SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE/RAMP & WASHINGTON PL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0				0	3	0	0	2	1
Lane Group		LTR						LTR			LT	R
Volume (vph)	5	16	3				36	273	16	27	48	9
% Heavy Vehicles	4	4	4				1	1	1	5	5	5
PHF	0.67	0.67	0.67				0.90	0.90	0.90	0.87	0.87	0.87
Pretimed/Actuated (P/A)	P	P	P				P	P	P	P	P	P
Startup Lost Time		2.0						2.0			2.0	2.0
Extension of Effective Green		2.0						2.0			2.0	2.0
Arrival Type		3						3			3	3
Unit Extension		3.0						3.0			3.0	3.0
Ped/Bike/RTOR Volume	63	0	0				135	0	0	47	0	0
Lane Width		12.0						12.0			12.0	12.0
Parking/Grade/Parking	N	6	N				N	6	Y	N	-3	N
Parking/Hour									10			
Bus Stops/Hour		0						0			0	0
Minimum Pedestrian Time		24.1						22.0			3.5	

Phasing	Peds Only	EB Only	03	04	NS Perm	06	07	08
Timing	G = 23.0	G = 17.0	G =	G =	G = 24.0	G =	G =	G =
	Y = 5.5	Y = 5	Y =	Y =	Y = 5.5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25

Cycle Length C = 80.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		35						361			86	10
Lane Group Capacity		622						1122			722	389
v/c Ratio		0.06						0.32			0.12	0.03
Green Ratio		0.21						0.30			0.30	0.30
Uniform Delay d_1		25.1						21.7			20.3	19.8
Delay Factor k		0.50						0.50			0.50	0.50
Incremental Delay d_2		0.2						0.8			0.3	0.1
PF Factor		1.000						1.000			1.000	1.000
Control Delay		25.3						22.5			20.7	19.9
Lane Group LOS		C						C			C	B
Approach Delay	25.3						22.5			20.6		
Approach LOS	C						C			C		
Intersection Delay	22.3			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE AVE & LEMIEUX PL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0	0	2	0				0	1	0
Lane Group		LTR			LTR						LTR	
Volume (vph)	7	138	1	1	187	2				3	1	14
% Heavy Vehicles	4	4	4	4	4	4				0	0	0
PHF	0.94	0.94	0.94	0.83	0.83	0.83				0.61	0.61	0.61
Pretimed/Actuated (P/A)	P	P	P	P	P	P				P	P	P
Startup Lost Time		2.0			2.0						2.0	
Extension of Effective Green		2.0			2.0						2.0	
Arrival Type		3			3						3	
Unit Extension		3.0			3.0						3.0	
Ped/Bike/RTOR Volume	0	0	0	162	0	0				25	0	0
Lane Width		11.0			11.0						12.0	
Parking/Grade/Parking	N	4	Y	N	-2	Y				N	-5	Y
Parking/Hour			20			20						20
Bus Stops/Hour		0			0						0	
Minimum Pedestrian Time		3.2			14.1						21.3	

Phasing	EW Perm	02	03	04	SB Only	06	07	08
Timing	G = 38.0	G =	G =	G =	G = 21.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		155			228						30	
Lane Group Capacity		1360			1422						367	
v/c Ratio		0.11			0.16						0.08	
Green Ratio		0.54			0.54						0.30	
Uniform Delay d_1		7.8			8.0						17.6	
Delay Factor k		0.50			0.50						0.50	
Incremental Delay d_2		0.2			0.2						0.4	
PF Factor		1.000			1.000						1.000	
Control Delay		8.0			8.3						18.0	
Lane Group LOS		A			A						B	
Approach Delay		8.0			8.3						18.0	
Approach LOS		A			A						B	
Intersection Delay		8.9			Intersection LOS						A	

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE AVE & CRAWFORD ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	1	1	1	0	0	1	0	0	1	0
Lane Group		LT	R	L	TR			LTR			LTR	
Volume (vph)	21	77	57	11	56	13	28	51	35	11	29	31
% Heavy Vehicles	5	5	5	4	4	4	5	5	5	6	6	6
PHF	0.78	0.78	0.78	0.86	0.86	0.86	0.85	0.85	0.85	0.65	0.65	0.65
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0	2.0	2.0	2.0			2.0			2.0	
Extension of Effective Green		2.0	2.0	2.0	2.0			2.0			2.0	
Arrival Type		3	3	3	3			3			3	
Unit Extension		3.0	3.0	3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume	50	0	0	50	0	0	50	0	0	50	0	3
Lane Width		15.0	16.0	11.0	11.0			14.0			13.0	
Parking/Grade/Parking	N	-4	Y	N	8	Y	N	5	N	N	-6	N
Parking/Hour			10			10						
Bus Stops/Hour		0	0	0	0			0			0	
Minimum Pedestrian Time		22.7			13.5			14.7			14.7	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		126	73	13	80			134			105	
Lane Group Capacity		730	549	421	534			624			643	
v/c Ratio		0.17	0.13	0.03	0.15			0.21			0.16	
Green Ratio		0.43	0.43	0.43	0.43			0.43			0.43	
Uniform Delay d_1		12.3	12.1	11.6	12.2			12.6			12.3	
Delay Factor k		0.50	0.50	0.50	0.50			0.50			0.50	
Incremental Delay d_2		0.5	0.5	0.1	0.6			0.8			0.5	
PF Factor		1.000	1.000	1.000	1.000			1.000			1.000	
Control Delay		12.9	12.6	11.7	12.8			13.4			12.8	
Lane Group LOS		B	B	B	B			B			B	
Approach Delay	12.8			12.7			13.4			12.8		
Approach LOS	B			B			B			B		
Intersection Delay	12.9			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE AVE & DEVILLERS ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Group		LTR			LTR			LTR			LTR	
Volume (vph)	9	103	1	1	75	11	1	1	1	1	1	2
% Heavy Vehicles	8	8	8	8	8	8	0	0	0	0	0	0
PHF	0.75	0.75	0.75	0.63	0.63	0.63	0.25	0.25	0.25	0.50	0.50	0.50
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		2.0			2.0			2.0			2.0	
Arrival Type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	25	0	0	25	0	1	25	0	0	25	0	0
Lane Width		16.0			10.0			11.0			11.0	
Parking/Grade/Parking	N	-2	N	N	-1	Y	N	0	Y	N	-6	Y
Parking/Hour						5			5			5
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time		11.4			12.9			14.6			13.4	

Phasing	EW Perm	EB Only	03	04	NS Perm	06	07	08
Timing	G = 24.0	G = 21.0	G =	G =	G = 19.0	G =	G =	G =
	Y = 6	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 80.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		150			137			12			8	
Lane Group Capacity		1138			380			301			306	
v/c Ratio		0.13			0.36			0.04			0.03	
Green Ratio		0.64			0.30			0.24			0.24	
Uniform Delay d_1		5.7			22.0			23.5			23.4	
Delay Factor k		0.50			0.50			0.50			0.50	
Incremental Delay d_2		0.2			2.6			0.2			0.2	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		6.0			24.6			23.7			23.6	
Lane Group LOS		A			C			C			C	
Approach Delay	6.0			24.6			23.7			23.6		
Approach LOS	A			C			C			C		
Intersection Delay	15.5			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE AVE & DINWIDDLE ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		1	0	0	1		0		0			
Lane Group		TR			LT			LR				
Volume (vph)		97	29	28	50		6		15			
% Heavy Vehicles		0	0	0	0		0		0			
PHF		0.73	0.73	0.70	0.70		0.75		0.75			
Pretimed/Actuated (P/A)		P	P	P	P		P		P			
Startup Lost Time		2.0			2.0			2.0				
Extension of Effective Green		2.0			2.0			2.0				
Arrival Type		3			3			3				
Unit Extension		3.0			3.0			3.0				
Ped/Bike/RTOR Volume	25	0	3	0	0		25	0	0			
Lane Width		16.0			16.0			16.0				
Parking/Grade/Parking	N	-2	N	N	-1	N	N	4	Y			
Parking/Hour									5			
Bus Stops/Hour		0			0			0				
Minimum Pedestrian Time		15.9			12.7			13.4				

Phasing	EW Perm	WB Only	03	04	NB Only	06	07	08
Timing	G = 24.0	G = 21.0	G =	G =	G = 19.0	G =	G =	G =
	Y = 6	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 80.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		169			111			28				
Lane Group Capacity		565			1144			351				
v/c Ratio		0.30			0.10			0.08				
Green Ratio		0.30			0.64			0.24				
Uniform Delay d_1		21.5			5.6			23.7				
Delay Factor k		0.50			0.50			0.50				
Incremental Delay d_2		1.4			0.2			0.4				
PF Factor		1.000			1.000			1.000				
Control Delay		22.9			5.8			24.1				
Lane Group LOS		C			A			C				
Approach Delay	22.9			5.8			24.1					
Approach LOS	C			A			C					
Intersection Delay	16.8			Intersection LOS			B					

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	FIFTH AVE & WASHINGTON/CHATHAM
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				0	2	0	1	1			1	2
Lane Group					LTR		L	T			T	R
Volume (vph)				8	294	92	26	150			64	116
% Heavy Vehicles				4	4	4	0	0			3	3
PHF				0.81	0.81	0.81	0.84	0.84			0.73	0.73
Pretimed/Actuated (P/A)				P	P	P	P	P			P	P
Startup Lost Time					2.0		2.0	2.0			2.0	2.0
Extension of Effective Green					2.0		2.0	2.0			2.0	2.0
Arrival Type					3		3	3			3	3
Unit Extension					3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				17	0	9	0	0		12	0	0
Lane Width					11.0		10.0	9.0			11.0	12.0
Parking/Grade/Parking				Y	-2	Y	N	-6	N	N	-2	N
Parking/Hour				20		20						
Bus Stops/Hour					0		0	0			0	0
Minimum Pedestrian Time					25.3			3.2			15.3	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 39.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 80.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate					475		31	179			88	159
Lane Group Capacity					1220		428	594			608	931
v/c Ratio					0.39		0.07	0.30			0.14	0.17
Green Ratio					0.49		0.38	0.38			0.38	0.38
Uniform Delay d_1					13.0		16.1	17.6			16.5	16.7
Delay Factor k					0.50		0.50	0.50			0.50	0.50
Incremental Delay d_2					0.9		0.3	1.3			0.5	0.4
PF Factor					1.000		1.000	1.000			1.000	1.000
Control Delay					13.9		16.4	18.9			17.0	17.1
Lane Group LOS					B		B	B			B	B
Approach Delay					13.9			18.5			17.1	
Approach LOS					B			B			B	
Intersection Delay	15.8			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	FORBES AVE & ARMSTRONG TUNNEL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	0				0		2			
Lane Group		TR						LR	R			
Volume (vph)		176	205				43		187			
% Heavy Vehicles		3	3				1		1			
PHF		0.88	0.88				0.72		0.72			
Pretimed/Actuated (P/A)		P	P				P		P			
Startup Lost Time		2.0						2.0	2.0			
Extension of Effective Green		2.0						2.0	2.0			
Arrival Type		3						3	3			
Unit Extension		3.0						3.0	3.0			
Ped/Bike/RTOR Volume	50	0	0				0	0	19			
Lane Width		11.0						11.0	11.0			
Parking/Grade/Parking	N	3	N				N	0	N			
Parking/Hour												
Bus Stops/Hour		0						0	0			
Minimum Pedestrian Time		17.3						3.2				

Phasing	EB Only	02	03	04	NB Only	06	07	08
Timing	G = 41.0	G =	G =	G =	G = 29.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 80.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		433						130	163			
Lane Group Capacity		1381						533	892			
v/c Ratio		0.31						0.24	0.18			
Green Ratio		0.51						0.36	0.36			
Uniform Delay d_1		11.3						17.8	17.4			
Delay Factor k		0.50						0.50	0.50			
Incremental Delay d_2		0.6						1.1	0.5			
PF Factor		1.000						1.000	1.000			
Control Delay		11.9						18.9	17.9			
Lane Group LOS		B						B	B			
Approach Delay	11.9						18.3					
Approach LOS	B						B					
Intersection Delay	14.5			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	FORBES AVE & CHATHAM/McANULTY
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0					1	1	0	1	
Lane Group	L	TR						T	R		LT	
Volume (vph)	140	212	10					29	11	52	10	
% Heavy Vehicles	4	4	4					0	0	0	0	
PHF	0.86	0.86	0.86					0.33	0.33	0.76	0.76	
Pretimed/Actuated (P/A)	P	P	P					P	P	P	P	
Startup Lost Time	2.0	2.0						2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0						2.0	2.0		2.0	
Arrival Type	3	3						3	3		3	
Unit Extension	3.0	3.0						3.0	3.0		3.0	
Ped/Bike/RTOR Volume	17	0	0				8	0	1	21	0	
Lane Width	10.0	11.0						10.0	11.0		10.0	
Parking/Grade/Parking	N	3	N				N	-6	N	N	10	N
Parking/Hour												
Bus Stops/Hour	0	0						0	0		0	
Minimum Pedestrian Time		13.8						12.2			12.3	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 51.0	G =	G =	G =	G = 19.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 80.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	163	259						88	30		81	
Lane Group Capacity	915	1886						390	340		250	
v/c Ratio	0.18	0.14						0.23	0.09		0.32	
Green Ratio	0.64	0.64						0.24	0.24		0.24	
Uniform Delay d_1	5.9	5.8						24.6	23.8		25.2	
Delay Factor k	0.50	0.50						0.50	0.50		0.50	
Incremental Delay d_2	0.4	0.2						1.3	0.5		3.4	
PF Factor	1.000	1.000						1.000	1.000		1.000	
Control Delay	6.4	5.9						25.9	24.3		28.6	
Lane Group LOS	A	A						C	C		C	
Approach Delay	6.1						25.5			28.6		
Approach LOS	A						C			C		
Intersection Delay	12.7			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	GRANT ST & BLVD OF ALLIES
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	1		2	0	0	2	0		2	0
Lane Group		LT	R		TR			LTR			TR	
Volume (vph)	24	135	111		142	29	26	201	35		299	37
% Heavy Vehicles	0	0	0		0	0	0	0	0		0	0
PHF	0.94	0.94	0.94		0.81	0.81	0.80	0.80	0.80		0.88	0.88
Pretimed/Actuated (P/A)	P	P	P		P	P	P	P	P		P	P
Startup Lost Time		2.0	2.0		2.0			2.0			2.0	
Extension of Effective Green		2.0	2.0		2.0			2.0			2.0	
Arrival Type		3	3		3			3			3	
Unit Extension		3.0	3.0		3.0			3.0			3.0	
Ped/Bike/RTOR Volume	100	0	6	100	0	0	100	0	0	100	0	0
Lane Width		11.0	12.0		12.0			11.0			11.0	
Parking/Grade/Parking	N	0	N	N	-2	N	N	1	N	N	-1	N
Parking/Hour												
Bus Stops/Hour		0	0		0			0			0	
Minimum Pedestrian Time		18.9			17.9			28.9			20.1	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 40.0	G =	G =	G =	G = 39.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB		WB		NB		SB	
Adjusted Flow Rate	170	112	211		327		382	
Lane Group Capacity	1244	673	1408		1180		1348	
v/c Ratio	0.14	0.17	0.15		0.28		0.28	
Green Ratio	0.44	0.44	0.44		0.43		0.43	
Uniform Delay d_1	14.8	15.0	14.9		16.4		16.5	
Delay Factor k	0.50	0.50	0.50		0.50		0.50	
Incremental Delay d_2	0.2	0.5	0.2		0.6		0.5	
PF Factor	1.000	1.000	1.000		1.000		1.000	
Control Delay	15.0	15.5	15.1		17.0		17.0	
Lane Group LOS	B	B	B		B		B	
Approach Delay	15.2		15.1		17.0		17.0	
Approach LOS	B		B		B		B	
Intersection Delay	16.3		Intersection LOS				B	

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	GRANT ST & FIRST AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				0		0		2	1	1	2	
Lane Group					LR			T	R	L	T	
Volume (vph)				106		6		257	102	27	276	
% Heavy Vehicles				0		0		1	1	2	2	
PHF				0.76		0.76		0.87	0.87	0.71	0.71	
Pretimed/Actuated (P/A)				P		P		P	P	P	P	
Startup Lost Time					2.0			2.0	2.0	2.0	2.0	
Extension of Effective Green					2.0			2.0	2.0	2.0	2.0	
Arrival Type					3			3	3	3	3	
Unit Extension					3.0			3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume				0	0	0	100	0	10	0	0	
Lane Width					12.0			11.0	12.0	10.0	12.0	
Parking/Grade/Parking				N	2	N	N	3	N	N	-3	N
Parking/Hour												
Bus Stops/Hour					0			0	0	0	0	
Minimum Pedestrian Time					18.7			12.9			3.2	

Phasing	WB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = 28.0	G =	G =	G =	G = 3.0	G = 46.0	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 3	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate					147			295	106	38	389	
Lane Group Capacity					499			1569	654	476	1872	
v/c Ratio					0.29			0.19	0.16	0.08	0.21	
Green Ratio					0.31			0.51	0.51	0.58	0.58	
Uniform Delay d_1					23.5			11.9	11.7	8.3	9.1	
Delay Factor k					0.50			0.50	0.50	0.50	0.50	
Incremental Delay d_2					1.5			0.3	0.5	0.3	0.3	
PF Factor					1.000			1.000	1.000	1.000	1.000	
Control Delay					25.0			12.2	12.3	8.7	9.4	
Lane Group LOS					C			B	B	A	A	
Approach Delay					25.0			12.2			9.3	
Approach LOS					C			B			A	
Intersection Delay		12.9			Intersection LOS						B	

