

Volunteer Network of Professionals Working Together to Support, Promote, and Improve Best Practices in the Application of Traffic Simulation and Capacity Analysis

7/17/2018 Educational Meeting (#1)

Meeting Agenda







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Overview of North Carolina SimCap



Overview

- History & Context
- Organization, Size, & Operation
- Objectives
- Lessons Learned



History & Context

- •Why SimCap User Group?
- 2006 Simulation Model Users Group (SMUG)
 - Part of NCSITE Traffic Engineering Council
 - How SMUG can help
 - SMUG Mission Statement
 - SMUG Future Initiatives



History & Context (2)

- •Activities 2006 Present
 - Annual meetings
 - Joint meetings
 - Lunch & Learn meetings
 - Webinars
 - Task forces
 - Surveys
 - Support NCSITE



Organization

- NCSITE
 Board of Directors
- Councils
 - Strategic Initiatives
 - Consultant / Vendor
 - Traffic Engineering (TEC)
 - Transportation Planning (TPC)

- TEC User Groups
 - ITS/Tolls
 - Signal Systems
 - SimCap
- TPC User Groups
 - NEPA
 - Bicycle/Pedestrian
 - Safety





NCSITE SimCap Leadership

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Mission Statement (2006)

- Serve **simulation model users** by creating a resource of information for all to use
- Serve transportation managers by providing information to help make project level decisions regarding modeling/simulation
- Serve transportation agencies to assist in developing modeling practices acceptable statewide
- Serve as a central resource of information to all interested parties at all levels of simulation use



Objectives

- Develop professionals
- Strengthen relationships
- Advance the profession
- •Reflect goals & mission of NCSITE & TEC



Annual Activities

- •1 half-day meeting
- •1 lunch and learn
- •1 joint gathering with peer organization
- Increase SimCap mailing list (~70 members)
- Support NCSITE annual meeting



Lessons Learned

- •Engage passionate, committed individuals
- •Find common interests & goals
- •Meet with a purpose (professional, social, etc.)
- Support network is key
- Encourage new ideas and approaches
- It's a marathon, not a sprint





Application of Transportation Modeling & Simulation in Planning and Decision-Making Process

Application of Transportation Modeling & Simulation in Planning and Decision-Making Process



Pong Wu Capital Region Planning Commission July 17, 2018

Overview

- I. Modeling Area and Location
- **II.** Traffic Counts and Data
- III. Traffic Operation Modeling & Simulation (No-Build vs. Build)
- **IV.** Potential Crashes Simulation
- V. Conclusion

I. Modeling Area and Location



I. Modeling Area and Location



Tools for Traffic Operation Modeling & Simulation

Following modeling related software was used in this planning and traffic operation analysis











II. Traffic Counts and Data

RCRPC

Existing Peak Hour Intersection Volumes: Adams_ParkAve (7/11/2013) RCRPC

Existing Peak Hour Intersection Volumes: Diamond ParkAve (6/6/2013)

9/4/2013

9/4/201

Traffic Count & Analysis

- a. Conducted intersection traffic counts.
- b. Performed traffic data analysis for each intersection including identify:
- existing AM & PM peak hour traffic turning movements by approach;
- Intersections' peak hour traffic volume and,
- peak hour factors for each intersection

			Existing Peak Hour Intersection Volumes: Main /ParkAve (6/6/2013) RCRPC										3	9/4/2013			TOT or															
			R	CRPC						C	ARS						[CAR	S + TI	RUCI	KS				-		139
					N	lain St.		Pa	ark A	ve	Ma	ain St	L F	Park Ave	•	J	D	iamor	d St.		15	at St	0	Diamor	nd St.	1:	st St			TOT	one-hr	437
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16:45	12	42	70	0	191	2	0	0	0	0	200	0	517	12	42	70	0	191	2	0	0	0	0	200	0	517	3627	100000				
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17:30	59	33	85	0	263	14	0	0	0	3	345	0	802	59	36	85	0	263	14	0	0	0	3	345	0	805	2601					
17:45	14	99	130	0	207	1	0	0	0	1	286	0	738	14	99	130	0	207	1	0	0	0	1	287	0	739	2823					
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	0	19	0				0	1	0																							

II. Traffic Counts and Data

Traffic Count & Analysis

- Historical traffic counts at study area were also analyzed for growth trend and
- Intersections annual traffic growth rates as well.

