

Appendix D. Proposed Operations Schedules

**BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS
OPERATION SCHEDULE**

LOCATION: Pearl Street and Atlantic Avenue

DESIGN DATE: 10/2009

INTERSECTION No.: 4102

DATE FIRST IN SERVICE: _____

SECTION No.: 13

PHASE 1

CLEARANCE TABLE

		TO							FLASH OPERATION
		G	R	-	-	W	DW		
FROM	G	G	Y	-	-	-	-		
	R	-	R	-	-	-	-		
	-	-	-	-	-	-	-		
	-	-	-	-	-	-	-		
	W	-	-	-	-	W	FDW		
DW	-	-	-	-	-	DW			

STREET	DIR	FACE	Ø1			Ø2*								
ATLANTIC AVE.	NB	3A,3B,3C	G	Y	R	R	R	R						FY
CROSSWALK	N/S	2E,5E	DW	DW	DW	W	FDW	DW						OFF
CROSSWALK	E/W	2F,3E,4E,5F	DW	DW	DW	W	FDW	DW						OFF

TIMING IN SECONDS

MINIMUM GREEN	25			-									
VEHICLE EXTENSION	2			-									
MAXIMUM #1 GREEN	84			-									
MAXIMUM #2 GREEN	79			-									
YELLOW CLEARANCE			3										
RED CLEARANCE					1			4					
WALK INTERVAL							8						
PEDESTRIAN CLEARANCE								5					
MEMORY				OFF				OFF					
RECALL (VEH/PED)				MAX				OFF					

*Ø2 PED RECALL FROM 7AM - 8PM. OTHERWISE, PUSH-BUTTON ACTUATED

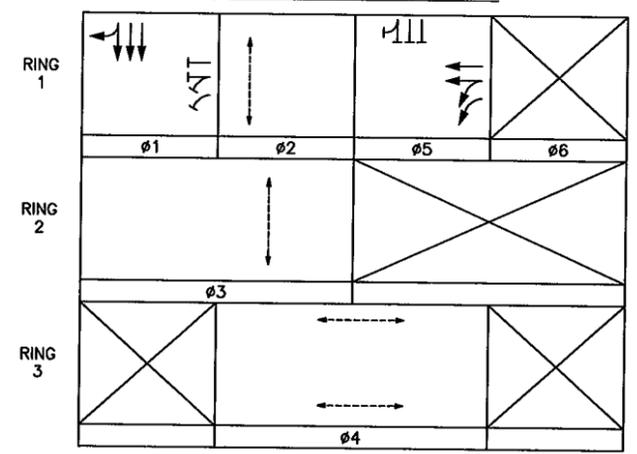
COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	HOURS OF OPERATION			
1	90	37	73	17	ALL OTHER TIMES			
2	100	35	83	17	6:00AM - 10:00AM			
3	100	17	83	17	2:30PM - 7:00PM			
FLASH OPERATION		-	-	-	3:00AM - 6:00AM			