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	GRANT ST & FORT PITT/1-376
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1				1	1		2			1	1
Lane Group	L				TR	R		T			T	R
Volume (vph)	87				88	90		189			284	97
% Heavy Vehicles	0				1	1		1			1	1
PHF	0.71				0.85	0.85		0.70			0.80	0.80
Pretimed/Actuated (P/A)	P				P	P		P			P	P
Startup Lost Time	2.0				2.0	2.0		2.0			2.0	2.0
Extension of Effective Green	2.0				2.0	2.0		2.0			2.0	2.0
Arrival Type	3				3	3		3			3	3
Unit Extension	3.0				3.0	3.0		3.0			3.0	3.0
Ped/Bike/RTOR Volume	100	0		0	0	0	0	0		0	0	0
Lane Width	12.0				13.0	12.0		10.0			12.0	12.0
Parking/Grade/Parking	N	0	N	N	2	N	N	3	N	N	-1	N
Parking/Hour												
Bus Stops/Hour	0				0	0		0			0	0
Minimum Pedestrian Time		17.6			3.2			3.2			3.2	

Phasing	EB Only	WB Only	03	04	Thru & RT	06	07	08
Timing	G = 25.0	G = 24.0	G =	G =	G = 25.0	G =	G =	G =
	Y = 5	Y = 5	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25

Cycle Length C = 90.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	123				109	101		270			355	121
Lane Group Capacity	451				458	380		823			473	402
v/c Ratio	0.27				0.24	0.27		0.33			0.75	0.30
Green Ratio	0.28				0.27	0.27		0.28			0.28	0.28
Uniform Delay d_1	25.4				25.8	26.0		25.8			29.7	25.6
Delay Factor k	0.50				0.50	0.50		0.50			0.50	0.50
Incremental Delay d_2	1.5				1.2	1.7		1.1			10.5	1.9
PF Factor	1.000				1.000	1.000		1.000			1.000	1.000
Control Delay	26.9				27.1	27.8		26.9			40.1	27.5
Lane Group LOS	C				C	C		C			D	C
Approach Delay	26.9			27.4			26.9			36.9		
Approach LOS	C			C			C			D		
Intersection Delay	31.4			Intersection LOS			C					

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	SECOND AVE/COURT & ROSS ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	SATURDAY CASINO PEAK HOUR	Analysis Year	2008 BASE CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0		1	1	0	1	0	1	1	0
Lane Group		LTR			T	R		LTR		L	TR	
Volume (vph)	1	142	1		104	76	2	36	28	75	70	10
% Heavy Vehicles	1	1	1		4	4	2	2	2	3	3	3
PHF	0.86	0.86	0.86		0.90	0.90	0.68	0.68	0.68	0.89	0.89	0.89
Pretimed/Actuated (P/A)	P	P	P		P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0	2.0		2.0		2.0	2.0	
Extension of Effective Green		2.0			2.0	2.0		2.0		2.0	2.0	
Arrival Type		3			3	3		3		3	3	
Unit Extension		3.0			3.0	3.0		3.0		3.0	3.0	
Ped/Bike/RTOR Volume	50	0	0	50	0	0	50	0	3	50	0	0
Lane Width		13.0			11.0	14.0		14.0		10.0	10.0	
Parking/Grade/Parking	Y	-2	Y	N	5	N	N	2	Y	N	-3	N
Parking/Hour	10		10						10			
Bus Stops/Hour		0			0	0		0		0	0	
Minimum Pedestrian Time		13.0			13.0			12.5			8.5	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 29.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		167			116	84		93		84	90	
Lane Group Capacity		584			642	566		592		446	657	
v/c Ratio		0.29			0.18	0.15		0.16		0.19	0.14	
Green Ratio		0.41			0.41	0.41		0.43		0.43	0.43	
Uniform Delay d_1		13.6			13.0	12.8		12.3		12.4	12.1	
Delay Factor k		0.50			0.50	0.50		0.50		0.50	0.50	
Incremental Delay d_2		1.2			0.6	0.6		0.6		0.9	0.4	
PF Factor		1.000			1.000	1.000		1.000		1.000	1.000	
Control Delay		14.9			13.6	13.3		12.8		13.4	12.6	
Lane Group LOS		B			B	B		B		B	B	
Approach Delay	14.9			13.5			12.8			13.0		
Approach LOS	B			B			B			B		
Intersection Delay	13.6			Intersection LOS						B		

APPENDIX K

2008 Combined Traffic Volume Calculations

TRAFFIC ASSIGNMENT PATTERNS

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

SEVENTH AVENUE

SMITHFIELD STREET

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

RAMP TO SEVENTH AVENUE

H.O.V. LANES

BIGELOW BOULEVARD

BEDFORD AVENUE

WEBSTER AVENUE

CRAWFORD AVENUE

WYLIE AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

SIXTH AVENUE

GRANT STREET

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

CENTRE AVENUE

BOULEVARD OF THE ALLIES

ROSS STREET

COURT PLACE

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

FIRST AVENUE

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

N

SCALE: N.T.S.

Trans Associates

Transportation Solutions for Today and Tomorrow

Twin Towers Suite 400 /4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

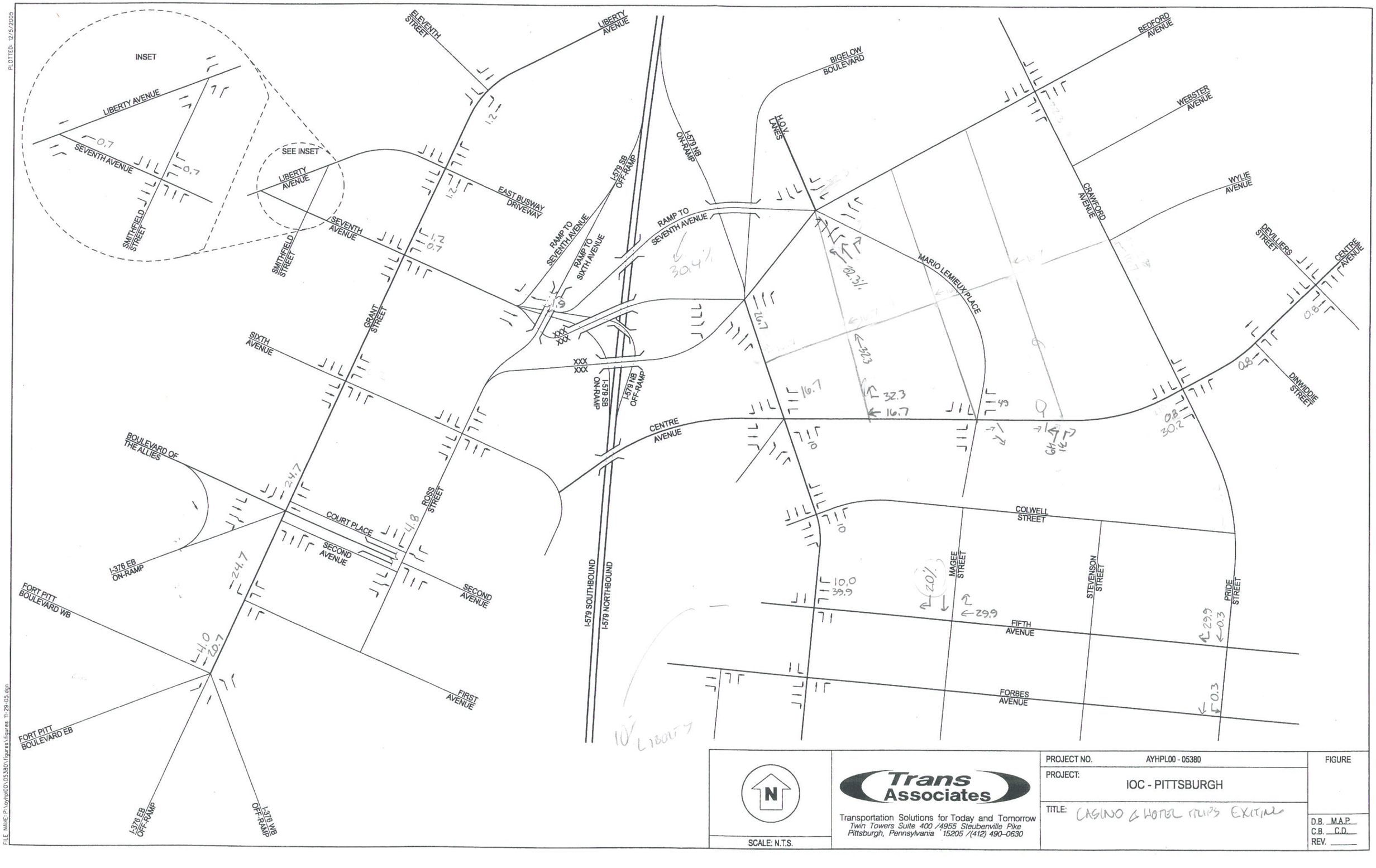
TITLE: CASINO & HOTEL TRIPS - ENTERING AM, PM, FRIDAY & SATURDAY

FIGURE

D.B. M.A.P.
C.B. C.D.
REV.

FILE NAME: P:\cyyhpl00\05380\Figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005



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SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: CASINO & HOTEL TRIPS EXITING

FIGURE

D.B. M.A.P.
C.B. C.D.
REV. ____

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

H.O.V. LANES

RAMP TO SEVENTH AVENUE

BIGELOW BOULEVARD

BEDFORD AVENUE

WEBSTER AVENUE

CRAWFORD AVENUE

WYLIE AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

GRANT STREET

SIXTH AVENUE

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

CENTRE AVENUE

BOULEVARD OF THE ALLIES

ROSS STREET

COURT PLACE

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

FIRST AVENUE

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

N

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: CASINO & HOTEL TRIPS - ENTERING

AM, ~~PM~~ FRIDAY & ~~SATURDAY~~

FRI CASINO ENTERING

FIGURE

D.B. M.A.P.

C.B. C.D.

REV.

FILE NAME: P:\ayhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

SEVENTH AVENUE

GRANT STREET

SIXTH AVENUE

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

I-579 NB OFF-RAMP

I-579 SB ON-RAMP

BIGELOW BOULEVARD

H.O.V. LANES

RAMP TO SEVENTH AVENUE

MARIO LEMIEUX PLACE

BEDFORD AVENUE

WEBSTER AVENUE

WYLIE AVENUE

CRAWFORD AVENUE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

CENTRE AVENUE

BOULEVARD OF THE ALLIES

I-376 EB ON-RAMP

COURT PLACE

SECOND AVENUE

ROSS STREET

SECOND AVENUE

FIRST AVENUE

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

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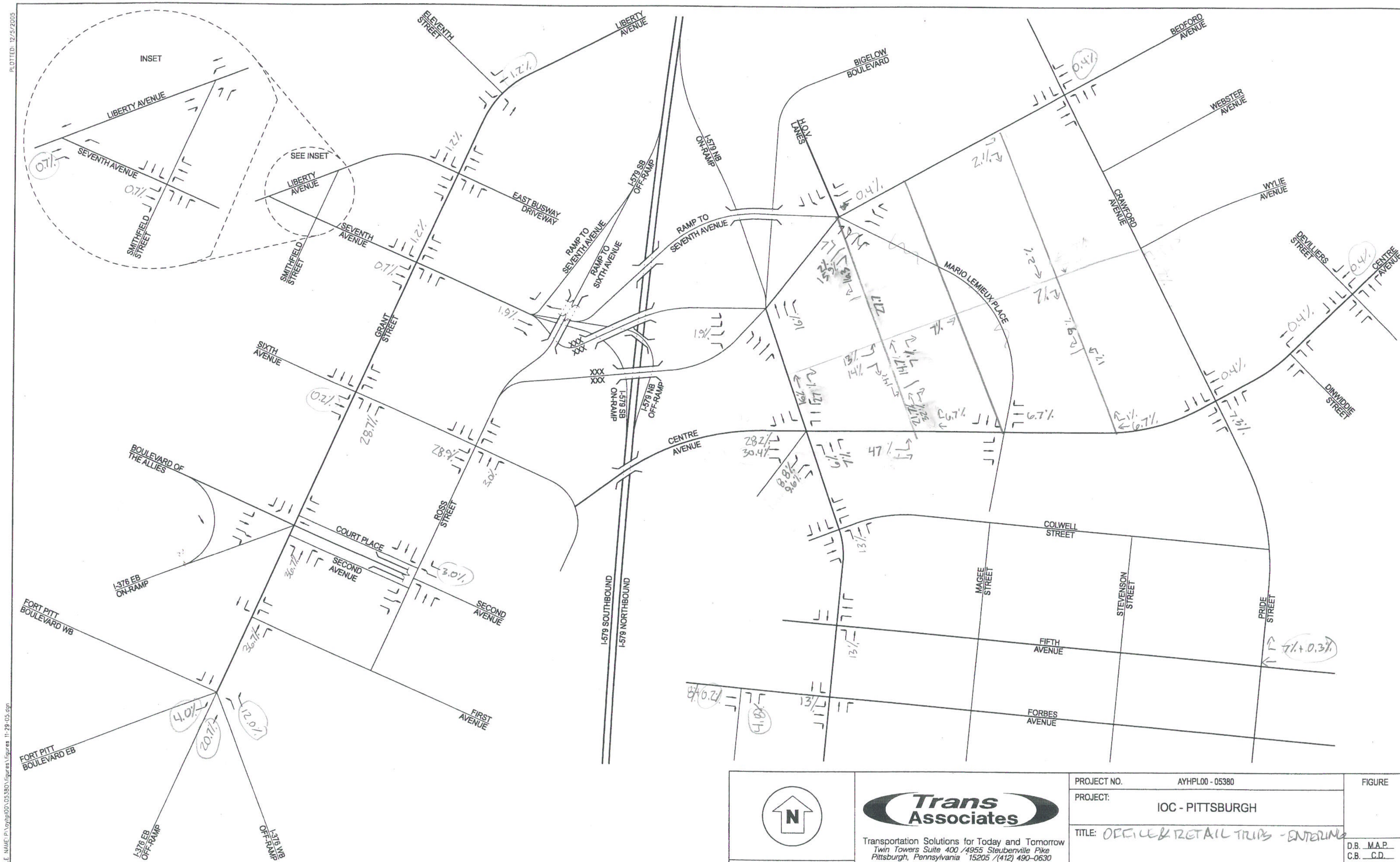
PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	CASINO FRIDAY PEAK EXITING
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	


PLOTTED: 12/5/2005
INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
BIGELOW BOULEVARD
H.O.V. LANES
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
FIRST AVENUE
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE
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SCALE: N.T.S.	**Trans Associates** Transportation Solutions for Today and Tomorrow Twin Towers Suite 400 /4955 Steubenville Pike Pittsburgh, Pennsylvania 15205 /(412) 490-0630	PROJECT NO. AYHPL00 - 05380 PROJECT: IOC - PITTSBURGH TITLE: OFFICE & RETAIL TRIPS - ENTERING
FIGURE	D.B. M.A.P. C.B. C.D. REV.	

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
0.7%
0.7%
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
1.2%
1.2%
1.2%
0.7%
EAST BUSWAY DRIVEWAY
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
19.9%
GRANT STREET
SIXTH AVENUE
0.2%
19.7%
19.9%
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
24.7%
COURT PLACE
4.8%
ROSS STREET
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
24.7%
FORT PITT BOULEVARD WB
40.7%
20.7%
FIRST AVENUE
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
BIGELOW BOULEVARD
H.O.V. LANES
1.0%
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
14%
29.6%
17%
14.7%
19.9%
20%
5.5%
0.2%
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	OFFICE & RETAIL TRIPS - EXITING
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

FILE NAME: P:\oyhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
H.O.V. LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
GRANT STREET
SIXTH AVENUE
XXX
XXX
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FIRST AVENUE
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: RESIDENTIAL TRIPS - ENTERING

FIGURE

D.B. M.A.P.
C.B. C.D.
REV.

FILE NAME: P:\oyhpl00\05380\Figures\Figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
14%
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
GRANT STREET
SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
BIGELOW BOULEVARD
H.O.V. LANES
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
FIRST AVENUE
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
CENTRE AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: RESIDENTIAL STUDY - EXITING

FIGURE

D.B. M.A.P.
C.B. C.D.
REV.

FILE NAME: P:\oyhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/6/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 NB OFF-RAMP
I-579 SB ON-RAMP
BIGELOW BOULEVARD
H.O.V. LANES
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
FIRST AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE
870
945 REMOVED
945

N
SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380
PROJECT: PITTSBURGH FIRST
TITLE: TRIP DISTRIBUTION AM PEAK COMMUTERS ENTERING

FIGURE
D.B. M.A.P.
C.B. C.D.
REV.