	Ta	ble 2	: Cer	ntral I	Park T	raffic	Stud (E	y - I By A	nterse pproa	ction T ch & B	urning Mo y Intersect	veme ion)	ents	and	Grow	th Ra	ates A	naly	sis		
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AM Pea	k Hou	r			_	PM Pe	ak Hou	•			AM Peak	Hour				-	PM Pe	ak Hou	r		
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2004	41		197		20	70		877		96	2004	10		264		10	10		875		60
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		7	120	6	*	20		242	23	16		15	8	115	9		67		150	12	,
-	-	48	118	11	-	-	79	155	17	-	-	-	12	92	8	-	-	28	100	22	-
	48	40	110		15	81	10			18		12	16	~~		10	14	20	161	ce	23
2040	24		475		28	28		600		25	2008	28		300		22	62		166		43
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		6	105	8		~	6	17.9	15	10		10		75	13	~	15	15	96	20	×
		5.92	-5.92	3.42		-	182	-5.72	.7 42	8		-	-8.32	-0.32	.2.92	-	-	-4.72	-2.72	.8.92	
avo	0.4%				-5.52	4.62				-13.2%	avo	0.02				-6.32	-1.72			(In Contrast	-11.2%
annual	-3.52		.0.8%	8	2.92	-14.62		-5.69	6	-11.7%	annual	-3.62		4.7%		-4.12	2.62		-5.19	-	-8.72
arouth	15.22		-0.0%	2	2.65	-18.22		-0.01		-3.02	arouth	5.32				-19.15	-15.15			2	15.82
growin	10.63	.255	2.02	4.95	6.0%	-10.69	.9.62		.9 12	-90.014	growin	2.0%	3.02	-10.15	9.65	-19.19	- 10.1%	8.12	-10.62	11.45	10.00%
		10.014	6.015	4.04	the supervised states	-	-0.04	-9.94			_		0.04	-10,14	0.0%		-	0.14	10.04	1045	_
	-			Bown	an / Fift	h St.				1. I.I.				M	lalberr	y / Siz	th St.			_	
AM Pea	k Hou	r				PM Pe	ak Hou	r			AM Peak	Hour					PM Pe	ak Hou	ır		
		12	142	6			19	214	16	10			14	227	66			24	261	70	-232
	11				8	18				10		30				75	51				36
2002	27		429		50	53		682		85	2002	38		618		69	56		795		11
	2				14	4				34		6				15	23				18
		2	131	24	-		7	183	39			_	17	59	2		_	7	33	7	-
		13	112	4			21	160	8				16	191	54			20	264	75	-
10000	14				13	13				8	1.000	26				49	49				94
2009	20		433		47	26		527		57	2007	22		482		60	63		783		78
	2				55	5				22		9				9	36				21
3	_	8	143	35			3	176	22			_	6	40	0	_	_	5	75	3	1
		1.2%	-3.3%	-5.6%			1.43	-4.13	-9.4%		12		2.73	-3.4%	-3.3%			-3.6%	0.2%	1.43	
avg	3.5%				7.2%	0.8%				-3.1%	avg	-2.8%				-8.2%	-0.8%				-0.4%
annual	-4.2%		0.1%		-0.3%	-9.7%		-3.69	6	-5.5%	annual	-10.4%		-4.8%		-2.8%	2.4%		-0.39		0.3%
growth	0.0%				6.7%	3.2%				-6.0%	growth	8,4%		u		-9.7%	4.4%		14110010	1100000	3.5%
		21,3%	1,3%	5.5%			-11.4%	-0.6%	-7.9%	1			-18.8%	-7.5%	0.0%			-6.5%	-5.4%	-15.6%	
NATION AND AND AND AND AND AND AND AND AND AN		an 11		Bown	an / Thir	d St.							a 1		Valae	l / Sixth	St.				
AM Pea	k Hou	r				PM Pe	ak How	•			AM Peak	Hour					PM Pe	ak Hou	ır		
		20	131	6			52	155	12				0	0	0			0	0	0	
	10				12	20				5	1.5	0				0	0				0
2008	37		441		48	38		548		41	2006	94		240		120	162		381		173
	19				25	13				27		0				0	0				0
		13	101	19			23	165	24				14	0	12			26	0	20	
	-	8	35	3			3	136	14				0	0	0			0	0	0	
	6				5	6				14		0				0	0				0
2011	20		261		16	16		336		17	2007	70		193		88	106		312		142
	13				3	20				10		2				1	3				2
		7	81	4			17	73	10				20	0	12			34	0	25	
		-26.3%	-10.2%	-20.6%			-50.7%	-4.3%	5.3%				0.0%	0.0%	0.0%			0.0%	0.0%	0.0%	
avg	-15.7%				-25.3%	-33.1%				40.9%	avg	0.0%				0.0%	0.0%				0.0%
annual	-18.5%		16.09	6	-30.7%	-25.0%	1 1	-15.0	%	-25.4%	annual	-25.5%	-	19.6%	0	-26.7%	-34.6%	3	18.1	%	-17.9%
growth	-11.9%				-50.7%	15.4%				-28.2%	growth										
1000		-18.6%	-7.1%	-40.5%			-9.6%	-23.8%	-25.3%				42.3%	0.0%	0.0%			30.8%	0.0%	25.0%	