TIMING AND SEQUENCE CHART																			
(APPROX.)		PEARL STREET																	
PEARL STREET		←			↑			→			↓			←			OPERATION FLASHING		
PEARL STREET		←			↑			→			↓			←					
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION FLASHING		
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL		OPERATION FLASHING	
PURCHASE ST/SB/3A,3B,4A		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
PEARL ST/WB/4B,5A,5B		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR		
C.W./N-S/2E,3F		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./E-W/2F,3E,4E,5E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF		
C.W./N-S/4F,5F		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF		
INTERVAL SECONDS	MINIMUM GREEN	8												8					
	VEHICLE EXTENSION	2												2					
	MAXIMUM 1 GREEN	51												29					
	MAXIMUM 2 GREEN	46												35					
	YELLOW CLEARANCE		3												3				
	RED CLEARANCE			2			4			5			5			2			
	WALK INTERVAL				8			8*			8								
	PED. CLEARANCE					6			4**			7**							
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK					
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF					
PROGRAM/COORDINATION																			
PHASE SPLITS IN SECONDS																			
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1,ø3			ø2,ø3,ø4			ø4,ø5						HOURS OF OPERATION				
1	90	38	42			18			30						ALL OTHER TIMES				
2	100	46	51			18			31						6:00 A.M. TO 10:00 A.M.				
3	100	78	42			18			40						2:30 P.M. TO 7:00 P.M.				
COORDINATED OPERATION																			
PROGRAMMED FLASH																			
EVERYDAY																			
3:00 A.M. TO 6:00 A.M.																			
LOOP DETECTOR DATA																			
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	CLEARANCES								TECHNICAL NOTES		
									FROM	TO								* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.	
									G	G	-	R	-	-	W	DW			
									-	-	-	-	-	-	-	-			
									-	-	-	-	-	-	-	-			
									R	-	-	-	-	-	-	-			
									W	-	-	-	-	-	W	FDW			
									DW	-	-	-	-	-	-	DW			

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
PEARL STREET & PURCHASE ST
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 602
 SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 13
 DESIGN DATE: OCT. 2009

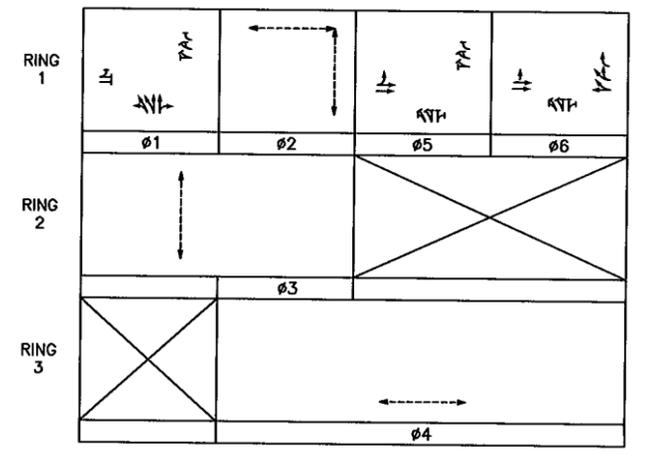
DESIGNED BY A. SIU
 DRAWN BY K. CHRONLEY
 CHECKED BY D. MATTON

HOWARD
STEIN
HUDSON
ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

STREET/DIRECTION/FACE		TIMING AND SEQUENCE CHART																		OPERATION		
		ø1			ø2			ø3			ø4			ø5			ø6					
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
ATLANTIC AVE/NB/4D,5A,5B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
OLIVER ST/EB/2B,2C		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	FR		
OLIVER ST/EB/2A		R	R	R	R	R	R	R	R	R	R	R	R	GL/G	YL/Y	R	G	Y	R	FR		
SEAPORT BLVD/WB/4A,4B,4C		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR		
C.W./N-S/3E,4E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./E-W/2F,3F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./-/2E,4F,5E,5F		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
INTERVAL SECONDS	MINIMUM GREEN	8												4			8					
	VEHICLE EXTENSION	2												2			2					
	MAXIMUM 1 GREEN	38												7			25					
	MAXIMUM 2 GREEN	27												13			31					
	YELLOW CLEARANCE		3												3			3				
	RED CLEARANCE			2			4			5			5			1			2			
	WALK INTERVAL				8			8*			8											
	PED. CLEARANCE					12			9**			6**										
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK								
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF								
PROGRAM/COORDINATION																						
CYCLE NO.		CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS												HOURS OF OPERATION						
				ø1,ø3			ø2,ø3,ø4			ø4,ø5			ø4,ø6									
1		90	57	31			24			9			26			ALL OTHER TIMES						
2		100	96	31			24			17			28			6:00 A.M. TO 10:00 A.M.						
3		100	65	32			24			8			36			2:30 P.M. TO 7:00 P.M.						
COORDINATED OPERATION																						
PROGRAMMED FLASH																						
EVERYDAY																						
EMERGENCY/CONFLICT																						
LOOP DETECTOR DATA										CLEARANCES					TECHNICAL NOTES							
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO								* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.				
								G	G	R	GL/G	-	-	W	DW							
								G	G	Y	-	-	-	-								
								GL/G	YL/G	YL/Y	GL/G	-	-	-								
								-	-	-	-	-	-	-								
								-	-	-	-	-	-	-								
								W	-	-	-	-	-	W	FDW							
								DW	-	-	-	-	-	-	DW							