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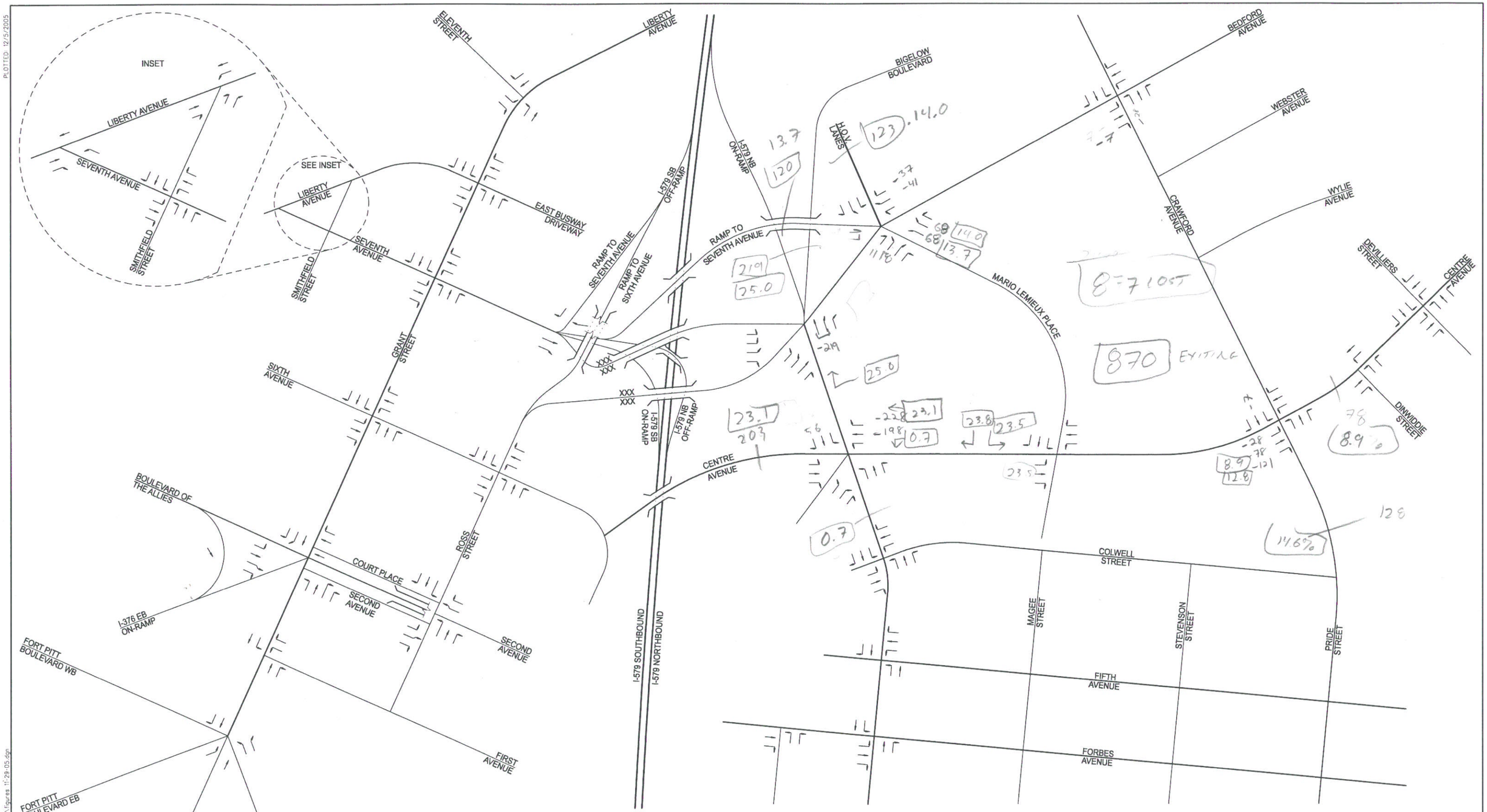
PLOTTED: 12/5/2005



N SCALE: N.T.S.	Trans Associates Transportation Solutions for Today and Tomorrow *Twin Towers Suite 400 /4955 Steubenville Pike* *Pittsburgh, Pennsylvania 15205 /(412) 490-0630*	PROJECT NO. AYHPL00 - 05380 PROJECT: IOC - PITTSBURGH TITLE: TRIP DISTRIBUTION COMMUTER EXITING PM PEAK	FIGURE D.B. M.A.P. C.B. C.D. REV.

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PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
BIGELOW BOULEVARD
H.O.V. LANES
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
FIRST AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

46% OF 2000
920 IN PEAK HOUR
1150 = 46%
230 46% OF 1000 INTO CASINO GARAGE
DIST AS PER CASINO - SAME "BREAKPOINTS" USED FOR PRIOR ENTRANCE
- REAR ENTRANCE CARRIED OFF MAP

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N SCALE: N.T.S.	Trans Associates Transportation Solutions for Today and Tomorrow Twin Towers Suite 400 /4955 Steubenville Pike Pittsburgh, Pennsylvania 15205 /(412) 490-0630	PROJECT NO. AYHPL00 - 05380 PROJECT: IOC - PITTSBURGH TITLE: ENTERING ARENA PEAK	FIGURE D.B. M.A.P. C.B. C.D. REV.

AM PEAK
TRAFFIC ASSIGNMENT

PLOTTED: 12/6/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
BIGELOW BOULEVARD
H.O.V. LANES
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
SIXTH AVENUE
GRANT STREET
XXX
XXX
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FIRST AVENUE
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	PITTSBURGH FIRST
TITLE:	~~AM~~ TRIPS REMOVED FROM EVENING PEAK HOUR
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

FILE NAME: P:\ayhpl00\05380\figures\figure1 11-29-05.dgn

PLOTTED: 12/6/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SMITHFIELD STREET
SEVENTH AVENUE
GRANT STREET
SIXTH AVENUE
I-579 SB OFF-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
BIGELOW BOULEVARD
H.O.V. LANES
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
I-376 EB ON-RAMP
COURT PLACE
SECOND AVENUE
ROSS STREET
SECOND AVENUE
FIRST AVENUE
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: PITTSBURGH FIRST

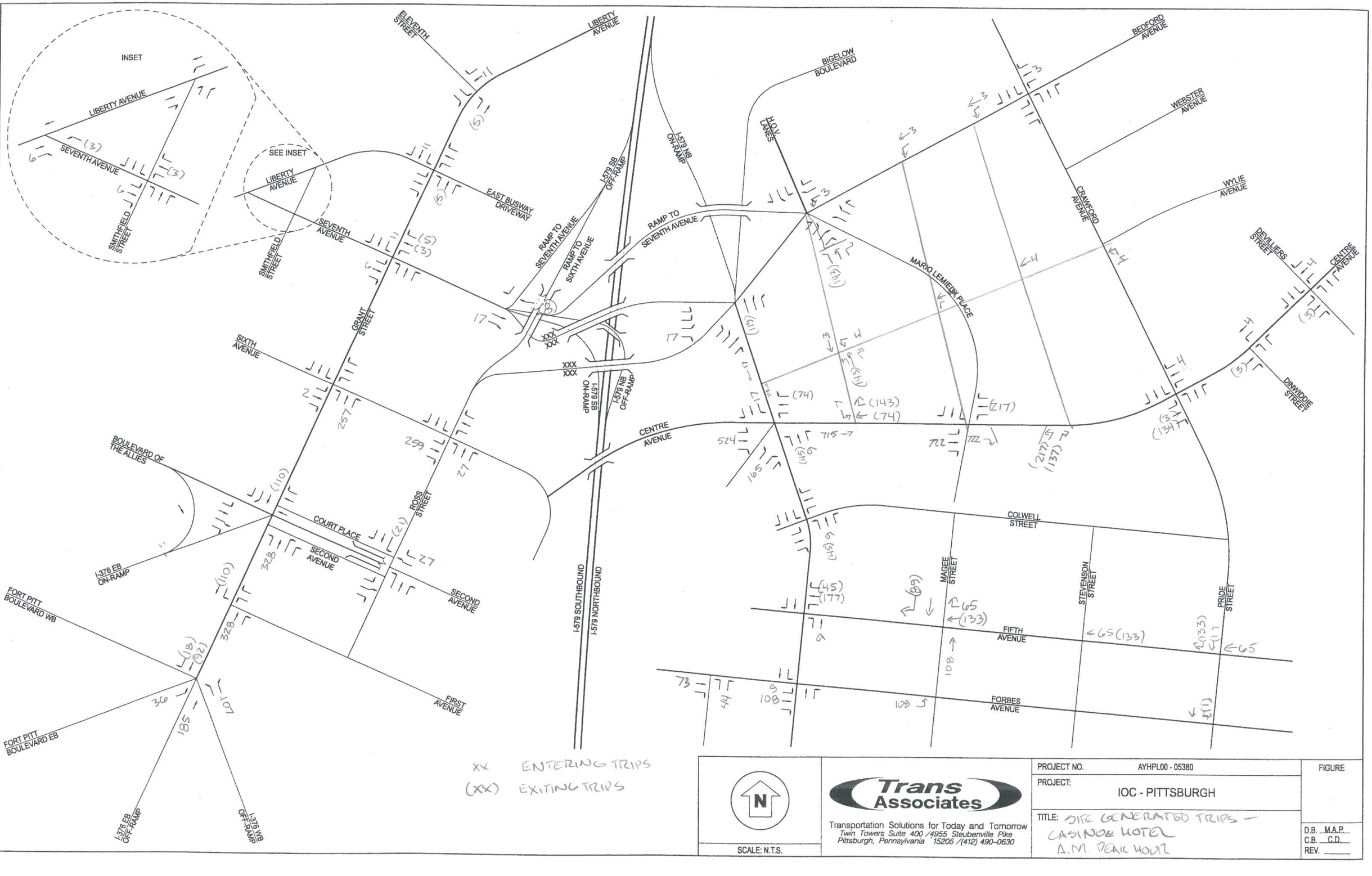
TITLE: AM PEAK HOUR ~~COMMUTERS~~ ENTERING COMMUTER PARKING TRIPS

FIGURE

D.B. M.A.P.
C.B. C.D.
REV. ____

FILE NAME: P:\ayhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005



XX ENTERING TRIPS
(XX) EXITING TRIPS

N

SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	SITE GENERATED TRIPS — CASINO/HOTEL A.M. PEAK HOUR
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

FILE NAME: P:\oyhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
H.O.V. LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
GRANT STREET
SIXTH AVENUE
XXX
XXX
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
FIRST AVENUE
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

XX ENTERING TRIPS
(XX) EXITING TRIPS

FILE NAME: P:\oyhpl00\05380\figures\figures 11-29-05.dgn

N
SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380
PROJECT: IOC - PITTSBURGH
TITLE: SITE GENERATED TRIPS OFFICE & RETAIL A.M PEAK HOUR

FIGURE
D.B. M.A.P.
C.B. C.D.
REV.

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
H.O.V. LANES
BIGELOW BOULEVARD
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
FIRST AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

XX ENTERING TRIPS
(XX) EXITING TRIPS

N
SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380
PROJECT: IOC - PITTSBURGH
TITLE: SITE GENERATED TRIPS - RESIDENTIAL AM PEAK HOUR

FIGURE
D.B. M.A.P.
C.B. C.D.
REV.

FILE NAME: P:\cyhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
H.O.V. LANES
BIGELOW BOULEVARD
RAMP TO SEVENTH AVENUE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
FIRST AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

FILE NAME: P:\ayhpl00\05380\Figures\Figures 11-29-05.dgn

N
SCALE: N.T.S.

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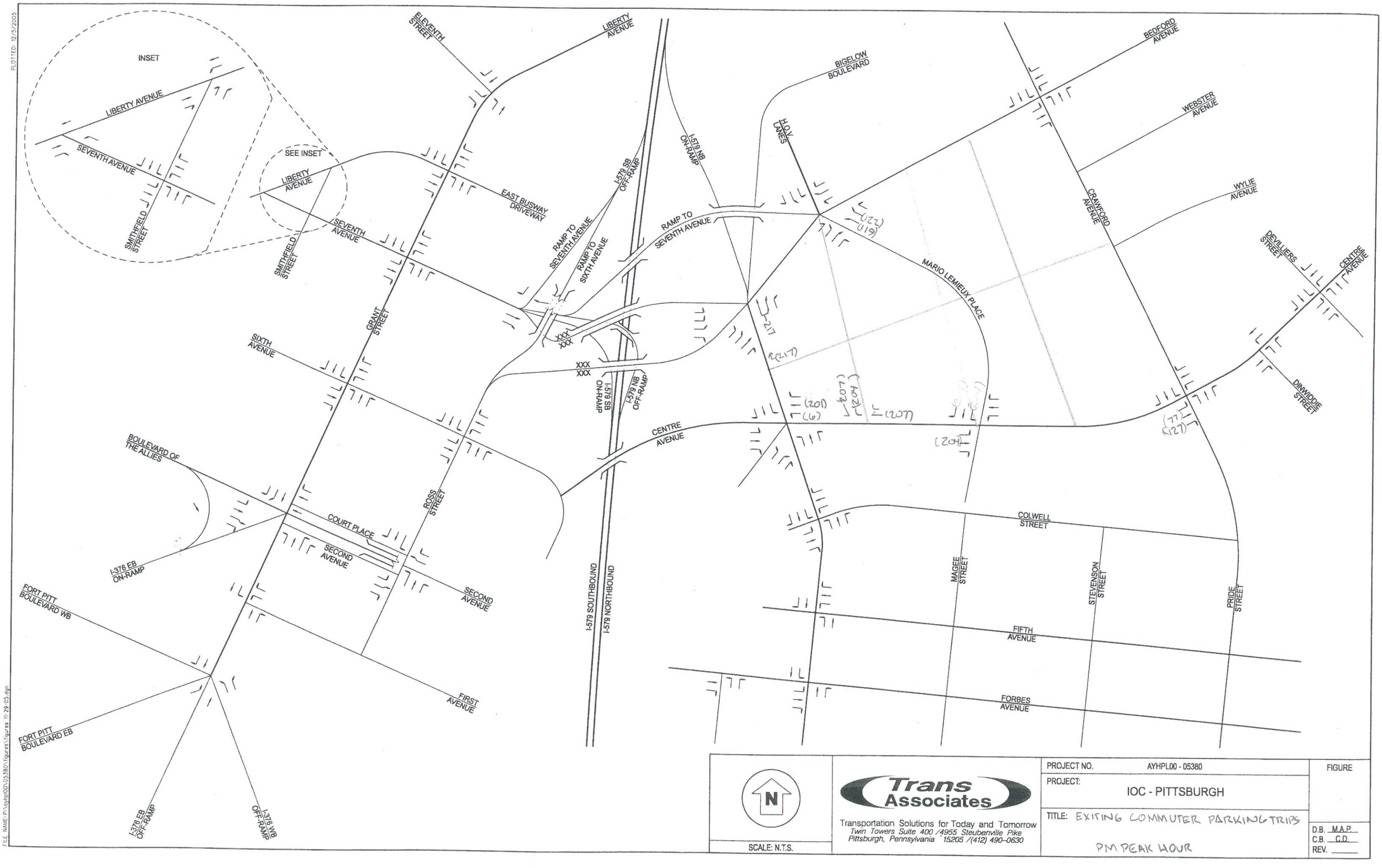
PROJECT NO. AYHPL00 - 05380
PROJECT: IOC - PITTSBURGH
TITLE: TOTAL ADDITIONAL TRIPS A.M. PEAK HOUR

FIGURE
D.B. M.A.P.
C.B. C.D.
REV.

PM PEAK
TRAFFIC ASSIGNMENT

PLOTTED: 12/5/2005



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N

SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: EXITING COMMUTER PARKING TRIPS

PM PEAK HOUR

FIGURE

D.B. M.A.P.
C.B. C.D.
REV. ____

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

ELEVENTH STREET

EAST BUSWAY DRIVEWAY

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

H.O.V. LANES

BIGELOW BOULEVARD

BEDFORD AVENUE

WEBSTER AVENUE

WYLIE AVENUE

CRAWFORD AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

SIXTH AVENUE

GRANT STREET

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

CENTRE AVENUE

BOULEVARD OF THE ALLIES

COURT PLACE

ROSS STREET

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

FIRST AVENUE

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

XX ENTERING TRIPS

(XX) DEPARTING TRIPS

N

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: SITE GENERATED TRIPS
RESIDENTIAL TRIPS
P.M. PEAK HOUR

FIGURE

D.B. M.A.P.

C.B. C.D.

REV. ____

FILE NAME: P:\gyhp00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
BIGELOW BOULEVARD
H.O.V. LANES
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
I-376 EB ON-RAMP
COURT PLACE
ROSS STREET
SECOND AVENUE
SECOND AVENUE
FIRST AVENUE
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

XX ENTERING TRIPS
(XX) EXITING TRIPS

N
SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	SITE GENERATED TRIPS CASINO & HOTEL P.M. PEAK HOUR
FIGURE	
D.B. M.A.P. C.B. C.D. REV.	

FILE NAME: P:\ayhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
BIGELOW BOULEVARD
H.O.V. LANES
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
GRANT STREET
SIXTH AVENUE
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
FIRST AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

XX ENTERING TRIPS
(XX) EXITING TRIPS

FILE NAME: P:\oyhpl00\05380\figures\figures 11-29-05.dgn

N

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: SITE GENERATED TRIPS
OFFICE & RETAIL TRIPS
PM PEAK HOUR

FIGURE

D.B. M.A.P.
C.B. C.D.
REV. ____

PLOTTED: 12/6/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
BIGELOW BOULEVARD
H.O.V. LANES
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
SIXTH AVENUE
GRANT STREET
XXX
XXX
XXX
XXX
I-579 NB OFF-RAMP
RAMP-ON-RAMP SB 6/5T
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
FIRST AVENUE
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	PITTSBURGH FIRST
TITLE:	PM PEAK TRIPS REMOVED FROM EXISTING CONDITION
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

FILE NAME: P:\cyhpl00\05380\Figures\Figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
GRANT STREET
SIXTH AVENUE
BOULEVARD OF THE ALLIES
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB ON-RAMP
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
COURT PLACE
SECOND AVENUE
ROSS STREET
FIRST AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
I-579 NB ON-RAMP
CENTRE AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
BIGELOW BOULEVARD
H.O.V. LANES
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N
SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380
PROJECT: IOC - PITTSBURGH
TITLE: TOTAL ADDITIONAL TRIPS PM PEAK HOUR

FIGURE
D.B. M.A.P.
C.B. C.D.
REV.