The operational efficiency of traffic is measured using the concept of "Level of Service" (LOS) contained in the "Highway Capacity Manual"

				Travel 1	^{ri} me / Veh	ide
		Ave	rage Spee	d	Seconds	LOS
Stopper	Delay/Ve	hicle	MPH	LOS	< 5	A / B
Stoppet			20 to 30	A / B	5 to 25	С
Color	Seconds	LOS	2010 30	A / D	25 to 45	D
	< 5	A/B	15 to 20	С	45 to 60	F
	5 to 25	С	10 to 15	D	> 60	
	25 to 45	D	5 to 10	Е	200	Г
	45 to 60	E	< 5	F		
	> 60	F	1			

LOS "C" or better is considered desirable in the Mansfield urbanized areas.

Street's Segments Level of Service Analysis:

- With HCM method, the calculation of arterial's segments level of service is based on the information of the <u>travel speed</u> and <u>travel time</u>.
- <u>The street's travel time</u> = running time + signal delay
- <u>Arterial speed</u> = the distance / travel Time

Based on the peak hour traffic volume analysis. Approach traffic, intersection turning movements at peak time and total traffic in and out at each intersection were adjusted for the model and simulation model Table 1: Central Park Traffic Study - Peak Hour (PM) Traffic and Turning Movements Analysis for Intersections at Study Area