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
DRAWN BY K. CHRONLEY
CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
SEAPORT BLVD & ATLANTIC AVE
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 1216

SCALE: NOT TO SCALE
DISTRICT: -

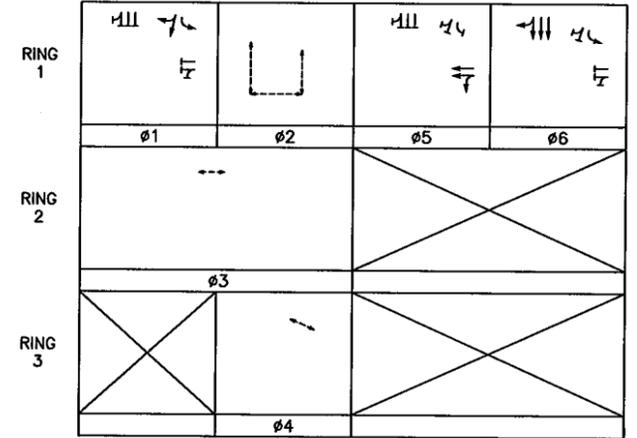
AREA: 13
DESIGN DATE: OCT. 2009

HOWARD/STEIN-HUDSON ASSOCIATES
Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

TIMING AND SEQUENCE CHART																																	
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			ø6			OPERATION FLASHING													
GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL																
RAMP CS-P/SB/3C,3D	GL/GR	YL/YR	R	R	R	R	R	R	R	R	R	R	R	R	R	GL/R	YL/R	R	FR														
RAMP CS-P/SB/4A	GR	YR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	GR	YR	RR	FR														
RAMP CS-P/SB/2A	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FR														
PURCHASE ST/SB/5A,5B,5C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FY														
OLIVER ST/WB/3A,3B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR														
C.W./E-W/6E,7F	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF														
C.W./E-W/7E,8E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF														
C.W./-/2E,4E,5E,5F,6F,8F	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF														
I N T E R V A L S	MINIMUM GREEN	8										8			8																		
	VEHICLE EXTENSION	2										2			2																		
	MAXIMUM 1 GREEN	33										11			35																		
	MAXIMUM 2 GREEN	34										13			37																		
	YELLOW CLEARANCE		3										3			3																	
	RED CLEARANCE			2			4			5				6				3		2													
	WALK INTERVAL				8			8*			8																						
	PED. CLEARANCE					5			5**			6**																					
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK																	
RECALL (VEH./PED.)	MAX			OFF			PED			OFF			OFF			OFF																	
PROGRAM/COORDINATION																																	
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1,ø3						ø2,ø3,ø4						ø5						ø6						HOURS OF OPERATION						
			PHASE SPLITS IN SECONDS																														
			25						17						17						31							ALL OTHER TIMES					
			39						17						19						25							6:00 A.M. TO 10:00 A.M.					
25						17						16						42						2:30 P.M. TO 7:00 P.M.									
COORDINATED OPERATION																				EVERYDAY													
PROGRAMMED FLASH																				EMERGENCY/CONFLICT													
LOOP DETECTOR DATA										CLEARANCES										TECHNICAL NOTES													
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.		FROM	G	R	RR	GL/R	GL	W	DW	* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1															
										G	G	Y	-	-	-	-	-	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.															
										GL	-	YL	-	-	GL	-	-																
										GL/GR	-	YL/YR	-	GL/YR	-	-	-																
										GR	-	-	YR	-	-	-	-																
										-	-	-	-	-	-	-	-																
										W	-	-	-	-	-	W	FDW																
										DW	-	-	-	-	-	-	DW																