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ARENA PEAK
TRAFFIC ASSIGNMENT

PLOTTED: 12/6/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
GRANT STREET
SIXTH AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
FIRST AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
I-579 NB ON-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
CENTRE AVENUE
H.O.V. LANES
BIGELOW BOULEVARD
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

FILE NAME: P:\ayhpl00\05380\figures\figures 11-29-05.dgn

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SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: PITTSBURGH FIRST

TITLE: ~~Trips~~ Trips Removed FROM EXISTING ARENA EVENT

FIGURE

D.B. M.A.P.
C.B. C.D.
REV. ____

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
H.O.V. LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
GRANT STREET
SIXTH AVENUE
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
I-376 EB ON-RAMP
SECOND AVENUE
FORT PITT BOULEVARD WB
FIRST AVENUE
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

FILE NAME: P:\oyhpl00\05380\Figures\Figures 11-29-05.dgn

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SCALE: N.T.S.

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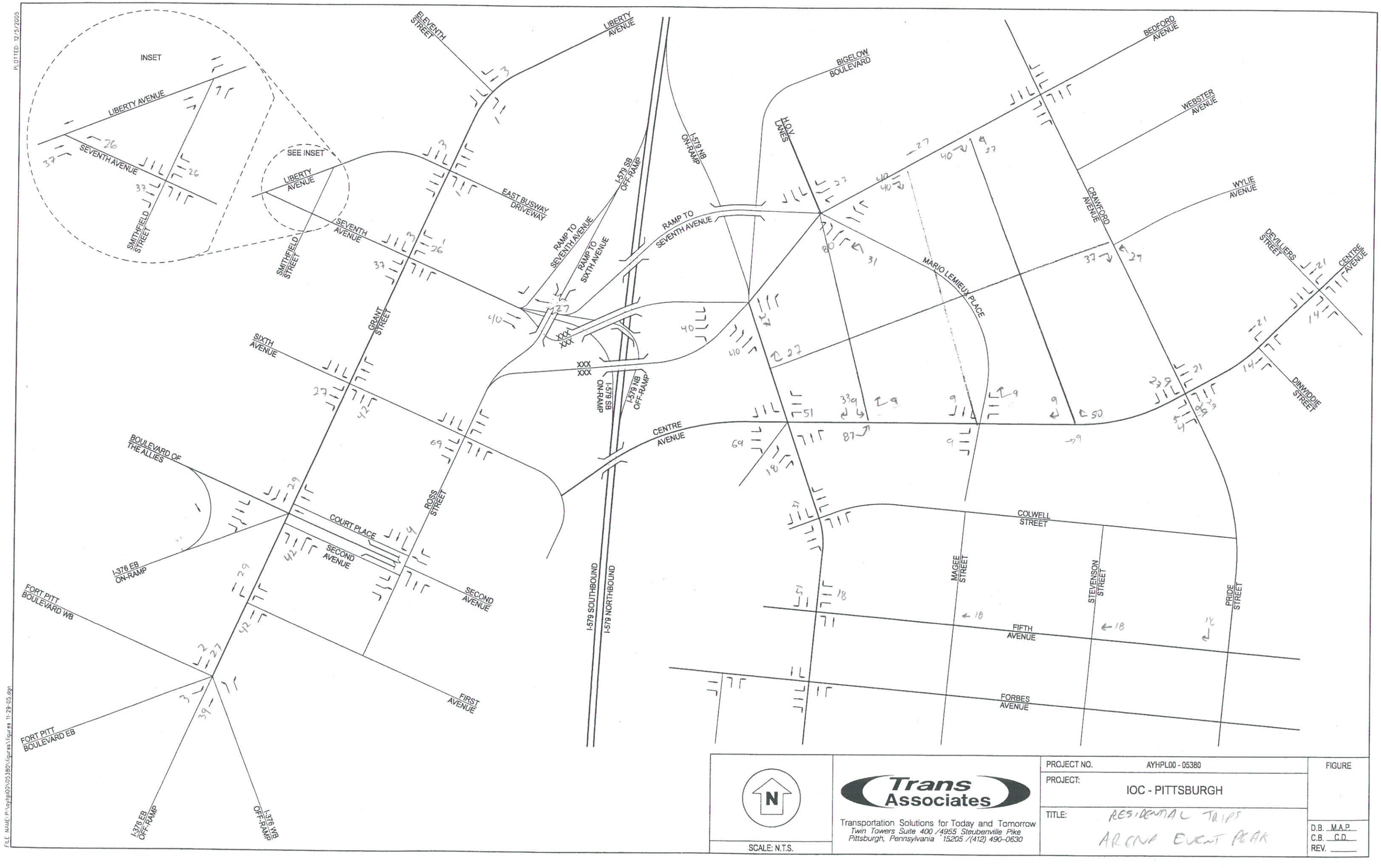
PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: ARENA EVENT PEAK RETAIL TRIPS

FIGURE

D.B. M.A.P.
C.B. C.D.
REV.



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PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	RESIDENTIAL TRIPS ARENA EVENT PEAK
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

RAMP TO SEVENTH AVENUE

BIGELOW BOULEVARD

H.O.V. LANES

BEDFORD AVENUE

WEBSTER AVENUE

WYLIE AVENUE

CRAWFORD AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

SIXTH AVENUE

GRANT STREET

XXX
XXX

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

CENTRE AVENUE

BOULEVARD OF THE ALLIES

COURT PLACE

ROSS STREET

SECOND AVENUE

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

FIRST AVENUE

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

XX ENTERING TRIPS
(XX) EXITING TRIPS

N

SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: CASINO & HOTEL TRIPS
ARENA / EVENT PEAK HOUR

FIGURE

D.B. M.A.P.
C.B. C.D.
REV. ____

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PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
H.O.V. LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
WYLIE AVENUE
CRAWFORD AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
SIXTH AVENUE
GRANT STREET
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
I-376 EB ON-RAMP
SECOND AVENUE
FORT PITT BOULEVARD WB
FIRST AVENUE
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	ARENA EVENT TRAFFIC ARENA EVENT PEAK HOUR
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

FILE NAME: P:\oyhpl00\05380\Figures\Figures 11-29-05.dgn

PLOTTED: 12/6/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
GRANT STREET
SIXTH AVENUE
BOULEVARD OF THE ALLIES
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
COURT PLACE
SECOND AVENUE
ROSS STREET
SECOND AVENUE
FIRST AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
CENTRE AVENUE
BIGELOW BOULEVARD
HOV LANES
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

N

SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	PITTSBURGH FIRST
TITLE:	ARENA PEAK HOUR TOTAL SITE GENERATED TRIPS
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

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PLOTTED: 12/8/2005

INSET A-A

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET A-A

ELEVENTH STREET

EAST BUSWAY DRIVEWAY

SEVENTH AVENUE

SMITHFIELD STREET

GRANT STREET

SIXTH AVENUE

BOULEVARD OF THE ALLIES

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

COURT PLACE

ROSS STREET

SECOND AVENUE

FIRST AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

BIGELOW BOULEVARD

H.O.V. LANES CLOSED TO INBOUND TRAFFIC

RAMP TO SEVENTH AVENUE

LEMIEUX PLACE

CENTRE AVENUE

CRAWFORD AVENUE

BEDFORD AVENUE

WEBSTER AVENUE

WYLIE AVENUE

LOGAN STREET

FULTON STREET

DEVILLIERS STREET

DINWIDDIE STREET

SEE INSET B-B

CASINO ENTRANCE

CASINO EXIT

INSET B-B

LOGAN STREET

FULTON STREET

CASINO ENTRANCE

CASINO EXIT

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

MAGEE STREET

STEVENSON STREET

NOTE: PEAK HOUR TRAFFIC VOLUMES FROM 6:00 P.M. THRU 7:00 P.M.

N

SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: PITTSBURGH FIRST MASTER PLAN

TITLE: 2008 COMBINED TRAFFIC VOLUMES ARENA PEAK HOUR

FIGURE C-C

D.B. M.A.P.
C.B. C.D.
REV.

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FRIDAY CASINO PEAK
TRAFFIC ASSIGNMENT

PLOTTED: 12/6/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

GRANT STREET

SIXTH AVENUE

RAMP TO SEVENTH AVENUE

I-579 SB OFF-RAMP

RAMP TO SIXTH AVENUE

I-579 NB ON-RAMP

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

BIGELOW BOULEVARD

H.O.V. LANES

CLOSED TO (NBound) TRAFFIC

RAMP TO SEVENTH AVENUE

MARIO LEMIEUX PLACE

BEDFORD AVENUE

WEBSTER AVENUE

CRAWFORD AVENUE

WYLIE AVENUE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

CENTRE AVENUE

BOULEVARD OF THE ALLIES

COURT PLACE

ROSS STREET

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

FIRST AVENUE

SECOND AVENUE

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

N

SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	PITTSBURGH FIRST
TITLE:	2008 BASE FRIDAY CASINO PEAK HOUR COLWELL STREET REROUTING
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

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PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
BIGELOW BOULEVARD
HOV LANES
RAMP TO SEVENTH AVENUE
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
FIRST AVENUE
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

FILE NAME: P:\ayhpl00\05380\Figures\Figures 11-29-05.dgn

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PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: FRIDAY CASINO PEAK TOTAL TRIPS GENERATED

FIGURE

D.B. M.A.P.
C.B. C.D.
REV.

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
SEVENTH AVENUE
SMITHFIELD STREET
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
HOV LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
RAMP TO SEVENTH AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
SIXTH AVENUE
GRANT STREET
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
COURT PLACE
ROSS STREET
SECOND AVENUE
I-376 EB ON-RAMP
SECOND AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE
FORT PITT BOULEVARD WB
FIRST AVENUE
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP

ENTER	EXIT
2103 ✓	1748

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SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: FRIDAY CASINO PEAK HOUR TRIP

FIGURE

D.B. M.A.P.
C.B. C.D.
REV. ____

FILE NAME: P:\ayhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
RAMP TO SEVENTH AVENUE
H.O.V. LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
FIRST AVENUE
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

ENT. EX.
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SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	FRIDAY CASINO PEAK HOTEL TRIPS
FIGURE	
D.B. M.A.P. C.B. C.D. REV.	

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INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

RAMP TO SEVENTH AVENUE

BIGELOW BOULEVARD

H.O.V. LANES

BEDFORD AVENUE

WEBSTER AVENUE

CRAWFORD AVENUE

WYLIE AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

GRANT STREET

SIXTH AVENUE

XXX

XXX

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

CENTRE AVENUE

BOULEVARD OF THE ALLIES

ROSS STREET

COURT PLACE

SECOND AVENUE

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

FIRST AVENUE

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

ENT. EX.
264 183

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SCALE: N.T.S.

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PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	FRIDAY CASINO PEAK RESIDENTIAL TRIPS
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

FILE NAME: P:\ayhpl00\05380\Figures\Figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
GRANT STREET
SIXTH AVENUE
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
H.O.V. LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
XXX
XXX
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
ROSS STREET
COURT PLACE
SECOND AVENUE
SECOND AVENUE
I-376 EB ON-RAMP
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
FIRST AVENUE
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-579 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

ENT.	EXIT
29	28

N

SCALE: N.T.S.

Trans Associates

Transportation Solutions for Today and Tomorrow
Twin Towers Suite 400 /4955 Steubenville Pike
Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	FRIDAY CASINO PEAK RETAIL TRIPS

FIGURE

D.B. M.A.P.
C.B. C.D.
REV.

FILE NAME: P:\ayhpl00\05380\figures\figures 11-29-05.dgn

PLOTTED: 12/8/2005

INSET A-A

SEE INSET A-A

SEE INSET B-B

INSET B-B

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

ELEVENTH STREET

EAST BUSWAY DRIVEWAY

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

BIGELOW BOULEVARD

H.O.V. LANES CLOSED TO IN-BOUND TRAFFIC

LEMIEUX PLACE

CRAWFORD AVENUE

BEDFORD AVENUE

WEBSTER AVENUE

WYLIE AVENUE

FULTON STREET

LOGAN STREET

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

PRIDE STREET

GRANT STREET

SIXTH AVENUE

BOULEVARD OF THE ALLIES

ROSS STREET

COURT PLACE

SECOND AVENUE

FIRST AVENUE

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

I-376 EB ON-RAMP

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

CENTRE AVENUE

FIFTH AVENUE

FORBES AVENUE

MAGEE STREET

STEVENSON STREET

CASINO ENTRANCE

CASINO EXIT

NOTE: PEAK HOUR TRAFFIC VOLUMES FROM 9:00 P.M. THRU 10:00 P.M.

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380

PROJECT: PITTSBURGH FIRST MASTER PLAN

TITLE: 2008 COMBINED TRAFFIC VOLUMES FRIDAY CASINO PEAK HOUR

FIGURE C-D

D.B. M.A.P.
C.B. C.D.
REV.

REASSIGNMENT DUE TO LT. PROHIB

REASSIGNMENT DUE TO GRANT ST. CONGESTION

MITIGATION REASSIGNMENT

FILE NAME: P:\Gyhepl00\05380\Figures\Figures 11-29-05.dgn

SATURDAY CASINO PEAK
TRAFFIC ASSIGNMENT

PLOTTED: 12/5/2005

INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
SEE INSET
LIBERTY AVENUE
SEVENTH AVENUE
SMITHFIELD STREET
ELEVENTH STREET
LIBERTY AVENUE
EAST BUSWAY DRIVEWAY
I-579 SB OFF-RAMP
I-579 NB ON-RAMP
RAMP TO SEVENTH AVENUE
RAMP TO SIXTH AVENUE
RAMP TO SEVENTH AVENUE
HOV LANES
BIGELOW BOULEVARD
BEDFORD AVENUE
WEBSTER AVENUE
CRAWFORD AVENUE
WYLIE AVENUE
MARIO LEMIEUX PLACE
DEVILLIERS STREET
CENTRE AVENUE
DINWIDDIE STREET
GRANT STREET
SIXTH AVENUE
XXX
XXX
I-579 SB ON-RAMP
I-579 NB OFF-RAMP
CENTRE AVENUE
BOULEVARD OF THE ALLIES
I-376 EB ON-RAMP
COURT PLACE
SECOND AVENUE
ROSS STREET
SECOND AVENUE
FORT PITT BOULEVARD WB
FORT PITT BOULEVARD EB
FIRST AVENUE
I-376 EB OFF-RAMP
I-376 WB OFF-RAMP
I-579 SOUTHBOUND
I-578 NORTHBOUND
COLWELL STREET
MAGEE STREET
STEVENSON STREET
PRIDE STREET
FIFTH AVENUE
FORBES AVENUE

ENT. EX.
36/59

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N
SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380
PROJECT: IOC - PITTSBURGH
TITLE: SAT CASINO PEAK RETAIL TRIPS
FIGURE
D.B. M.A.P.
C.B. C.D.
REV.

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

RAMP TO SEVENTH AVENUE

H.O.V. LANES

BIGELOW BOULEVARD

BEDFORD AVENUE

WEBSTER AVENUE

CRAWFORD AVENUE

WYLIE AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

SIXTH AVENUE

GRANT STREET

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

CENTRE AVENUE

BOULEVARD OF THE ALLIES

COURT PLACE

ROSS STREET

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

FIRST AVENUE

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

	ENTER	EXIT
CASINO	1652	1906
HOTEL	63	49
TOTAL	1715	1955

N

SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: SAT CASINO PEAK CASINO & HOTEL TRIPS

FIGURE

D.B. M.A.P.

C.B. C.D.

REV. ____

FILE NAME: P:\oyhp00\05380\Figures\Figures 11-29-05.dgn

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

SEVENTH AVENUE

GRANT STREET

SIXTH AVENUE

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

I-579 SB ON-RAMP

I-579 NB OFF-RAMP

RAMP TO SEVENTH AVENUE

BIGELOW BOULEVARD

H.O.V. LANES

BEDFORD AVENUE

WEBSTER AVENUE

CRAWFORD AVENUE

WYLIE AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

CENTRE AVENUE

BOULEVARD OF THE ALLIES

COURT PLACE

ROSS STREET

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FORT PITT BOULEVARD EB

FIRST AVENUE

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

ENT. EX.
264 183

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SCALE: N.T.S.

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PROJECT NO. AYHPL00 - 05380

PROJECT: IOC - PITTSBURGH

TITLE: SATURDAY ~~FRIDAY~~ CASINO PEAK RESIDENTIAL TRIPS

FIGURE

D.B. M.A.P.
C.B. C.D.
REV.