	Bowman Mult	berry St. Wal	sut Stl	Main St.	Diamond St.	Adams St.
Sixth St. In/Out Approch	79 155 17 20 81 620 18 49 35 63 6 10 36 67 10 36 10 100 6 172 13 5 5 103 10 <th>264 75 0 0 783 94 0 31 0.85 21 3 *** 0.9 75 3 34 0 218 106 *** 0.9 1193 176 109 141 83 5 5 5</th> <th>0 2 3 25 0 144 131 59</th> <th>23 502 41 0 791 0 58 ••• 0.88 34 0 0 0 127 ••• 0.88 0 138 87 565 0</th> <th>0 0 0 0 12 887 88 145 0.89 0 59 429 73 139 168 158 0 561</th> <th>73 60 0 89 392 0 37 ₩ 0.9 0 87 46 0 0 133 135 0 0 126 0 0 0 97 133 133 0</th>	264 75 0 0 783 94 0 31 0.85 21 3 *** 0.9 75 3 34 0 218 106 *** 0.9 1193 176 109 141 83 5 5 5	0 2 3 25 0 144 131 59	23 502 41 0 791 0 58 ••• 0.88 34 0 0 0 127 ••• 0.88 0 138 87 565 0	0 0 0 0 12 887 88 145 0.89 0 59 429 73 139 168 158 0 561	73 60 0 89 392 0 37 ₩ 0.9 0 87 46 0 0 133 135 0 0 126 0 0 0 97 133 133 0
Fithth St. In/Out Approch	21 160 8 15 19 527 8 18 26 57 45 5 ••• 0.96 22 20 3 176 22 0 •• 189 203 266 87 121 50 56 83 327	207 44 1 3 567 72 4 39 0.91 40 6 ••• 0 9 29 34 90 218 198 7 89 101 90 90	3 7 7 168 7 21 30 45 196 124	52 506 67 0 889 0 78 112 15 ₩ 0.87 39 625 0 164 151 93 550 0	0 0 0 0 15 1059 14 149 0.81 0 0 791 5 0 85 99 164 0 766	22 100 32 14 575 27 83 90 21 0.85 21 45 109 11 154 150 138 118 126
Fouth St.	8 247 7 19 13 737 24 0 41 17 139 35 28 259 32 0 26 259 32 0 262 296 285 30 53 71 130 85 80 174 308 319 321	250 16 6 45 610 0 23 100 111 503 0.88 36 9 ⊷ 0: 4 0 6 83 4 147 313 155 535 4 62	6 6 301 7 4 313 512 92	0 261 897 13 0 26538 0 392 11 ++ 0.78 7 0 0 0 1 1536 0 316 299 403 405 1515 0	0 2 0 40 812 17 85 69 0 78 500 21 2 557 86 125 106 2	5 128 5 5 434 17 66 55 16 55 16 0.9 17 138 118 75 89 67 67 80 80
India St.	25 155 12 19 20 548 5 0 33 +** 0.88 27 38 +** 23 165 24 0 39 -** 0.88 27 38 +** 23 165 24 0	271 19 4 42 493 4 8 38 59 79 0.8 19 0 *** 0.7 3 0 0 12 7 48 82 114 80 87 3 46	2 2 7 1 110 8 4 5 12 134 115 93 137	5 1242 0 0 1311 0 38 17 17 4 rev 0.79 5 0 0 0 1247 22 22 22 42 38 1251 0	0 5 0 24 709 21 34 49 0 $\stackrel{*}{=}$ 0.95 0 30 532 14 5 577 79 70 58 48	3 136 14 6 335 13 16 17 17 20 w 0.79 10 17 73 10 153 92 37 40 42 40 166 100
Parts Ave.	51 81 22 355 0 PM 1258 61 0 269 335 2122 2122 14 *** 0.85 217 15 *** 116 829 9 0 0 154 129 934 934 283 320 2137	244 335 8 22 4754 0 37 124 1668 529 0 1 0 17 36 1 1682 559 2457 580	9 534 4 7 17 82 550 555	94 516 58 0 1878 0 446 ++ 0.94 170 0 0 0 0 668 0 534 610 600 504 504 504	0 0 0 73 2433 50 668 761 1 ••• 0.75 0 107 664 59 0 807 811 772 757	16 455 31 13 5308 34 1830 2246 54 ++ 0.71 53 252 449 102 502 496 2287 2333 1897 1963
Second St. Assessed	312 208 273 0 171 26 144 0 PM 541 66 0 0 195 15 68 7 ## 0 195 15 68 7 ## 0 195 15 68 7 ## 0 195 15 68 7 ## 0 195 15 68 7 ## 0 197 251 134 276 879 0 30 41 63 40 603 239 210 603 603 603	1 44 590 145 1 16 1150 0 33 28 0.86 6 2 0 9 38 20 9 38 20 70 51 7 51 7 8 233 185 7 138 24	70 1 9 21 50 4 4 0 63 75 151 9	o40 0 1 1371 0 0 1589 0 7	1 0 23 2 0 806 44 0 150 0 28 559 0 28 559 0 178 5 0 23 587 23 587	562 576 64 88 0 0 306 11 0 0.81 0 152 86 73 0 88 81
First St. Ammorb	28 121 22 17 14 466 23 4 62 43 94 13 ••• 0.81 9 15 96 20 30 166 75 61 29 104 116	93 12 7 0 380 1 9 32 0.86 2 0 ••• 0.8 62 33 0 0 0 67 31 31 31 4 139 270 0 0	24 8 5 5 0 0 14 27 285	5 939 101 0 1761 0 50	19 0 0 802 1087 0 75 0 0 19 0.86 0 19 971 0 19 971 0 899 22 460	0 81 9 70 345 0 131 0 8 *** 0.82 0 90 114 0 209 80 45 142