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
OLIVER STREET & PURCHASE ST
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 558
 SCALE: NOT TO SCALE AREA: 13
 DISTRICT: - DESIGN DATE: OCT. 2009

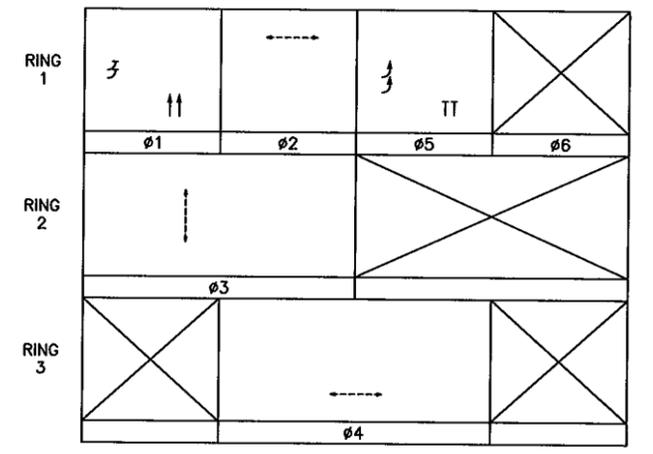
DESIGNED BY A. SIU
 DRAWN BY K. CHRONLEY
 CHECKED BY D. MATTON

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 Howard/Stein-Hudson Assoc., Inc.
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TIMING AND SEQUENCE CHART																						
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION					
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL						
ATLANTIC AVE/NB/5A,5B,6A		GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY					
HIGH ST/EB/3A,4A		R	R	R	R	R	R	R	R	R	R	R	R	GL	YL	R	FR					
C.W./E-W/2F,3E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF					
C.W./N-S/2E,7F		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF					
C.W./E-W/5E,7E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF					
I N T E R V A L	MINIMUM GREEN	8	/			/			/			/			8	/						
	VEHICLE EXTENSION	2	/			/			/			/			2	/						
	MAXIMUM 1 GREEN	55	/			/			/			/			25	/						
	MAXIMUM 2 GREEN	50	/			/			/			/			27	/						
	YELLOW CLEARANCE		3	/			/			/			/			3	/					
	RED CLEARANCE			2	/			/			/			/				/				
	WALK INTERVAL				7	/			/			/			/				/			
	PED. CLEARANCE					6	/			/			/			/				/		
	MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK				/			
	RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF				/			
PROGRAM/COORDINATION																						
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS												HOURS OF OPERATION							
			ø1,ø3			ø2,ø3,ø4			ø4,ø5													
1	90	85	46			17			27						ALL OTHER TIMES							
2	100	22	52			17			31						6:00 A.M. TO 10:00 A.M.							
3	100	85	55			17			28						2:30 P.M. TO 7:00 P.M.							
COORDINATED OPERATION																						
PROGRAMMED FLASH																						
EVERYDAY																						
3:00 A.M. TO 6:00 A.M.																						
LOOP DETECTOR DATA									CLEARANCES				TECHNICAL NOTES									
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO			* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1									
									GV	R	-	-	-	-	W	DW	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.					
									GL	YL	-	-	-	-	-	-						
									W	-	-	-	-	-	W	FDW						
									DW	-	-	-	-	-	-	DW						

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
HIGH STREET & ATLANTIC AVE
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 1486