PLOTTED: 12/5/2005

INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

SEE INSET

LIBERTY AVENUE

SEVENTH AVENUE

SMITHFIELD STREET

ELEVENTH STREET

LIBERTY AVENUE

EAST BUSWAY DRIVEWAY

I-579 SB OFF-RAMP

I-579 NB ON-RAMP

RAMP TO SEVENTH AVENUE

RAMP TO SIXTH AVENUE

H.O.V. LANES

BIGELOW BOULEVARD

BEDFORD AVENUE

WEBSTER AVENUE

CRAWFORD AVENUE

WYLIE AVENUE

RAMP TO SEVENTH AVENUE

MARIO LEMIEUX PLACE

DEVILLIERS STREET

CENTRE AVENUE

DINWIDDIE STREET

GRANT STREET

SIXTH AVENUE

I-579 NB ON-RAMP

I-579 SB OFF-RAMP

CENTRE AVENUE

BOULEVARD OF THE ALLIES

COURT PLACE

ROSS STREET

SECOND AVENUE

SECOND AVENUE

I-376 EB ON-RAMP

FORT PITT BOULEVARD WB

FIRST AVENUE

FORT PITT BOULEVARD EB

I-376 EB OFF-RAMP

I-376 WB OFF-RAMP

I-579 SOUTHBOUND

I-579 NORTHBOUND

COLWELL STREET

MAGEE STREET

STEVENSON STREET

PRIDE STREET

FIFTH AVENUE

FORBES AVENUE

FILE NAME: P:\typ00\05380\figures\figures 11-29-05.dgn

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SCALE: N.T.S.

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Pittsburgh, Pennsylvania 15205 /(412) 490-0630

PROJECT NO.	AYHPL00 - 05380
PROJECT:	IOC - PITTSBURGH
TITLE:	SAT CASINO PEAK TOTAL SITE GENERATED TRIPS
FIGURE	
D.B. M.A.P.	
C.B. C.D.	
REV.	

APPENDIX L

Highway Capacity Software (HCS) Analysis
2008 Combined Condition

A.M. PEAK HOUR

SHORT REPORT

General Information		Site Information	
Analyst	CKR/M. Southern	Intersection	LIBERTY AVE & SEVENTH AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	0		3		1					
Lane Group		TR			T		L					
Volume (vph)		204	307		298		265					
% Heavy Vehicles		21	21		16		14					
PHF		0.93	0.93		0.94		0.82					
Pretimed/Actuated (P/A)		P	P		P		P					
Startup Lost Time		2.0			2.0		2.0					
Extension of Effective Green		2.0			2.0		2.0					
Arrival Type		3			3		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	200	0	0	0	0		0	0				
Lane Width		11.0			11.0		12.0					
Parking/Grade/Parking	N	0	N	N	0	N	N	-2	N			
Parking/Hour												
Bus Stops/Hour		0			0		0					
Minimum Pedestrian Time		18.3			3.2			3.2				

Phasing	Thru & RT	Thru & RT	03	04	NB Only	06	07	08
Timing	G = 20.0	G = 28.0	G =	G =	G = 29.0	G =	G =	G =
	Y = 3	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		549			317		323					
Lane Group Capacity		1192			2200		464					
v/c Ratio		0.46			0.14		0.70					
Green Ratio		0.57			0.57		0.32					
Uniform Delay d_1		11.4			9.2		26.6					
Delay Factor k		0.50			0.50		0.50					
Incremental Delay d_2		1.3			0.1		8.4					
PF Factor		1.000			1.000		1.000					
Control Delay		12.7			9.3		35.0					
Lane Group LOS		B			A		D					
Approach Delay	12.7			9.3			35.0					
Approach LOS	B			A			D					
Intersection Delay	17.9			Intersection LOS			B					

SHORT REPORT

General Information		Site Information	
Analyst	CKR/M. Southern	Intersection	LIBERTY AVE & SMITHFIELD ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	0	0	3		1		1			
Lane Group		TR			LT		L		R			
Volume (vph)		203	1	32	224		74		156			
% Heavy Vehicles		36	36	30	30		3		3			
PHF		0.91	0.91	0.79	0.79		0.86		0.86			
Pretimed/Actuated (P/A)		P	P	P	P		P		P			
Startup Lost Time		2.0			2.0		2.0		2.0			
Extension of Effective Green		2.0			2.0		2.0		2.0			
Arrival Type		3			3		3		3			
Unit Extension		3.0			3.0		3.0		3.0			
Ped/Bike/RTOR Volume	200	0	0	0	0		200	0	0			
Lane Width		11.0			11.0		11.0		13.0			
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N			
Parking/Hour												
Bus Stops/Hour		0			0		0		0			
Minimum Pedestrian Time		18.0			3.2			18.5				

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = 10.0	G = 42.0	G =	G =	G = 25.0	G =	G =	G =
	Y = 3	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 90.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		224			325		86		181			
Lane Group Capacity		1073			1851		428		321			
v/c Ratio		0.21			0.18		0.20		0.56			
Green Ratio		0.47			0.61		0.28		0.28			
Uniform Delay d_1		14.2			7.6		24.9		27.8			
Delay Factor k		0.50			0.50		0.50		0.50			
Incremental Delay d_2		0.4			0.2		1.1		7.0			
PF Factor		1.000			1.000		1.000		1.000			
Control Delay		14.6			7.8		25.9		34.8			
Lane Group LOS		B			A		C		C			
Approach Delay	14.6			7.8			32.0					
Approach LOS	B			A			C					
Intersection Delay	17.6			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	CKR/M. Southern	Intersection	SEVENTH AVE & SMITHFIELD ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0	0	1	0		2	0	0	1	0
Lane Group		LTR			LTR			TR			LTR	
Volume (vph)	4	282	1	1	265	31		195	78	8	25	1
% Heavy Vehicles	5	5	5	10	10	10		2	2	94	94	94
PHF	0.89	0.89	0.89	0.89	0.89	0.89		0.90	0.90	0.83	0.83	0.83
Pretimed/Actuated (P/A)	P	P	P	P	P	P		P	P	P	P	P
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		2.0			2.0			2.0			2.0	
Arrival Type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	200	0	0	200	0	0	200	0	0	200	0	0
Lane Width		11.0			11.0			11.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time		4.3			12.8			12.8			12.8	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 29.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adjusted Flow Rate	322	334	304	41
Lane Group Capacity	1181	604	1215	338
v/c Ratio	0.27	0.55	0.25	0.12
Green Ratio	0.41	0.41	0.43	0.43
Uniform Delay d_1	13.5	15.6	12.8	12.1
Delay Factor k	0.50	0.50	0.50	0.50
Incremental Delay d_2	0.6	3.6	0.5	0.7
PF Factor	1.000	1.000	1.000	1.000
Control Delay	14.1	19.2	13.3	12.8
Lane Group LOS	B	B	B	B
Approach Delay	14.1	19.2	13.3	12.8
Approach LOS	B	B	B	B
Intersection Delay	15.5	Intersection LOS		B

SHORT REPORT

General Information		Site Information	
Analyst	CKR/ M. Southern	Intersection	GRANT ST & LIBERTY AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	1	0	1	1	0		3	0		2	0
Lane Group	L	TR		L	TR			TR			TR	
Volume (vph)	180	54	39	32	73	5		639	54		599	158
% Heavy Vehicles	29	29	29	85	85	85		10	10		9	9
PHF	0.94	0.94	0.94	0.63	0.63	0.63		0.84	0.84		0.88	0.88
Pretimed/Actuated (P/A)	P	P	P	P	P	P		P	P		P	P
Startup Lost Time	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type	3	3		3	3			3			3	
Unit Extension	3.0	3.0		3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume	200	0	0	200	0	0	200	0	0	200	0	0
Lane Width	11.0	11.0		12.0	12.0			11.0			13.0	
Parking/Grade/Parking	N	1	N	N	-2	N	N	-2	N	N	1	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0			0			0	
Minimum Pedestrian Time		21.7			21.7			27.5			26.0	

Phasing	WB Only	WB Only	EB Only	04	Thru & RT	Thru & RT	07	08
Timing	G = 23.0	G = 19.0	G = 33.0	G =	G = 40.0	G = 12.0	G =	G =
	Y = 5	Y = 5	Y = 6	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 153.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	191	98		51	124			825			861	
Lane Group Capacity	507	258		226	280			1488			1041	
v/c Ratio	0.38	0.38		0.23	0.44			0.55			0.83	
Green Ratio	0.22	0.22		0.31	0.31			0.37			0.37	
Uniform Delay d_1	51.2	51.3		39.5	42.5			38.0			43.5	
Delay Factor k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay d_2	2.1	4.2		2.3	5.0			1.5			7.5	
PF Factor	1.000	1.000		1.000	1.000			1.000			1.000	
Control Delay	53.4	55.5		41.8	47.5			39.5			51.1	
Lane Group LOS	D	E		D	D			D			D	
Approach Delay	54.1			45.8			39.5			51.1		
Approach LOS	D			D			D			D		
Intersection Delay	46.6			Intersection LOS						D		

SHORT REPORT

General Information		Site Information	
Analyst	CKR/M. Southern	Intersection	LIBERTY AVE & ELEVENTH ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1		2				1	2			2	0
Lane Group	L		R				L	T			TR	
Volume (vph)	119		115				220	604			642	62
% Heavy Vehicles	9		9				5	5			4	4
PHF	0.87		0.87				0.89	0.89			0.88	0.88
Pretimed/Actuated (P/A)	P						P	P			P	P
Startup Lost Time	2.0		2.0				2.0	2.0			2.0	
Extension of Effective Green	2.0		2.0				2.0	2.0			2.0	
Arrival Type	3		3				3	3			3	
Unit Extension	3.0		3.0				3.0	3.0			3.0	
Ped/Bike/RTOR Volume	0	0	0				0	0		0	0	0
Lane Width	11.0		12.0				11.0	12.0			12.0	
Parking/Grade/Parking	N	-1	N				N	-1	N	N	1	N
Parking/Hour												
Bus Stops/Hour	0		0				0	0			0	
Minimum Pedestrian Time		3.2						3.2			23.2	

Phasing	EB Only	Peds Only	03	04	NB Only	Thru & RT	NB Only	08
Timing	G = 23.0	G = 19.0	G =	G =	G = 33.0	G = 40.0	G = 12.0	G =
	Y = 5	Y = 5	Y =	Y =	Y = 6	Y = 5	Y = 5	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 153.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	137		132				247	679			800	
Lane Group Capacity	218		186				442	1955			804	
v/c Ratio	0.63		0.71				0.56	0.35			1.00	
Green Ratio	0.15		0.08				0.29	0.63			0.26	
Uniform Delay d_1	61.0		68.8				45.6	13.6			56.4	
Delay Factor k	0.50		0.50				0.50	0.50			0.50	
Incremental Delay d_2	13.0		20.5				5.0	0.5			30.6	
PF Factor	1.000		1.000				1.000	1.000			1.000	
Control Delay	74.0		89.3				50.6	14.1			87.0	
Lane Group LOS	E		F				D	B			F	
Approach Delay	81.5						23.8			87.0		
Approach LOS	F						C			F		
Intersection Delay	56.9			Intersection LOS						E		

SHORT REPORT

General Information		Site Information	
Analyst	CKR/M. Southern	Intersection	GRANT ST & SEVENTH AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0	0	2	1	1	2	0	1	2	0
Lane Group		LTR			LT	R	L	TR		L	TR	
Volume (vph)	13	323	61	174	511	364	138	428	111	223	414	66
% Heavy Vehicles	5	5	5	1	1	1	14	14	14	8	8	8
PHF	0.91	0.91	0.91	0.95	0.95	0.95	0.86	0.86	0.86	0.88	0.88	0.88
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green		2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type		3			3	3	3	3		3	3	
Unit Extension		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	200	0	0	200	0	0	200	0	0	200	0	0
Lane Width		11.0			10.0	13.0	11.0	11.0		11.0	11.0	
Parking/Grade/Parking	N	5	N	N	-5	N	N	-1	N	N	2	N
Parking/Hour												
Bus Stops/Hour		0			0	0	0	0		0	0	
Minimum Pedestrian Time		18.3			18.5			19.5			18.3	

Phasing	EW Perm	02	03	04	Excl. Left	NS Perm	07	08
Timing	G = 33.0	G =	G =	G =	G = 14.0	G = 30.0	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 3	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		436			721	383	160	627		253	545	
Lane Group Capacity		942			769	783	356	863		346	918	
v/c Ratio		0.46			0.94	0.49	0.45	0.73		0.73	0.59	
Green Ratio		0.37			0.37	0.58	0.52	0.33		0.52	0.33	
Uniform Delay d_1		21.7			27.5	11.2	12.6	26.4		14.3	24.9	
Delay Factor k		0.50			0.50	0.50	0.50	0.50		0.50	0.50	
Incremental Delay d_2		1.6			20.4	2.2	4.1	5.3		12.8	2.8	
PF Factor		1.000			1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay		23.4			47.9	13.4	16.7	31.7		27.1	27.8	
Lane Group LOS		C			D	B	B	C		C	C	
Approach Delay	23.4			35.9			28.7			27.5		
Approach LOS	C			D			C			C		
Intersection Delay	30.2			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	CKR/M. Southern	Intersection	GRANT ST & SIXTH AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	2	0	1	2	0	1	2	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume (vph)	39	190	17	114	454	211	94	422	239	108	528	13
% Heavy Vehicles	14	14	14	2	2	2	10	10	10	6	6	6
PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.86	0.86	0.86	0.93	0.93	0.93
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type		3			3		3	3		3	3	
Unit Extension		3.0			3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	155	0	0	195	0	0	328	0	0	285	0	0
Lane Width		12.0			11.0		12.0	10.0		12.0	10.0	
Parking/Grade/Parking	N	4	N	N	-5	N	N	-1	N	N	2	N
Parking/Hour												
Bus Stops/Hour		0			0		0	0		0	0	
Minimum Pedestrian Time		18.0			18.3			17.9			14.1	

Phasing	EB Only	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 3.0	G = 31.0	G =	G =	G = 9.0	G = 31.0	G =	G =
	Y = 3	Y = 5	Y =	Y =	Y = 3	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		273			828		109	769		116	582	
Lane Group Capacity		317			888		293	811		247	968	
v/c Ratio		0.86			0.93		0.37	0.95		0.47	0.60	
Green Ratio		0.41			0.34		0.48	0.34		0.48	0.34	
Uniform Delay d_1		24.2			28.5		14.3	28.7		15.4	24.4	
Delay Factor k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay d_2		25.1			17.7		3.6	21.3		6.3	2.8	
PF Factor		1.000			1.000		1.000	1.000		1.000	1.000	
Control Delay		49.3			46.2		17.9	50.0		21.7	27.2	
Lane Group LOS		D			D		B	D		C	C	
Approach Delay	49.3			46.2			46.0			26.2		
Approach LOS	D			D			D			C		
Intersection Delay	41.2			Intersection LOS						D		

SHORT REPORT

General Information		Site Information	
Analyst	CKR/M. Southern	Intersection	SIXTH AVE & ROSS ST/BIGELOW
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0	0	2	0	0	2	0	0	2	
Lane Group	DefL	TR			LTR			LTR			LT	
Volume (vph)	132	373	46	23	441	107	52	128	240	174	398	
% Heavy Vehicles	2	2	2	3	3	3	2	2	2	1	1	
PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.88	0.88	0.88	0.89	0.89	
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	
Startup Lost Time	2.0	2.0			2.0			2.0			2.0	
Extension of Effective Green	2.0	2.0			2.0			2.0			2.0	
Arrival Type	3	3			3			3			3	
Unit Extension	3.0	3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	200	0	5	200	0	11	200	0	24	200	0	
Lane Width	12.0	11.0			11.0			12.0			11.0	
Parking/Grade/Parking	N	5	N	N	-6	N	N	-1	N	N	-1	N
Parking/Hour												
Bus Stops/Hour	0	0			0			0			0	
Minimum Pedestrian Time		18.3			17.8			20.8			8.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 36.0	G =	G =	G =	G = 23.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 — Cycle Length C = 70.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	142	445			666			449			643	
Lane Group Capacity	297	1507			1427			659			687	
v/c Ratio	0.48	0.30			0.47			0.68			0.94	
Green Ratio	0.51	0.51			0.51			0.33			0.33	
Uniform Delay d_1	10.9	9.7			10.9			20.3			22.8	
Delay Factor k	0.50	0.50			0.50			0.50			0.50	
Incremental Delay d_2	5.4	0.5			1.1			5.6			21.8	
PF Factor	1.000	1.000			1.000			1.000			1.000	
Control Delay	16.4	10.2			12.0			25.9			44.6	
Lane Group LOS	B	B			B			C			D	
Approach Delay	11.7			12.0			25.9			44.6		
Approach LOS	B			B			C			D		
Intersection Delay	23.5			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	WASHINGTON PL & BEDFORD/CENTRE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1					2	1	1	1	1
Lane Group	L	LTR	R					T	R	L	LT	R
Volume (vph)	525	349	340					566	79	525	349	340
% Heavy Vehicles	0	0	0					0	0	0	0	0
PHF	0.97	0.97	0.97					0.92	0.92	0.90	0.90	0.90
Pretimed/Actuated (P/A)	P	P	P					P	P	P	P	P
Startup Lost Time	2.0	2.0	2.0					2.0	2.0	2.0	2.0	2.0
Extension of Effective Green	2.0	2.0	2.0					2.0	2.0	2.0	2.0	2.0
Arrival Type	3	3	3					3	3	3	3	3
Unit Extension	3.0	3.0	3.0					3.0	3.0	3.0	3.0	3.0
Ped/Bike/RTOR Volume	150	0	0				0	0	8	0	0	0
Lane Width	11.0	11.0	12.0					12.0	12.0	16.0	10.0	12.0
Parking/Grade/Parking	N	5	N				N	-1	N	N	6	N
Parking/Hour												
Bus Stops/Hour	0	0	0					0	0	0	0	0
Minimum Pedestrian Time		15.5						3.2			3.2	