The modeling study with forecasting demand model identified the LOS changes to all adjacent streets in the study area under No-Build and Build conditions.



The model forecasted traffic percentage changes on street segments between No-Build and Build conditions.



III.Traffic Operation Modeling & Simulation (No-Build vs. Build)Traffic Impact Study – OD Trips Analysis at Selected TAZ

HBSP Trips to/from TAZ containing Ontario Shopping Center Area



Maps showing the lines to and from each zone, with thicker lines representing more trips, are known as Desire Line Maps





Traffic Impact Study – OD Path Analysis (No-Build vs. Build)

Determine the trips coming from each place or zone as they traverse a specific link or a preferred path to TAZ containing the Central Park

No-Build



1. Average Speed Comparison - the average speed of a vehicle that has completely traversed the link is calculated as the total travel distance divided by the total travel time (miles/hour),



1. Average Speed Comparison - For each turning movement, the average speed of a vehicle that has completely traversed the link is calculated as the total travel distance divided by the total travel time for the turn movement at intersection (miles/hour),

	The Roadway Lovel of Service (LOS)											
C	Comparing Average Speed (Cumulative) Under Scnario No-Build Vs. Build											
	(East-West Direction)											
Street Segment		Bowman- Mulberry		Mulberry- Walnut		Walnut-Main		Main-Dia	amond	Diamond-Adams		
		No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build	
5th St.	West Bound	С	С	D	D	A/B	A/B	E	E	С	С	
51151	East Bound	С	С	D	D	E	F	C	D	С	С	
4th St.	West Bound	C	D	A/B	С	C	E	E	F	A/B	D	
	East Bound	С	С	F	F	F	F	C	D	С	С	
3RD St	West Bound	С	С	C	D	С	Е	D	D	D	D	
5112 51	East Bound	С	С	A/B	С	E	E	С	С	С	С	
N Park St	West Bound							D	E			
N Furk St.												
Dark Avo	West Bound	С	С	D	D	E	D	С	Cut	С	С	
Full AVC.	East Bound	С	С	D	E	A/B	D	D	Off	D	D	
S Dark St												
J Fark St.	East Bound							C	F			
2nd St	West Bound	С	С	D	F	C	D	E	E	С	С	
2110 51.	East Bound	E	D	С	С	D	D	E	E	С	С	
1 et St	West Bound	С	С	D	D	A/B	С	D	D	C	D	
ISCOL.	Fast Bound	D	D	A/B	A/B	F	F	D	D	C	D	

Average Speed									
Color	MPH	LOS							
	20 to 30	A / B							
	15 to 20	С							
	10 to 15	D							
	5 to 10	Е							
	< 5	F							

Simulation of Average Speed and Roadway LOS Changes Under Build and No-Build Conditions in Large Scale

Build	No-Build			
		Av	erage Spee	d
		Color	MPH	LOS
			20 to 30	A / B
			15 to 20	С
			10 to 15	D
			5 to 10	E
				_

2. Travel Time Comparison - For each turning movement, average travel time for a vehicle to traverse the link. Calculated as the total travel time for the specified turn movement divided by the vehicle trips for the specified turning movement (Seconds/Vehicle).

2. Travel Time Comparison - For each turning movement, average travel time for a vehicle to traverse the link. Calculated as the total travel time for the specified turn movement divided by the vehicle trips for the specified turning movement (Seconds/Vehicle).