DESIGNED BY A. SIU
DRAWN BY K. CHRONLEY
CHECKED BY D. MATTON

SCALE: NOT TO SCALE
DISTRICT: -
AREA: 13
DESIGN DATE: OCT. 2009

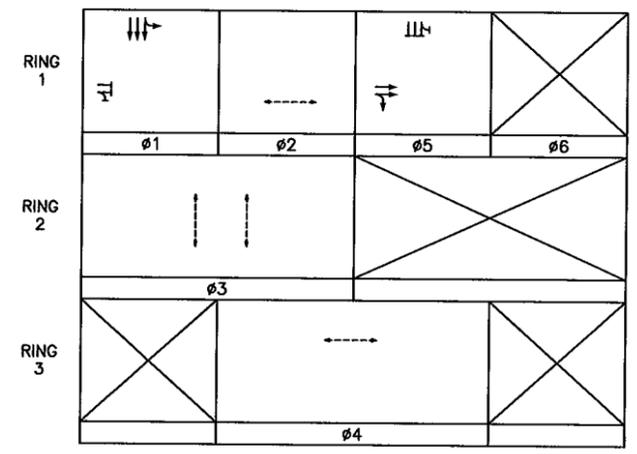
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Fax: 617.482.7417

TIMING AND SEQUENCE CHART																		
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION FLASHING	
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL		
PURCHASE ST/SB/3B,4A,4B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY	
HIGH ST/EB/2A,3A		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR	
C.W./N-S/2E,3E,4F,5E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./E-W/2F,5F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF	
C.W./E-W/3F,4E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
INTERVAL SECONDS	MINIMUM GREEN	8												8				
	VEHICLE EXTENSION	2												2				
	MAXIMUM 1 GREEN	53												24				
	MAXIMUM 2 GREEN	48												25				
	YELLOW CLEARANCE		3												3			
	RED CLEARANCE			2			4			5						2		
	WALK INTERVAL				8			8*			8							
	PED. CLEARANCE					6			5**			5**						
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK				
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF				
PROGRAM/COORDINATION																		
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS												HOURS OF OPERATION			
			ø1,ø3			ø2,ø3,ø4			ø4,ø5									
1	90	78	43			18			29						ALL OTHER TIMES			
2	100	14	53			18			29						6:00 A.M. TO 10:00 A.M.			
3	100	52	52			18			30						2:30 P.M. TO 7:00 P.M.			
COORDINATED OPERATION																		

PROGRAMMED FLASH																		
3:00 A.M. TO 6:00 A.M.																		
LOOP DETECTOR DATA								CLEARANCES								TECHNICAL NOTES		
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO							* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.	
									G	G	R	-	-	-	W	DW		
									R	-	R	-	-	-	-	-		
									-	-	-	-	-	-	-	-		
									W	-	-	-	-	-	W	FDW		
									DW	-	-	-	-	-	-	DW		

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
HIGH STREET & PURCHASE STREET
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 7004
SCALE: NOT TO SCALE AREA: 13
DISTRICT: - DESIGN DATE: OCT. 2009

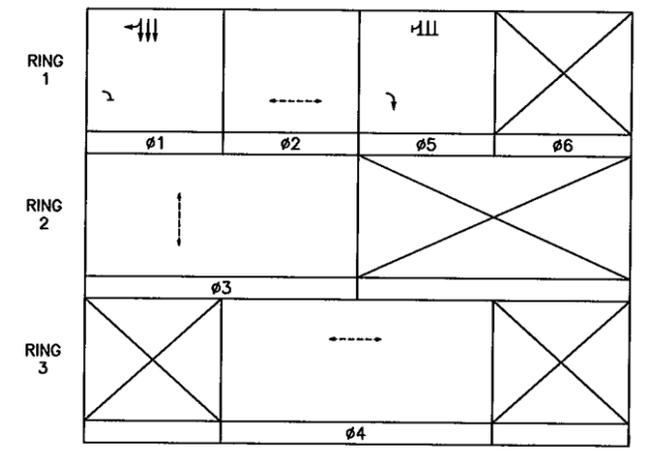
DESIGNED BY A. SIU
DRAWN BY K. CHRONLEY
CHECKED BY D. MATTON

HOWARD/STEIN-HUDSON ASSOCIATES
Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