Phasing	EB Only	02	03	04	NB Only	SB Only	07	08
Timing	G = 32.0	G =	G =	G =	G = 16.0	G = 27.0	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	449	557	246					615	77	484	487	378
Lane Group Capacity	544	530	398					582	260	536	460	423
v/c Ratio	0.83	1.05	0.62					1.06	0.30	0.90	1.06	0.89
Green Ratio	0.36	0.36	0.36					0.18	0.18	0.30	0.30	0.30
Uniform Delay d_1	26.5	29.0	24.0					37.0	32.1	30.2	31.5	30.1
Delay Factor k	0.50	0.50	0.50					0.50	0.50	0.50	0.50	0.50
Incremental Delay d_2	13.4	53.1	7.0					53.2	2.9	21.1	58.4	23.9
PF Factor	1.000	1.000	1.000					1.000	1.000	1.000	1.000	1.000
Control Delay	39.8	82.1	31.0					90.2	35.0	51.3	89.9	54.0
Lane Group LOS	D	F	C					F	C	D	F	D
Approach Delay	56.9						84.0			66.0		
Approach LOS	E						F			E		
Intersection Delay	66.3			Intersection LOS						E		

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	BEDFORD AVE & LEMIEUX PL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0	0	2		1		0	0	1	1
Lane Group		LTR			LT		L	LR			LT	R
Volume (vph)	37	258	290	8	146		220		1	89	250	312
% Heavy Vehicles	0	2	2	3	3		2		2	2	2	2
PHF	0.90	0.91	0.91	0.81	0.81		0.90		0.90	0.81	0.81	0.81
Pretimed/Actuated (P/A)	A	A	A	A	A		A		A	A	A	A
Startup Lost Time		2.0			2.0		2.0	2.0			2.0	2.0
Extension of Effective Green		2.0			2.0		2.0	2.0			2.0	2.0
Arrival Type		3			3		3	3			3	3
Unit Extension		3.0			3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume	50	0	29	50	0		50	0	0	0	0	31
Lane Width		12.0			12.0		12.0	12.0			12.0	12.0
Parking/Grade/Parking	N	10	N	N	-6	N	N	2	N	N	2	N
Parking/Hour												
Bus Stops/Hour		0			0		0	0			0	0
Minimum Pedestrian Time		15.1			16.1			12.4			3.2	

Phasing	EB Only	WB Only	03	04	NB Only	SB Only	07	08
Timing	G = 27.0	G = 14.0	G =	G =	G = 15.0	G = 32.0	G =	G =
	Y = 5.5	Y = 5.5	Y =	Y =	Y = 5.5	Y = 5.5	Y =	Y =

Duration of Analysis (hrs) = 0.25 — Cycle Length C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		612			190		122	123			419	347
Lane Group Capacity		658			411		215	215			477	410
v/c Ratio		0.93			0.46		0.57	0.57			0.88	0.85
Green Ratio		0.25			0.13		0.14	0.14			0.29	0.29
Uniform Delay d_1		40.6			44.5		44.5	44.5			37.1	36.7
Delay Factor k		0.45			0.11		0.16	0.17			0.41	0.38
Incremental Delay d_2		19.9			0.8		3.5	3.7			16.9	15.1
PF Factor		1.000			1.000		1.000	1.000			1.000	1.000
Control Delay		60.4			45.3		48.0	48.1			54.0	51.8
Lane Group LOS		E			D		D	D			D	D
Approach Delay		60.4			45.3			48.1			53.0	
Approach LOS		E			D			D			D	
Intersection Delay		54.0			Intersection LOS						D	

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	CKR
Agency/Co.	TRANS ASSOCIATES
Date Performed	12/9/2005
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	BEDFORD AVE & LOGAN ST
Jurisdiction	CITY OF PITTSBURGH
Analysis Year	2008 COMBINED CONDITIONS

Project Description: AYHPL00-05380 PITTSBURGH PENGUINS ARENA REDEVELOPMENT

East/West Street: BEDFORD AVENUE | North/South Street: LOGAN STREET

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		290	24	1	165	
Peak-Hour Factor, PHF	1.00	0.90	0.90	0.90	0.90	1.00
Hourly Flow Rate, HFR (veh/h)	0	322	26	1	183	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	1	0
Configuration		T	TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	1		1			
Peak-Hour Factor, PHF	0.90	1.00	0.90	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	1	0	1	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		6			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		1		2				
C (m) (veh/h)		1208		615				
v/c		0.00		0.00				
95% queue length		0.00		0.01				
Control Delay (s/veh)		8.0		10.9				
LOS		A		B				
Approach Delay (s/veh)	--	--	10.9					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	CKR
Agency/Co.	TRANS ASSOCIATES
Date Performed	12/9/2005
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	BEDFORD AVE & FULTON ST
Jurisdiction	CITY OF PITTSBURGH
Analysis Year	2008 COMBINED CONDITIONS

Project Description: AYHPL00-05380 PITTSBURGH PENGUINS ARENA REDEVELOPMENT

East/West Street: BEDFORD AVENUE | North/South Street: FULTON STREET

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		263	27	1	111	
Peak-Hour Factor, PHF	1.00	0.90	0.90	0.90	0.90	1.00
Hourly Flow Rate, HFR (veh/h)	0	292	30	1	123	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	1	0
Configuration		T	TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	54		1			
Peak-Hour Factor, PHF	0.90	1.00	0.90	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	60	0	1	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)	6			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		1		61				
C (m) (veh/h)		1235		554				
v/c		0.00		0.11				
95% queue length		0.00		0.37				
Control Delay (s/veh)		7.9		12.3				
LOS		A		B				
Approach Delay (s/veh)	--	--	12.3					
Approach LOS	--	--	B					

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CRAWFORD ST & BEDFORD AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0
Lane Group		LT	R		LTR			LTR			LTR	
Volume (vph)	1	69	193	24	46	4	61	3	30	1	1	1
% Heavy Vehicles	6	6	6	28	28	28	5	5	5	0	0	0
PHF	0.90	0.90	0.90	0.66	0.66	0.66	0.94	0.94	0.94	0.50	0.50	0.50
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0	2.0		2.0			2.0			2.0	
Extension of Effective Green		2.0	2.0		2.0			2.0			2.0	
Arrival Type		3	3		3			3			3	
Unit Extension		3.0	3.0		3.0			3.0			3.0	
Ped/Bike/RTOR Volume	25	0	19	25	0	0	25	0	3	25	0	0
Lane Width		12.0	12.0		12.0			14.0			10.0	
Parking/Grade/Parking	N	10	N	N	-6	Y	N	8	N	N	-6	Y
Parking/Hour						5						5
Bus Stops/Hour		0	0		0			0			0	
Minimum Pedestrian Time		14.5			7.8			12.3			20.3	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 20.0	G =	G =	G =	G = 20.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 50.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		78	193		112			97			6	
Lane Group Capacity		612	505		430			519			512	
v/c Ratio		0.13	0.38		0.26			0.19			0.01	
Green Ratio		0.40	0.40		0.40			0.40			0.40	
Uniform Delay d_1		9.5	10.6		10.0			9.7			9.0	
Delay Factor k		0.50	0.50		0.50			0.50			0.50	
Incremental Delay d_2		0.4	2.2		1.5			0.8			0.0	
PF Factor		1.000	1.000		1.000			1.000			1.000	
Control Delay		9.9	12.8		11.5			10.5			9.1	
Lane Group LOS		A	B		B			B			A	
Approach Delay	12.0			11.5			10.5			9.1		
Approach LOS	B			B			B			A		
Intersection Delay	11.5			Intersection LOS			B					

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	CENTRE/RAMP & WASHINGTON PL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	0	1	2	0	0	3	0	0	2	1
Lane Group		TR		L	TR			LTR			LT	R
Volume (vph)		907	163	141	170	124	35	389	57	89	334	5
% Heavy Vehicles		2	2	6	6	6	5	5	5	3	3	3
PHF		0.91	0.91	0.93	0.93	0.93	0.92	0.92	0.92	0.94	0.94	0.94
Pretimed/Actuated (P/A)		P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0		2.0	2.0			2.0			2.0	2.0
Extension of Effective Green		2.0		2.0	2.0			2.0			2.0	2.0
Arrival Type		3		3	3			3			3	3
Unit Extension		3.0		3.0	3.0			3.0			3.0	3.0
Ped/Bike/RTOR Volume	117	0	0	288	0	0	17	0	0	9	0	0
Lane Width		13.0		12.0	10.0			12.0			12.0	12.0
Parking/Grade/Parking	N	-1	N	N	-6	N	N	6	Y	N	-3	N
Parking/Hour									10			
Bus Stops/Hour		0		0	0			0			0	0
Minimum Pedestrian Time		24.5			25.6			21.3			3.3	

Phasing	WB Only	EW Perm	Peds Only	04	NS Perm	06	07	08
Timing	G = 5.0	G = 32.0	G = 21.0	G =	G = 18.0	G =	G =	G =
	Y = 3	Y = 5.5	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		1176		152	316			523			450	5
Lane Group Capacity		1135		167	1104			656			434	283
v/c Ratio		1.04		0.91	0.29			0.80			1.04	0.02
Green Ratio		0.36		0.44	0.44			0.20			0.20	0.20
Uniform Delay d_1		29.0		23.6	15.9			34.3			36.0	28.9
Delay Factor k		0.50		0.50	0.50			0.50			0.50	0.50
Incremental Delay d_2		36.5		49.2	0.7			9.7			53.1	0.1
PF Factor		1.000		1.000	1.000			1.000			1.000	1.000
Control Delay		65.5		72.9	16.6			44.0			89.1	29.0
Lane Group LOS		E		E	B			D			F	C
Approach Delay		65.5			34.9			44.0			88.4	
Approach LOS		E			C			D			F	
Intersection Delay		59.7			Intersection LOS						E	

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	CENTRE/RAMP & WASHINGTON PL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0				0	3	0	0	2	1
Lane Group		LTR						LTR			LT	R
Volume (vph)	68	280	71				35	389	57	89	334	5
% Heavy Vehicles	0	0	0				5	5	5	3	3	3
PHF	0.80	0.80	0.80				0.92	0.92	0.92	0.94	0.94	0.94
Pretimed/Actuated (P/A)	P	P	P				P	P	P	P	P	P
Startup Lost Time		2.0						2.0			2.0	2.0
Extension of Effective Green		2.0						2.0			2.0	2.0
Arrival Type		3						3			3	3
Unit Extension		3.0						3.0			3.0	3.0
Ped/Bike/RTOR Volume	117	0	0				17	0	0	9	0	0
Lane Width		12.0						12.0			12.0	12.0
Parking/Grade/Parking	N	6	N				N	6	Y	N	-3	N
Parking/Hour									10			
Bus Stops/Hour		0						0			0	0
Minimum Pedestrian Time		24.5						21.3			3.3	

Phasing	Peds Only	EB Only	03	04	NS Perm	06	07	08
Timing	G = 40.0	G = 15.5	G =	G =	G = 18.0	G =	G =	G =
	Y = 5.5	Y = 5.5	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		524						523			450	5
Lane Group Capacity		526						655			434	280
v/c Ratio		1.00						0.80			1.04	0.02
Green Ratio		0.17						0.20			0.20	0.20
Uniform Delay d_1		37.2						34.3			36.0	28.9
Delay Factor k		0.50						0.50			0.50	0.50
Incremental Delay d_2		38.3						9.8			53.1	0.1
PF Factor		1.000						1.000			1.000	1.000
Control Delay		75.5						44.1			89.1	29.0
Lane Group LOS		E						D			F	C
Approach Delay	75.5						44.1			88.4		
Approach LOS	E						D			F		
Intersection Delay	68.5			Intersection LOS						E		

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	CENTRE AVE & LEMIEUX PL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2			2	0				1		1
Lane Group	L	T			TR					L		R
Volume (vph)	371	962			345	284				25		90
% Heavy Vehicles	3	3			5	5				2		2
PHF	0.82	0.82			0.88	0.88				0.90		0.90
Pretimed/Actuated (P/A)	P	P			P	P				P		P
Startup Lost Time	2.0	2.0			2.0					2.0		2.0
Extension of Effective Green	2.0	2.0			2.0					2.0		2.0
Arrival Type	3	3			3					3		3
Unit Extension	3.0	3.0			3.0					3.0		3.0
Ped/Bike/RTOR Volume	0	0		124	0	28				18	0	0
Lane Width	12.0	11.0			11.0					12.0		12.0
Parking/Grade/Parking	N	4	Y	N	-2	Y				N	-5	Y
Parking/Hour			20			20						20
Bus Stops/Hour	0	0			0					0		0
Minimum Pedestrian Time		3.2			14.0						21.3	

Phasing	EB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = 17.0	G = 39.5	G =	G =	G = 17.0	G =	G =	G =
	Y = 5.5	Y = 5.5	Y =	Y =	Y = 5.5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 90.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	452	1173			683					28		100
Lane Group Capacity	506	1857			1052					308		505
v/c Ratio	0.89	0.63			0.65					0.09		0.20
Green Ratio	0.69	0.69			0.44					0.19		0.44
Uniform Delay d_1	9.8	7.7			19.8					30.1		15.5
Delay Factor k	0.50	0.50			0.50					0.50		0.50
Incremental Delay d_2	20.8	1.6			3.1					0.6		0.9
PF Factor	1.000	1.000			1.000					1.000		1.000
Control Delay	30.5	9.4			22.9					30.7		16.4
Lane Group LOS	C	A			C					C		B
Approach Delay	15.2			22.9						19.5		
Approach LOS	B			C						B		
Intersection Delay	17.6			Intersection LOS						B		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	CKR
Agency/Co.	TRANS ASSOCIATES
Date Performed	12/9/2005
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	CENTRE AVE & LOGAN ST
Jurisdiction	CITY OF PITTSBURGH
Analysis Year	2008 COMBINED CONDITIONS

Project Description: AYHPL00-05380 PITTSBURGH PENGUINS ARENA REDEVELOPMENT

East/West Street: CENTRE AVENUE | North/South Street: LOGAN STREET

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		987			614	11
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	1096	0	0	682	12
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						18
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	20
Percent Heavy Vehicles	2	0	2	0	0	2
Percent Grade (%)		0			-6	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								20
C (m) (veh/h)								649
v/c								0.03
95% queue length								0.10
Control Delay (s/veh)								10.7
LOS								B
Approach Delay (s/veh)	--	--				10.7		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	CKR
Agency/Co.	TRANS ASSOCIATES
Date Performed	12/9/2005
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	CENTRE AVE & FULTON ST
Jurisdiction	CITY OF PITTSBURGH
Analysis Year	2008 COMBINED CONDITIONS

Project Description: AYHPL00-05380 PITTSBURGH PENGUINS ARENA REDEVELOPMENT

East/West Street: CENTRE AVENUE | North/South Street: FULTON STREET

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		402			384	21
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	446	0	0	426	23
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						21
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	23
Percent Heavy Vehicles	2	0	2	0	0	2
Percent Grade (%)		0			-6	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								23
C (m) (veh/h)								780
v/c								0.03
95% queue length								0.09
Control Delay (s/veh)								9.8
LOS								A
Approach Delay (s/veh)	--	--				9.8		
Approach LOS	--	--				A		

SHORT REPORT

General Information		Site Information	
Analyst	M. Southern	Intersection	CENTRE AVE & EXIT
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2			2		1		0			
Lane Group		T			T		L	LR				
Volume (vph)		265			789		217		137			
% Heavy Vehicles		3			5		2		2			
PHF		0.90			0.90		0.90		0.90			
Pretimed/Actuated (P/A)		P			P		P		P			
Startup Lost Time		2.0			2.0		2.0	2.0				
Extension of Effective Green		2.0			2.0		2.0	2.0				
Arrival Type		3			3		3	3				
Unit Extension		3.0			3.0		3.0	3.0				
Ped/Bike/RTOR Volume	0	0		124	0		0	0	14			
Lane Width		11.0			11.0		12.0	12.0				
Parking/Grade/Parking	N	4	Y	N	-2	Y	N	0	N			
Parking/Hour			20			20						
Bus Stops/Hour		0			0		0	0				
Minimum Pedestrian Time		3.2			14.0			3.2				

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = 48.5	G =	G =	G =	G = 30.5	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		294			877		152	226				
Lane Group Capacity		1452			1468		540	507				
v/c Ratio		0.20			0.60		0.28	0.45				
Green Ratio		0.54			0.54		0.34	0.34				
Uniform Delay d_1		10.7			14.1		21.7	23.2				
Delay Factor k		0.50			0.50		0.50	0.50				
Incremental Delay d_2		0.3			1.8		1.3	2.8				
PF Factor		1.000			1.000		1.000	1.000				
Control Delay		11.1			15.9		23.0	26.0				
Lane Group LOS		B			B		C	C				
Approach Delay	11.1			15.9			24.8					
Approach LOS	B			B			C					
Intersection Delay	17.2			Intersection LOS			B					