				(E	East-Wes	t Direction)				
Street	Segment	Bowman- Mulbuary		Mulbuary- Walnut		Walnut	Walnut-Main		amond	Diamond-Adams	
		No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build
5th St	West Bound	С	С	С	С	С	С	D	D	С	С
50150	East Bound	D	D	С	С	A/B	D	С	С	С	С
Ath Ct	West Bound	F	D	С	D	С	A/B	E	F	D	D
40150.	East Bound	D	D	E	E	E	E	С	A/B	A/B	D
200.04	West Bound	D	A/B	С	С	С	D	A/B	С	С	D
3KD St.	East Bound	С	С	A/B	D	С	С	A/B	A/B	A/B	С
N Davis Ct	West Bound							A/B	С		
N Park St.											
Deals Arra	West Bound	С	С	D	С	С	С	С	Cut	С	С
Park Ave.	East Bound	D	D	D	С	С	D	С	Off	D	D
S Park St.	East Bound							A/B	E		
2-10	West Bound	D	С	С	С	A/B	A/B	E	С	С	С
2nd St.	East Bound	F	D	D	С	С	С	E	С	С	С
4-1-01	West Bound	D	A/B	A/B	A/B	A/B	A/B	С	С	A/B	A/B
1st St.	East Bound	С	С	С	С	С	С	С	С	D	C

Comparing Travel Time Under Scnario No-Build Vs. Build

The Roadway Lovel of Service (LOS)

Average Speed									
Color	MPH	LOS							
	20 to 30	A / B							
	15 to 20	С							
	10 to 15	D							
	5 to 10	Е							

IV. Potential Crashes Simulation

Target Area #1-Potential Hot Spot Locations Identified by Model

Target Area #1 - Potential Crash Location & the Cause of Crash

Target Area #1

Potential Hot Spot Location Caused by Limited Sight Distance.

🔍 100% 🛛 👻

Target Area #1- a. The Linear Distance between Two Intersections (Center) Is 170 Feet

Target Area #2 Potential Crash Locations & the Cause of Crash

Target Area #2

Target Area #2

Weaving maneuver and potential crash caused by insufficient length of street.

Target Area #2- a. The Linear Distance between Two Intersections (Center) is 164 Feet

Target Area #2b. Potential crash caused by insufficient length of street due to
weaving maneuver between closed intersections

Emergency Deceleration No Accelera.

Acceleration

Target Area #3 - Potential Crash Locations & the Cause of Accident

Target Area #3- a. The Linear Distance between Two Intersections (Center) Is 162 Feet

 Target Area #3
 b. Potential incident caused by insufficient length for weaving.

Emergency
Deceleration
No Accelera.

V. Conclusion of Simulation Study

In planning process, the use of travel demand model and simulation helps

- <u>analyzing traffic impact and visualizing dynamic</u> <u>network performance for proposed transportation</u> <u>planning projects</u>
- providing community and decision makers with sensible information for transportation improvement decisions.

