED	1
2	1	RED	0
3	1	RED	1
4	1	RED	0
5	2	RED	1
6	2	RED	0
7	2	RED	0
8	2	RED	0

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	OFF
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	4.5
Flash Red	2

Unit Params [1.2.1]

Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3*	OFF
Display Time	20
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

N4 42 / Anaworx, No coordination

Min Error

STD8

Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green	8	10	8	8	8	10	8	
Gap, Ext	2.5	4	2.5	2.5	2.5	4	2.5	
Max 1	30	50	20	20	15	50	25	
Max 2								
Yel Clearance	3.9	3.9	3.2	3.2	3.9	3.9	3.2	3.5
Red Clearance	1	1	1	1	1	1	1	1.5
Walk		7		7		7	7	
Ped Clearance		27		26		23	29	
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	1	1	1	1	1	1	1	
Min Recall		1				1		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry								
Auto Flash Exit								
Dual Entry		1	1	1		1	1	
Enable Simul Gap		1		1		1	1	
Gaurantee Passag								
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								
Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Phase								
Red Rest On Gap								
Omit Yellow								
Ped Delay								
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Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

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2	0	0	2	1	14	0	0	14	1	26	0	0		1	38	0	0		1
3	0	0	3	1	15	0	0	15	1	27	0	0		1	39	0	0		1
4	0	0	4	1	16	0	0	16	1	28	0	0		1	40	0	0		1
5	0	0	5	1	17	0	0	17	1	29	0	0		1	41	0	0		1
6	0	0	6	1	18	0	0	18	1	30	0	0		1	42	0	0		1
7	0	0	7	1	19	0	0	19	1	31	0	0		1	43	0	0		1
8	0	0	8	1	20	0	0	20	1	32	0	0		1	44	0	0		1
9	0	0	9	1	21	0	0	21	1	33	0	0		1	45	0	0		1
10	0	0	10	1	22	0	0	22	1	34	0	0		1	46	0	0		1
11	0	0	11	1	23	0	0	23	1	35	0	0		1	47	0	0		1
12	0	0	12	1	24	0	0	24	1	36	0	0		1	48	0	0		1

Split		1	2	3	4	5	6	7	8	Split		1	2	3	4	5	6	7	8
1	Coord	0	0	0	0	0	0	0	0	13	Coord	0	0	0	0	0	0	0	0
2	Coord	0	0	0	0	0	0	0	0	14	Coord	0	0	0	0	0	0	0	0
3	Coord	0	0	0	0	0	0	0	0	15	Coord	0	0	0	0	0	0	0	0
4	Coord	0	0	0	0	0	0	0	0	16	Coord	0	0	0	0	0	0	0	0
5	Coord	0	0	0	0	0	0	0	0	17	Coord	0	0	0	0	0	0	0	0
6	Coord	0	0	0	0	0	0	0	0	18	Coord	0	0	0	0	0	0	0	0
7	Coord	0	0	0	0	0	0	0	0	19	Coord	0	0	0	0	0	0	0	0
8	Coord	0	0	0	0	0	0	0	0	20	Coord	0	0	0	0	0	0	0	0
9	Coord	0	0	0	0	0	0	0	0	21	Coord	0	0	0	0	0	0	0	0
10	Coord	0	0	0	0	0	0	0	0	22	Coord	0	0	0	0	0	0	0	0
11	Coord	0	0	0	0	0	0	0	0	23	Coord	0	0	0	0	0	0	0	0
12	Coord	0	0	0	0	0	0	0	0	24	Coord	0	0	0	0	0	0	0	0

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7	Communications; Secutiry; I/O Setup

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1	RED	1
2	1	RED	1
3	1	RED	1
4	1	RED	1
5	2	RED	1
6	2	RED	1
7	2	RED	1
8	2	RED	0

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	OFF
Auto Reset	ON
Expand Split	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	4.5
Flash Red	2

Unit Params [1.2.1]

Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3"	OFF
Display Time	20
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

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Michael Beattie <mbeattie@akrf.com>

FW: Concord Question - merge/diverge analysis

Anthony Russo <arusso@akrf.com> Fri, Aug 24, 2012 at 10:06 AM
To: Michael Beattie <mbeattie@akrf.com>, Chris Robbins <crobbins@akrf.com>
Cc: Nanette Bourne <nbourne@akrf.com>

See below. DOT wants just one of the ramps analyzed the EB on-ramp. However, when cwe ollect the data we will get both directions of RTE 17, but we do not need to analyze all the ramps.

From: Klein, Christine (DOT) [mailto:Christine.Klein@dot.ny.gov]
Sent: Friday, August 24, 2012 7:13 AM
To: 'Douglas, Christina'; 'Anthony Russo'
Subject: FW: Concord Question - merge/diverge analysis

See below

From: Retzlaff, Michael (DOT)
Sent: Thursday, August 23, 2012 2:56 PM
To: Klein, Christine (DOT)
Cc: Larson, Pete (DOT); Bickford, Doug (DOT); Signorelli, Tony (DOT)
Subject: RE: Concord Question - merge/diverge analysis

Existing weaving distances between entrance and exit ramps are in excess of AASHTO minimum of 2000' (pg. 10-106). AASHTO does not require, but recommends checking by HCM procedure. I concur with Tony's recommendation.

Michael

Tony's answer sounds good to me.

Peter Larson

Chris,

The only ramp that may have any issue is the EB on ramp. The other 3 should be fine, provided the WB off ramp doesn't have any queuing problems, which there intersection analysis has shown that it won't.

It would be prudent to have at least this one movement analyzed.

Tony

Tony Signorelli, PE
R-9, Acting Regional Traffic Engineer

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