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE AVE & CRAWFORD ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	1	1	1	0	0	1	0	0	1	0
Lane Group		LT	R	L	TR			LTR			LTR	
Volume (vph)	26	132	244	32	112	21	230	69	30	54	212	63
% Heavy Vehicles	7	7	7	7	7	7	6	6	6	11	11	11
PHF	0.89	0.89	0.89	0.85	0.85	0.85	0.93	0.93	0.93	0.85	0.85	0.85
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0	2.0	2.0	2.0			2.0			2.0	
Extension of Effective Green		2.0	2.0	2.0	2.0			2.0			2.0	
Arrival Type		3	3	3	3			3			3	
Unit Extension		3.0	3.0	3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume	50	0	24	50	0	2	50	0	3	50	0	6
Lane Width		15.0	16.0	11.0	11.0			14.0			13.0	
Parking/Grade/Parking	N	-4	Y	N	8	Y	N	5	N	N	-6	N
Parking/Hour			10			10						
Bus Stops/Hour		0	0	0	0			0			0	
Minimum Pedestrian Time		22.8			13.5			14.8			14.8	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 35.0	G =	G =	G =	G = 45.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		177	247	38	154			350			380	
Lane Group Capacity		650	486	344	475			441			701	
v/c Ratio		0.27	0.51	0.11	0.32			0.79			0.54	
Green Ratio		0.39	0.39	0.39	0.39			0.50			0.50	
Uniform Delay d_1		18.8	20.9	17.6	19.2			18.7			15.4	
Delay Factor k		0.50	0.50	0.50	0.50			0.50			0.50	
Incremental Delay d_2		1.0	3.8	0.6	1.8			13.7			3.0	
PF Factor		1.000	1.000	1.000	1.000			1.000			1.000	
Control Delay		19.8	24.7	18.2	21.0			32.3			18.4	
Lane Group LOS		B	C	B	C			C			B	
Approach Delay	22.7			20.5			32.3			18.4		
Approach LOS	C			C			C			B		
Intersection Delay	23.7			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE AVE & DEVILLERS ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane Group		LTR			LTR			LTR			LTR	
Volume (vph)	17	239	6	2	253	11	11	1	4	2	4	31
% Heavy Vehicles	6	6	6	8	8	8	0	0	0	0	0	0
PHF	0.87	0.87	0.87	0.95	0.95	0.95	0.63	0.63	0.63	0.82	0.82	0.82
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		2.0			2.0			2.0			2.0	
Arrival Type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	50	0	1	50	0	1	50	0	0	50	0	3
Lane Width		16.0			10.0			11.0			11.0	
Parking/Grade/Parking	N	-2	N	N	-1	Y	N	0	Y	N	-6	Y
Parking/Hour						5			5			5
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time		11.5			13.0			14.8			13.5	

Phasing	EW Perm	EB Only	03	04	NS Perm	06	07	08
Timing	G = 27.0	G = 21.0	G =	G =	G = 16.0	G =	G =	G =
	Y = 6	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 80.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		301			279			25			41	
Lane Group Capacity		1220			434			211			234	
v/c Ratio		0.25			0.64			0.12			0.18	
Green Ratio		0.68			0.34			0.20			0.20	
Uniform Delay d_1		5.1			22.4			26.2			26.5	
Delay Factor k		0.50			0.50			0.50			0.50	
Incremental Delay d_2		0.5			7.1			1.1			1.6	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		5.6			29.6			27.4			28.2	
Lane Group LOS		A			C			C			C	
Approach Delay	5.6			29.6			27.4			28.2		
Approach LOS	A			C			C			C		
Intersection Delay	18.2			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	CENTRE AVE & DINWIDDLE ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		1	0	0	1		0		0			
Lane Group		TR			LT			LR				
Volume (vph)		227	22	48	247		19		36			
% Heavy Vehicles		6	6	8	8		0		0			
PHF		0.87	0.87	0.95	0.95		0.79		0.79			
Pretimed/Actuated (P/A)		P	P	P	P		P		P			
Startup Lost Time		2.0			2.0			2.0				
Extension of Effective Green		2.0			2.0			2.0				
Arrival Type		3			3			3				
Unit Extension		3.0			3.0			3.0				
Ped/Bike/RTOR Volume	50	0	2	0	0		50	0	0			
Lane Width		16.0			16.0			16.0				
Parking/Grade/Parking	N	-2	N	N	-1	N	N	4	Y			
Parking/Hour									5			
Bus Stops/Hour		0			0			0				
Minimum Pedestrian Time		16.0			12.7			13.5				

Phasing	EW Perm	WB Only	03	04	NB Only	06	07	08
Timing	G = 24.0	G = 21.0	G =	G =	G = 19.0	G =	G =	G =
	Y = 6	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 80.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		284			311			70				
Lane Group Capacity		544			1003			354				
v/c Ratio		0.52			0.31			0.20				
Green Ratio		0.30			0.64			0.24				
Uniform Delay d_1		23.2			6.6			24.4				
Delay Factor k		0.50			0.50			0.50				
Incremental Delay d_2		3.6			0.8			1.2				
PF Factor		1.000			1.000			1.000				
Control Delay		26.8			7.4			25.7				
Lane Group LOS		C			A			C				
Approach Delay		26.8			7.4			25.7				
Approach LOS		C			A			C				
Intersection Delay		17.6			Intersection LOS			B				

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	FIFTH AVE & WASHINGTON/CHATHAM
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				0	2	0	1	1			1	2
Lane Group					LTR		L	T			T	R
Volume (vph)				45	866	197	145	376			201	332
% Heavy Vehicles				7	7	7	1	1			0	0
PHF				0.91	0.91	0.91	0.83	0.83			0.83	0.83
Pretimed/Actuated (P/A)				P	P	P	P	P			P	P
Startup Lost Time					2.0		2.0	2.0			2.0	2.0
Extension of Effective Green					2.0		2.0	2.0			2.0	2.0
Arrival Type					3		3	3			3	3
Unit Extension					3.0		3.0	3.0			3.0	3.0
Ped/Bike/RTOR Volume				112	0	18	0	0		9	0	0
Lane Width					11.0		10.0	9.0			11.0	12.0
Parking/Grade/Parking				Y	-2	Y	N	-6	N	N	-2	N
Parking/Hour				20		20						
Bus Stops/Hour					0		0	0			0	0
Minimum Pedestrian Time					25.9			3.2			15.3	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 39.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 80.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate					1198		175	453			242	400
Lane Group Capacity					1176		342	588			626	963
v/c Ratio					1.02		0.51	0.77			0.39	0.42
Green Ratio					0.49		0.38	0.38			0.38	0.38
Uniform Delay d_1					20.5		19.3	22.0			18.3	18.5
Delay Factor k					0.50		0.50	0.50			0.50	0.50
Incremental Delay d_2					31.0		5.4	9.4			1.8	1.3
PF Factor					1.000		1.000	1.000			1.000	1.000
Control Delay					51.5		24.7	31.4			20.1	19.8
Lane Group LOS					D		C	C			C	B
Approach Delay					51.5			29.5			19.9	
Approach LOS					D			C			B	
Intersection Delay	37.7			Intersection LOS						D		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	FORBES AVE & ARMSTRONG TUNNEL
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	0				0		2			
Lane Group		TR						LR	R			
Volume (vph)		838	325				189		635			
% Heavy Vehicles		6	6				3		3			
PHF		0.92	0.92				0.86		0.86			
Pretimed/Actuated (P/A)		P	P				P		P			
Startup Lost Time		2.0						2.0	2.0			
Extension of Effective Green		2.0						2.0	2.0			
Arrival Type		3						3	3			
Unit Extension		3.0						3.0	3.0			
Ped/Bike/RTOR Volume	50	0	0				0	0	0			
Lane Width		11.0						11.0	11.0			
Parking/Grade/Parking	N	3	N				N	0	N			
Parking/Hour												
Bus Stops/Hour		0						0	0			
Minimum Pedestrian Time		17.3						3.2				

Phasing	EB Only	02	03	04	NB Only	06	07	08
Timing	G = 41.0	G =	G =	G =	G = 29.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 80.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		1264						478	480			
Lane Group Capacity		1417						523	875			
v/c Ratio		0.89						0.91	0.55			
Green Ratio		0.51						0.36	0.36			
Uniform Delay d_1		17.5						24.3	20.3			
Delay Factor k		0.50						0.50	0.50			
Incremental Delay d_2		8.9						23.0	2.5			
PF Factor		1.000						1.000	1.000			
Control Delay		26.4						47.3	22.8			
Lane Group LOS		C						D	C			
Approach Delay	26.4						35.0					
Approach LOS	C						C					
Intersection Delay	30.1			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	FORBES AVE & CHATHAM/McANULTY
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	2	0					1	1	0	1	
Lane Group	L	TR						T	R		LT	
Volume (vph)	476	906	113					20	55	165	83	
% Heavy Vehicles	4	4	4					3	3	1	1	
PHF	0.87	0.87	0.87					0.77	0.77	0.81	0.81	
Pretimed/Actuated (P/A)	P	P	P					P	P	P	P	
Startup Lost Time	2.0	2.0						2.0	2.0		2.0	
Extension of Effective Green	2.0	2.0						2.0	2.0		2.0	
Arrival Type	3	3						3	3		3	
Unit Extension	3.0	3.0						3.0	3.0		3.0	
Ped/Bike/RTOR Volume	44	0	0				23	0	6	21	0	
Lane Width	10.0	11.0						10.0	11.0		10.0	
Parking/Grade/Parking	N	3	N				N	-6	N	N	10	N
Parking/Hour												
Bus Stops/Hour	0	0						0	0		0	
Minimum Pedestrian Time		14.0						12.3			12.3	

Phasing	EB Only	02	03	04	NS Perm	06	07	08
Timing	G = 46.0	G =	G =	G =	G = 24.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 80.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	547	1171						26	64		306	
Lane Group Capacity	826	1678						479	412		348	
v/c Ratio	0.66	0.70						0.05	0.16		0.88	
Green Ratio	0.57	0.57						0.30	0.30		0.30	
Uniform Delay d_1	11.7	12.1						19.9	20.6		26.6	
Delay Factor k	0.50	0.50						0.50	0.50		0.50	
Incremental Delay d_2	4.2	2.4						0.2	0.8		25.6	
PF Factor	1.000	1.000						1.000	1.000		1.000	
Control Delay	15.8	14.5						20.1	21.4		52.2	
Lane Group LOS	B	B						C	C		D	
Approach Delay	14.9						21.0			52.2		
Approach LOS	B						C			D		
Intersection Delay	20.6			Intersection LOS						C		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko/M. Southern	Intersection	GRANT ST & BLVD OF ALLIES
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	1		2	0	0	2	0		2	0
Lane Group		LT	R		TR			LTR			TR	
Volume (vph)	55	221	323		508	79	33	968	36		644	72
% Heavy Vehicles	0	0	0		3	3	0	0	0		0	0
PHF	0.91	0.91	0.91		0.79	0.79	0.93	0.93	0.93		0.95	0.95
Pretimed/Actuated (P/A)	P	P	P		P	P	P	P	P		P	P
Startup Lost Time		2.0	2.0		2.0			2.0			2.0	
Extension of Effective Green		2.0	2.0		2.0			2.0			2.0	
Arrival Type		3	3		3			3			3	
Unit Extension		3.0	3.0		3.0			3.0			3.0	
Ped/Bike/RTOR Volume	200	0	4	200	0	0	200	0	0	200	0	0
Lane Width		11.0	12.0		12.0			11.0			11.0	
Parking/Grade/Parking	N	0	N	N	-2	N	N	1	N	N	-1	N
Parking/Hour												
Bus Stops/Hour		0	0		0			0			0	
Minimum Pedestrian Time		19.5			18.5			29.5			20.8	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 40.0	G =	G =	G =	G = 39.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 90.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		303	351		743			1115			754	
Lane Group Capacity		1011	624		1365			1221			1350	
v/c Ratio		0.30	0.56		0.54			0.91			0.56	
Green Ratio		0.44	0.44		0.44			0.43			0.43	
Uniform Delay d_1		16.0	18.5		18.3			23.9			19.1	
Delay Factor k		0.50	0.50		0.50			0.50			0.50	
Incremental Delay d_2		0.8	3.6		1.6			11.9			1.7	
PF Factor		1.000	1.000		1.000			1.000			1.000	
Control Delay		16.8	22.2		19.9			35.8			20.7	
Lane Group LOS		B	C		B			D			C	
Approach Delay		19.7			19.9			35.8			20.7	
Approach LOS		B			B			D			C	
Intersection Delay		25.5			Intersection LOS						C	

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko/M.Southern	Intersection	GRANT ST & FIRST AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				0		0		2	1	1	2	
Lane Group					LR			T	R	L	T	
Volume (vph)				192		38		1000	614	93	528	
% Heavy Vehicles				7		7		1	1	0	0	
PHF				0.84		0.84		0.77	0.77	0.89	0.89	
Pretimed/Actuated (P/A)				P		P		P	P	P	P	
Startup Lost Time					2.0			2.0	2.0	2.0	2.0	
Extension of Effective Green					2.0			2.0	2.0	2.0	2.0	
Arrival Type					3			3	3	3	3	
Unit Extension					3.0			3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume				0	0	0	200	0	0	0	0	
Lane Width					12.0			11.0	12.0	10.0	12.0	
Parking/Grade/Parking				N	2	N	N	3	N	N	-3	N
Parking/Hour												
Bus Stops/Hour					0			0	0	0	0	
Minimum Pedestrian Time					18.7			13.6			3.2	

Phasing	WB Only	02	03	04	SB Only	NS Perm	07	08
Timing	G = 28.0	G =	G =	G =	G = 5.0	G = 44.0	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 3	Y = 5	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 90.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate					274			1299	797	104	593	
Lane Group Capacity					462			1500	1063	164	1910	
v/c Ratio					0.59			0.87	0.75	0.63	0.31	
Green Ratio					0.31			0.49	0.86	0.58	0.58	
Uniform Delay d_1					26.2			20.4	2.6	14.9	9.8	
Delay Factor k					0.50			0.50	0.50	0.50	0.50	
Incremental Delay d_2					5.5			7.0	4.9	17.2	0.4	
PF Factor					1.000			1.000	1.000	1.000	1.000	
Control Delay					31.7			27.3	7.5	32.2	10.2	
Lane Group LOS					C			C	A	C	B	
Approach Delay					31.7			19.8			13.5	
Approach LOS					C			B			B	
Intersection Delay	19.4			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko	Intersection	GRANT ST & FORT PITT/1-376
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1				1	1		2			1	1
Lane Group	L				TR	R		T			T	R
Volume (vph)	208				240	503		864			529	192
% Heavy Vehicles	4				3	3		1			6	6
PHF	0.59				0.80	0.80		0.76			0.95	0.95
Pretimed/Actuated (P/A)	P				P	P		P			P	P
Startup Lost Time	2.0				2.0	2.0		2.0			2.0	2.0
Extension of Effective Green	2.0				2.0	2.0		2.0			2.0	2.0
Arrival Type	3				3	3		3			3	3
Unit Extension	3.0				3.0	3.0		3.0			3.0	3.0
Ped/Bike/RTOR Volume	100	0		0	0	0	0	0		0	0	0
Lane Width	12.0				13.0	12.0		10.0			12.0	12.0
Parking/Grade/Parking	N	0	N	N	2	N	N	3	N	N	-1	N
Parking/Hour												
Bus Stops/Hour	0				0	0		0			0	0
Minimum Pedestrian Time		17.6			3.2			3.2			3.2	

Phasing	EB Only	WB Only	03	04	Thru & RT	06	07	08
Timing	G = 18.0	G = 27.0	G =	G =	G = 29.0	G =	G =	G =
	Y = 5	Y = 5	Y =	Y =	Y = 6	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25

Cycle Length C = 90.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	353				413	516		1137			557	202
Lane Group Capacity	312				489	419		955			522	444
v/c Ratio	1.13				0.84	1.23		1.19			1.07	0.45
Green Ratio	0.20				0.30	0.30		0.32			0.32	0.32
Uniform Delay d_1	36.0				29.5	31.5		30.5			30.5	24.2
Delay Factor k	0.50				0.50	0.50		0.50			0.50	0.50
Incremental Delay d_2	91.3				16.2	123.5		96.3			58.5	3.3
PF Factor	1.000				1.000	1.000		1.000			1.000	1.000
Control Delay	127.3				45.8	155.0		126.8			89.0	27.6
Lane Group LOS	F				D	F		F			F	C
Approach Delay	127.3			106.4			126.8			72.6		
Approach LOS	F			F			F			E		
Intersection Delay	107.9			Intersection LOS						F		