FHWA Traffic Simulation Modeling Guidelines and Tools

http://www.ops.fhwa.dot.gov/trafficanalysistools

Edit View Favorites Tools Help 🗿 StanNet Splash 🕦 Stantec.com 🗿 HEAT Self Service 🕬 FCm Travel Client Portal L... 🎹 Lexington, KY local news ... 🕥 TRB Highway Capacity an... 🚾 Weather_LEX 🕨 Bing 🗿 Google U.S. Department of Transportation FHWA Home | Feedback Federal Highway Administration TRAFFIC ANALYSIS OOLS PROGRAM OFFICE OF OPERATIONS 21st CENTURY OPERATIONS USING 21st CENTURY TECHNOLOGIES Traffic Analysis Tools Search Traffic Analysis Tools: Go The Traffic Analysis Tools Program was formulated by FHWA in an attempt to strike a balance between efforts to develop new, improved tools in New Guidelines Material support of traffic operations analysis and efforts to facilitate the deployment and use of existing tools. FHWA has established two tracks under the Home Traffic Analysis Tools Program: the deployment track and the development track. Guide for Highway Capacity and Tools Operations Analysis of Active Transportation and Demand FAOs Management Strategies Deployment Track Links Contact Us This track concentrates on the needs and concerns of the traffic analysis stakeholder community: FHWA Leaflet on Work Zone lesources Analysis Guidance Next-Generation Brief, easy-to-read overview of Simulation (NGSIM) Volume I: Traffic Analysis Tools Primer (HTML, PDF 613KB) Work Zone Analysis and how • What's in this Volume? Dynamic Traffic modeling and simulation can be Assignment used as part of the analysis. (Dynasmart-P) Volume II: Decision Support Methodology for Selecting Traffic Analysis Tools (<u>HTML</u>, <u>PDF</u> 1.3MB) Includes three short examples. Decision Support Methodology Automated Tool (HTML, XLS 786KB) ITS Deployment Analysis System • What's in this Volume? (IDAS) Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software (HTML, PDF 1.2MB) Guidance Resources What's in this Volume? Corridor Simulation Volume IV: Guidelines for Applying CORSIM Microsimulation Modeling Software (<u>HTML, PDF</u> 7.2MB) (CORSIM/TSIS) What's in this Volume? Training & Workshops Volume V: Traffic Analysis Toolbox Case Studies - Benefits and Applications (HTML, PDF 3.2MB) What's in this Volume? Volume VI: Definition, Interpretation, and Calculation of Traffic Analysis Tools Measures of Effectiveness (<u>HTML, PDF</u> 734KB) What's in this Volume? Volume VII: Predicting Performance with Traffic Analysis Tools (<u>HTML, PDF</u> 1.7MB) What's in this Volume? Volume VIII: Work Zone Modeling and Simulation - A Guide for Decision-Makers (<u>HTML</u>, <u>PDF</u> 1.9MB) What's in this Volume? Volume IX: Work Zone Modeling and Simulation - A Guide for Analysts (HTML, PDF 15MB) What's in this Volume? Volume X: Localized Bottleneck Congestion Analysis Focusing on What Analysis Tools Are Available, Necessary and Productive for Localized Congestion Remediation (HTML, PDF 3.8MB) · What's in this Volume? Volume XI: Weather and Traffic Analysis, Modeling and Simulation (<u>HTML</u>, <u>PDF</u> 2.1MB) What's in this Volume? Volume XII: Work Zone Traffic Analysis – Applications and Decision Framework (HTML, PDF 13.4MB) What's in this Volume?

Executive Summary (HTML, PDF 583KB)

Thank You!

Business Discussion

Charter (1/3)

ARTICLE II – AREA, MISSION, AND GOALS

Section 2.1 – The area designated as that of *SimCap Louisiana* shall be the state of Louisiana.

Section 2.2 – The Mission of *SimCap Louisiana* shall be to share information and experiences as to disseminate, promote, and develop guidance and best practices in the application of traffic simulation and capacity analysis tools, methods, and related practice areas.

Section 2.3 – The main Goals of *SimCap Louisiana* are to:

- (1) Provide a forum for the meaningful exchange of ideas, research, questions, and trends;
- (2) Serve as a resource for practitioners and organizations by sharing experiences and developing guidance and best practices; and
- (3) Advocate for consistency, reliability, and advances to the current state-of-the-practice.

Section 2.4 – The main Objectives of *SimCap Louisiana* are to:

- (1) Increase awareness of LADOTD initiatives, national activities and guidance, and the latest *SimCap* tools;
- (2) Increase communication of LADOTD updates and activities to stakeholders;
- (3) Provide a forum for sharing *SimCap* experiences (across organizations) and receiving feedback/answers to questions;
- (4) Provide educational opportunities to learn of more appropriate and efficient ways of conducting *SimCap* analysis; and
- (5) Become a mechanism to request education/training.

Charter (2/3)

ARTICLE VII – ACTIVITIES

Section 7.1 – At least four educational meetings shall be organized and held each year. Educational meetings shall include an invited speaker (internal or external) on a relevant *SimCap*-related topic and be webinar accessible.

Section 7.2 – Each professional meeting shall have a planned agenda (with planned objectives and schedule) and disseminated to Members in adequate time to prepare and attend the meeting.