SHORT REPORT

General Information		Site Information	
Analyst	N. Karsko/M. Southern	Intersection	SECOND AVE/COURT & ROSS ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	12/6/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	AM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0		1	1	0	1	0	1	1	0
Lane Group		LTR			T	R		LTR		L	TR	
Volume (vph)	52	186	28		340	427	3	407	48	176	121	18
% Heavy Vehicles	11	11	11		3	3	0	0	0	6	6	6
PHF	0.73	0.73	0.73		0.87	0.87	0.85	0.85	0.85	0.83	0.83	0.83
Pretimed/Actuated (P/A)	P	P	P		P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0	2.0		2.0		2.0	2.0	
Extension of Effective Green		2.0			2.0	2.0		2.0		2.0	2.0	
Arrival Type		3			3	3		3		3	3	
Unit Extension		3.0			3.0	3.0		3.0		3.0	3.0	
Ped/Bike/RTOR Volume	100	0	3	100	0	0	100	0	5	100	0	0
Lane Width		13.0			11.0	14.0		14.0		10.0	10.0	
Parking/Grade/Parking	Y	-2	Y	N	5	N	N	2	Y	N	-3	N
Parking/Hour	10		10						10			
Bus Stops/Hour		0			0	0		0		0	0	
Minimum Pedestrian Time		13.2			13.2			12.7			8.7	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 29.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		360			391	491		534		212	168	
Lane Group Capacity		384			648	535		641		229	632	
v/c Ratio		0.94			0.60	0.92		0.83		0.93	0.27	
Green Ratio		0.41			0.41	0.41		0.43		0.43	0.43	
Uniform Delay d_1		19.6			16.0	19.4		17.8		18.9	12.9	
Delay Factor k		0.50			0.50	0.50		0.50		0.50	0.50	
Incremental Delay d_2		32.6			4.1	23.1		12.1		42.9	1.0	
PF Factor		1.000			1.000	1.000		1.000		1.000	1.000	
Control Delay		52.2			20.1	42.5		29.8		61.9	13.9	
Lane Group LOS		D			C	D		C		E	B	
Approach Delay	52.2			32.6			29.8			40.7		
Approach LOS	D			C			C			D		
Intersection Delay	36.6			Intersection LOS			D					

P.M. PEAK HOUR

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	LIBERTY AVE & SEVENTH AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	0		3		1					
Lane Group		TR			T		L					
Volume (vph)		309	415		316		298					
% Heavy Vehicles		15	15		18		10					
PHF		0.96	0.96		0.80		0.87					
Pretimed/Actuated (P/A)		P	P		P		P					
Startup Lost Time		2.0			2.0		2.0					
Extension of Effective Green		2.0			2.0		2.0					
Arrival Type		3			3		3					
Unit Extension		3.0			3.0		3.0					
Ped/Bike/RTOR Volume	200	0	0	0	0		0	0				
Lane Width		11.0			11.0		12.0					
Parking/Grade/Parking	N	0	N	N	0	N	N	-2	N			
Parking/Hour												
Bus Stops/Hour		0			0		0					
Minimum Pedestrian Time		18.3			3.2			3.2				

Phasing	Thru & RT	Thru & RT	03	04	NB Only	06	07	08
Timing	G = 16.0	G = 27.0	G =	G =	G = 34.0	G =	G =	G =
	Y = 3	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25					Cycle Length C = 90.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		754			395		343					
Lane Group Capacity		1135			1950		564					
v/c Ratio		0.66			0.20		0.61					
Green Ratio		0.51			0.51		0.38					
Uniform Delay d_1		16.3			12.0		22.6					
Delay Factor k		0.50			0.50		0.50					
Incremental Delay d_2		3.1			0.2		4.8					
PF Factor		1.000			1.000		1.000					
Control Delay		19.4			12.2		27.4					
Lane Group LOS		B			B		C					
Approach Delay	19.4			12.2			27.4					
Approach LOS	B			B			C					
Intersection Delay	19.3			Intersection LOS			B					

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	LIBERTY AVE & SMITHFIELD ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes		2	0	0	3		1		1			
Lane Group		TR			LT		L		R			
Volume (vph)		309	1	37	215		100		178			
% Heavy Vehicles		28	28	36	36		2		2			
PHF		0.88	0.88	0.86	0.86		0.83		0.83			
Pretimed/Actuated (P/A)		P	P	P	P		P		P			
Startup Lost Time		2.0			2.0		2.0		2.0			
Extension of Effective Green		2.0			2.0		2.0		2.0			
Arrival Type		3			3		3		3			
Unit Extension		3.0			3.0		3.0		3.0			
Ped/Bike/RTOR Volume	200	0	0	0	0		200	0	0			
Lane Width		11.0			11.0		11.0		13.0			
Parking/Grade/Parking	N	1	N	N	-1	N	N	-2	N			
Parking/Hour												
Bus Stops/Hour		0			0		0		0			
Minimum Pedestrian Time		18.0			3.2			18.5				

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = 10.0	G = 39.0	G =	G =	G = 28.0	G =	G =	G =
	Y = 3	Y = 5	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 — Cycle Length C = 90.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		352			293		120		214			
Lane Group Capacity		1059			1584		484		374			
v/c Ratio		0.33			0.18		0.25		0.57			
Green Ratio		0.43			0.58		0.31		0.31			
Uniform Delay d_1		16.9			9.0		23.1		26.0			
Delay Factor k		0.50			0.50		0.50		0.50			
Incremental Delay d_2		0.8			0.3		1.2		6.2			
PF Factor		1.000			1.000		1.000		1.000			
Control Delay		17.7			9.2		24.4		32.2			
Lane Group LOS		B			A		C		C			
Approach Delay	17.7			9.2			29.4					
Approach LOS	B			A			C					
Intersection Delay	19.2			Intersection LOS			B					

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	SEVENTH AVE & SMITHFIELD ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0	0	1	0		2	0	0	1	0
Lane Group		LTR			LTR			TR			LTR	
Volume (vph)	4	412	3	1	298	27		247	162	8	28	1
% Heavy Vehicles	2	2	2	9	9	9		1	1	100	100	100
PHF	0.92	0.92	0.92	0.94	0.94	0.94		0.79	0.79	0.82	0.82	0.82
Pretimed/Actuated (P/A)	P	P	P	P	P	P		P	P	P	P	P
Startup Lost Time		2.0			2.0			2.0			2.0	
Extension of Effective Green		2.0			2.0			2.0			2.0	
Arrival Type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	200	0	0	200	0	0	200	0	0	200	0	0
Lane Width		11.0			11.0			11.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour		0			0			0			0	
Minimum Pedestrian Time		4.3			12.8			12.8			12.8	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 29.0	G =	G =	G =	G = 30.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 70.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		455			347			518			45	
Lane Group Capacity		1215			613			1187			322	
v/c Ratio		0.37			0.57			0.44			0.14	
Green Ratio		0.41			0.41			0.43			0.43	
Uniform Delay d_1		14.2			15.7			14.1			12.2	
Delay Factor k		0.50			0.50			0.50			0.50	
Incremental Delay d_2		0.9			3.8			1.2			0.9	
PF Factor		1.000			1.000			1.000			1.000	
Control Delay		15.1			19.4			15.2			13.1	
Lane Group LOS		B			B			B			B	
Approach Delay	15.1			19.4			15.2			13.1		
Approach LOS	B			B			B			B		
Intersection Delay	16.2			Intersection LOS						B		

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	GRANT ST & LIBERTY AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	2	1	0	1	1	0		3	0		2	0
Lane Group	L	TR		L	TR			TR			TR	
Volume (vph)	497	108	72	74	111	17		779	96		968	136
% Heavy Vehicles	20	20	20	61	61	61		10	10		1	1
PHF	0.75	0.75	0.75	0.77	0.77	0.77		0.79	0.79		0.93	0.93
Pretimed/Actuated (P/A)	P	P	P	P	P	P		P	P		P	P
Startup Lost Time	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of Effective Green	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival Type	3	3		3	3			3			3	
Unit Extension	3.0	3.0		3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume	200	0	0	200	0	0	200	0	0	200	0	0
Lane Width	11.0	11.0		12.0	12.0			11.0			13.0	
Parking/Grade/Parking	N	1	N	N	-2	N	N	-2	N	N	1	N
Parking/Hour												
Bus Stops/Hour	0	0		0	0			0			0	
Minimum Pedestrian Time		21.7			21.7			27.5			26.0	

Phasing	WB Only	WB Only	EB Only	04	Thru & RT	Thru & RT	07	08
Timing	G = 20.0	G = 19.0	G = 34.0	G =	G = 33.0	G = 21.0	G =	G =
	Y = 5	Y = 5	Y = 6	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 153.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	663	240		96	166			1108			1187	
Lane Group Capacity	562	286		249	294			1520			1212	
v/c Ratio	1.18	0.84		0.39	0.56			0.73			0.98	
Green Ratio	0.22	0.22		0.29	0.29			0.39			0.39	
Uniform Delay d_1	59.5	56.9		43.7	46.4			40.2			46.4	
Delay Factor k	0.50	0.50		0.50	0.50			0.50			0.50	
Incremental Delay d_2	98.2	24.5		4.5	7.6			3.1			21.4	
PF Factor	1.000	1.000		1.000	1.000			1.000			1.000	
Control Delay	157.7	81.4		48.1	54.0			43.3			67.8	
Lane Group LOS	F	F		D	D			D			E	
Approach Delay	137.4			51.8			43.3			67.8		
Approach LOS	F			D			D			E		
Intersection Delay	76.9			Intersection LOS						E		

SHORT REPORT

General Information		Site Information	
Analyst		Intersection	GRANT ST & ELEVENTH ST
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1		2				1	2			2	0
Lane Group	L		R				L	T			TR	
Volume (vph)	142		369				153	877			735	89
% Heavy Vehicles	1		1				4	4			1	1
PHF	0.82		0.82				0.87	0.87			0.87	0.87
Pretimed/Actuated (P/A)	P						P	P			P	P
Startup Lost Time	2.0		2.0				2.0	2.0			2.0	
Extension of Effective Green	2.0		2.0				2.0	2.0			2.0	
Arrival Type	3		3				3	3			3	
Unit Extension	3.0		3.0				3.0	3.0			3.0	
Ped/Bike/RTOR Volume	0	0	0				0	0		0	0	0
Lane Width	11.0		12.0				11.0	12.0			12.0	
Parking/Grade/Parking	N	-1	N				N	-1	N	N	1	N
Parking/Hour												
Bus Stops/Hour	0		0				0	0			0	
Minimum Pedestrian Time		3.2						3.2			23.2	

Phasing	EB Only	Peds Only	03	04	NB Only	Thru & RT	NB Only	08
Timing	G = 20.0	G = 19.0	G =	G =	G = 34.0	G = 33.0	G = 21.0	G =
	Y = 5	Y = 5	Y =	Y =	Y = 6	Y = 5	Y = 5	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 153.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	173		450				176	1008			947	
Lane Group Capacity	204		351				546	2036			681	
v/c Ratio	0.85		1.28				0.32	0.50			1.39	
Green Ratio	0.13		0.14				0.36	0.65			0.22	
Uniform Delay d_1	65.0		66.0				35.5	14.0			60.0	
Delay Factor k	0.50		0.50				0.50	0.50			0.50	
Incremental Delay d_2	33.2		147.0				1.6	0.9			184.7	
PF Factor	1.000		1.000				1.000	1.000			1.000	
Control Delay	98.2		213.0				37.1	14.9			244.7	
Lane Group LOS	F		F				D	B			F	
Approach Delay	181.1						18.2			244.7		
Approach LOS	F						B			F		
Intersection Delay	132.9			Intersection LOS						F		

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	GRANT ST & SEVENTH AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	2	0	0	2	1	1	2	0	1	2	0
Lane Group		LTR			LT	R	L	TR		L	TR	
Volume (vph)	11	586	79	116	387	250	87	404	166	432	560	55
% Heavy Vehicles	5	5	5	4	4	4	12	12	12	4	4	4
PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.89	0.89	0.89	0.92	0.92	0.92
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green		2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type		3			3	3	3	3		3	3	
Unit Extension		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	200	0	0	200	0	0	200	0	0	200	0	0
Lane Width		11.0			10.0	13.0	11.0	11.0		11.0	11.0	
Parking/Grade/Parking	N	5	N	N	-5	N	N	-1	N	N	2	N
Parking/Hour												
Bus Stops/Hour		0			0	0	0	0		0	0	
Minimum Pedestrian Time		18.3			18.5			19.5			18.3	

Phasing	EW Perm	02	03	04	Excl. Left	NS Perm	07	08
Timing	G = 31.0	G =	G =	G =	G = 23.0	G = 23.0	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 3	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		778			578	287	98	641		470	669	
Lane Group Capacity		911			567	875	429	643		450	740	
v/c Ratio		0.85			1.02	0.33	0.23	1.00		1.04	0.90	
Green Ratio		0.34			0.34	0.66	0.54	0.26		0.54	0.26	
Uniform Delay d_1		27.4			29.5	6.8	11.8	33.5		24.3	32.4	
Delay Factor k		0.50			0.50	0.50	0.50	0.50		0.50	0.50	
Incremental Delay d_2		10.0			42.8	1.0	1.2	34.7		54.5	16.6	
PF Factor		1.000			1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay		37.4			72.3	7.8	13.1	68.2		78.8	49.0	
Lane Group LOS		D			E	A	B	E		E	D	
Approach Delay		37.4			50.9			60.9			61.3	
Approach LOS		D			D			E			E	
Intersection Delay		53.4			Intersection LOS						D	

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	GRANT ST & SIXTH AVE
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	1	0	0	2	0	1	2	0	1	2	0
Lane Group		LTR			LTR		L	TR		L	TR	
Volume (vph)	82	322	50	145	290	200	115	376	364	171	540	44
% Heavy Vehicles	7	7	7	4	4	4	12	12	12	4	4	4
PHF	0.83	0.83	0.83	0.94	0.94	0.94	0.95	0.95	0.95	0.75	0.75	0.75
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of Effective Green		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival Type		3			3		3	3		3	3	
Unit Extension		3.0			3.0		3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	224	0	0	340	0	0	569	0	0	236	0	0
Lane Width		12.0			11.0		12.0	10.0		12.0	10.0	
Parking/Grade/Parking	N	4	N	N	-5	N	N	-1	N	N	2	N
Parking/Hour												
Bus Stops/Hour		0			0		0	0		0	0	
Minimum Pedestrian Time		18.5			19.2			19.5			13.8	

Phasing	EB Only	EW Perm	03	04	Excl. Left	NS Perm	07	08
Timing	G = 7.0	G = 35.0	G =	G =	G = 7.0	G = 25.0	G =	G =
	Y = 3	Y = 5	Y =	Y =	Y = 3	Y = 5	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 90.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate		547			676		121	779		228	779	
Lane Group Capacity		397			870		189	576		194	779	
v/c Ratio		1.38			0.78		0.64	1.35		1.18	1.00	
Green Ratio		0.50			0.39		0.39	0.28		0.39	0.28	
Uniform Delay d_1		22.5			24.1		20.9	32.5		33.0	32.5	
Delay Factor k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental Delay d_2		185.2			6.8		15.5	169.8		119.8	32.2	
PF Factor		1.000			1.000		1.000	1.000		1.000	1.000	
Control Delay		207.7			30.8		36.3	202.3		152.9	64.7	
Lane Group LOS		F			C		D	F		F	E	
Approach Delay		207.7			30.8			180.0			84.7	
Approach LOS		F			C			F			F	
Intersection Delay		122.0			Intersection LOS						F	

SHORT REPORT

General Information		Site Information	
Analyst	CKR	Intersection	SIXTH AVE & ROSS ST/BIGELOW
Agency or Co.	TRANS ASSOCIATES	Area Type	CBD or Similar
Date Performed	11/21/2005	Jurisdiction	CITY OF PITTSBURGH
Time Period	PM PEAK HOUR	Analysis Year	2008 COMBINED CONDITION

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	0	3	0	0	2	0	0	2	0	0	2	
Lane Group	DefL	TR			LTR			LTR		DefL	T	
Volume (vph)	276	629	42	38	374	213	88	286	266	174	264	
% Heavy Vehicles	1	1	1	2	2	2	2	2	2	1	1	
PHF	0.82	0.82	0.82	0.93	0.93	0.93	0.77	0.77	0.77	0.87	0.87	
Pretimed/Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	
Startup Lost Time	2.0	2.0			2.0			2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0			2.0			2.0		2.0	2.0	
Arrival Type	3	3			3			3		3	3	
Unit Extension	3.0	3.0			3.0			3.0		3.0	3.0	
Ped/Bike/RTOR Volume	200	0	4	200	0	21	200	0	27	200	0	
Lane Width	12.0	11.0			11.0			12.0		12.0	11.0	
Parking/Grade/Parking	N	5	N	N	-6	N	N	-1	N	N	-1	N
Parking/Hour												
Bus Stops/Hour	0	0			0			0		0	0	
Minimum Pedestrian Time		18.3			17.8			20.8			8.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 32.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 5.5	Y =	Y =	Y =	Y = 5.5	Y =	Y =	Y =
Duration of Analysis (hrs) = 0.25						Cycle Length C = 70.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	337	813			649			795		200	303	
Lane Group Capacity	260	1367			1141			903		159	635	
v/c Ratio	1.30	0.59			0.57			0.88		1.26	0.48	
Green Ratio	0.46	0.46			0.46			0.39		0.39	0.39	
Uniform Delay d_1	19.0	14.2			13.9			20.0		21.5	16.2	
Delay Factor k	0.50	0.50			0.50			0.50		0.50	0.50	
Incremental Delay d_2	158.7	1.9			2.1			12.0		156.9	2.6	
PF Factor	1.000	1.000			1.000			1.000		1.000	1.000	
Control Delay	177.7	16.1			16.0			32.0		178.4	18.7	
Lane Group LOS	F	B			B			C		F	B	
Approach Delay	63.4			16.0			32.0			82.2		
Approach LOS	E			B			C			F		
Intersection Delay	48.5			Intersection LOS						D		