Section 7.3 – At least two business meetings shall be held each year. These may coincide with the educational meetings.

Section 7.4 – An electronic forum shall be established to share experiences, provide feedback, and solicit help in the practice and application of *SimCap* analysis and tools.

Section 7.5 – A Member "expertise" list shall be created and maintained.

Section 7.6 – *SimCap Louisiana* shall participate in a joint-sponsored event at least once per year with a related, transportation-affiliated organization (e.g., ITE, WTS, Tran-SET, etc.).

Charter (3/3)

ARTICLE IV – DUES AND FEES

Section 4.1 – SimCap Louisiana shall not collect dues from its Members.

Section 4.2 – SimCap Louisiana shall not charge fees to its meetings or any other sponsored activities.

ARTICLE V – COORDINATING COMMITTEE

Section 5.1 – A Coordinating Committee shall manage the affairs of *SimCap Louisiana* in conformity with the provisions of this Charter and make decisions on behalf of its Members.

Section 5.2 – The Coordinating Committee shall consist of the: Chair, Co-Chair, and Secretary.

Section 5.3 – The responsibilities of the Coordinating Committee shall be as follows:

- (1) The Chair is responsible for overseeing all aspects of *SimCap Louisiana*, including: presiding, organizing, and running meetings and representing *SimCap Louisiana* to external organizations and partners.
- (2) The Co-Chair shall work with and support the Chair to manage *SimCap Louisiana* and oversee its operations.
- (3) The Secretary (which may comprise multiple Committee Positions) shall be responsible for keeping all records, including: meeting minutes, maintaining a membership list, and maintaining any forums, websites, or social media accounts. The Secretary will aid the Chair and Co-Chair in coordinating meetings, presenters, and planned professional events. The Secretary is also responsible for maintaining the Charter and updating the Charter when amendments are ratified.

Section 5.3 – The terms of Committee Members shall be for two calendar years with no term limits.

Survey Results (1/4)

9

- Objectives: Please choose SimCap Louisiana's two most important objectives
 - Increase awareness of LADOTD initiatives, national activities, and the latest SimCap tools (64%)
 - Provide educational opportunities to learn of more appropriate and efficient ways of conducting SimCap analysis (64%)

- Increase awareness of state/federal initatives and SimCap Tools
- Increase LADOTD communication to stakeholders
- Provide a sharing forum
- Provide educational opportunities
- Become a mechanism to request education/training

Survey Results (2/4)

10

- Purpose of Educational Meetings: Please choose the two most beneficial activities you would like featured at the educational meetings
 - Training: internal or external speakers provide training on specific SimCap tools and software (64%)
 - Peer experiences: practitioners present on their experiences with a current SimCap analysis method or tool (46%)
 - Federal initiatives: external speakers present on current, SimCap-related FHWA projects, programs, initiatives, or guidance documents (46%)

Survey Results (3/4)

11

Topics at Educational Meetings:

Select the topic(s) you would like discussed at the educational meetings

- SimCap studies to evaluate mitigation/management strategies for recurring congestion (64%)
- Guidance on the application of SimCap tools (55%)
- SimCap studies to investigate the impact of emerging technology (46%)

■ Guidance on the application of tools

SimCap studies to investigate non-recurring congestion

SimcCap studies to investigate recurring congestion

SimCap studies to evaluate strategies for non-recurring congestion
 SimCap studies to evaluate strategies for recurring congestion

SimCap studies to evaluate strategies for recorring conges
 SimCap studies to investigate emerging technology

Survey Results (4/4)

12

Tool-Specific Topics: Experience vs. interest level

- Experience mainly with: (1) traffic signal optimization, (2) HCM-based tools, and (3) microscopic sim.
- Variety of topics of interest
- Top-Ranked: Traffic signal optimization
- High Interest and greatest knowledge gap: (1) mesoscopic sim., (2) macroscopic sim., and (3) sketch-planning

THANK YOU FOR ALL ATTENDING!!

7/17/2018 Educational Meeting (#1)