TIMING AND SEQUENCE CHART																			
		ø1			ø2			ø3			ø4			ø5			OPERATION FLASHING		
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
SURFACE RD/SB/6A,6B,6C		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
BROAD ST/EB/3A,4A,7A		R	R	R	R	R	R	R	R	R	R	R	R	GR	YR	R	FR		
C.W./N-S/7E,8E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./E-W/2E,8F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF		
C.W./E-W/5E,7F		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
I N T E R V A L S	MINIMUM GREEN	8												8					
	VEHICLE EXTENSION	2												2					
	MAXIMUM 1 GREEN	55												21					
	MAXIMUM 2 GREEN	48												22					
	YELLOW CLEARANCE		3												3				
	RED CLEARANCE			3			4			6			4			1			
	WALK INTERVAL				8			8*			8								
	PED. CLEARANCE								8**			5**							
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						
RECALL (VEH./PED.)	MAX			OFF			PED			OFF			OFF						
PROGRAM/COORDINATION																			
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS												HOURS OF OPERATION				
			ø1,ø3			ø2,ø3,ø4			ø4,ø5										
1	90	74	42			22			26						ALL OTHER TIMES				
2	100	0	53			22			25						6:00 A.M. TO 10:00 A.M.				
3	100	46	54			22			24						2:30 P.M. TO 7:00 P.M.				
COORDINATED OPERATION																			
PROGRAMMED FLASH																			
EVERYDAY																			
3:00 A.M. TO 6:00 A.M.																			
LOOP DETECTOR DATA								CLEARANCES						TECHNICAL NOTES					
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO						* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.			
									G	G	R	-	-	-	W				DW
									G	G	Y	-	-	-	-				-
									GR	-	YR	-	-	-	-				-
									R	-	R	-	-	-	-				-
									-	-	-	-	-	-	-				-
									W	-	-	-	-	-	W	FDW			
									DW	-	-	-	-	-	-	DW			

S/P = SERIES/PARALLEL

PHASING DIAGRAM



BTD
BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
DRAWN BY K. CHRONLEY
CHECKED BY D. MATTON

Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
BROAD STREET & SURFACE ROAD
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 4104

SCALE: NOT TO SCALE AREA: 13
DISTRICT: - DESIGN DATE: OCT. 2009

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: East India Row and Atlantic Avenue

DESIGN DATE: 10/02/2009

INTERSECTION No.: 2007

DATE FIRST IN SERVICE: _____

SECTION No.: 13

PHASE 1

CLEARANCE TABLE

		TO							FOR FUTURE USE		FLASH OPERATION
	G	R	-	-	W	DW					
FROM	G	Y	-	-	-	-					
	R	R	-	-	-	-					
	-	-	-	-	-	-					
	W	-	-	-	W	FDW					
	DW	-	-	-	-	DW					

STREET	DIR	FACE	Ø1,Ø3			Ø2,Ø3,Ø4			Ø4,Ø5			
ATLANTIC AVE	NB	3A,3B,6A	G	Y	R				R	R	R	FY
EAST INDIA ROW	WB	2A,2B	R	R	R				G	Y	R	FR
CROSSWALK	N/S	2E,6E,4E,5F	W/ FDW	DW	DW				DW	DW	DW	OFF
CROSSWALK	E/W	2F,4F,5E,6F	DW	DW	DW				W/ FDW	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	8					8				
VEHICLE EXTENSION	2					2				
MAXIMUM #1 GREEN	50					36				
MAXIMUM #2 GREEN	56					37				
YELLOW CLEARANCE		3					3			
RED CLEARANCE			2					2		
WALK INTERVAL	16*					17				
PEDESTRIAN CLEARANCE	5**					5**				
MEMORY	NON-LOCK			NON-LOCK						
RECALL (VEH/PED)	MAX			OFF						

*Ø1 PED SHALL REST IN WALK
 ** PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

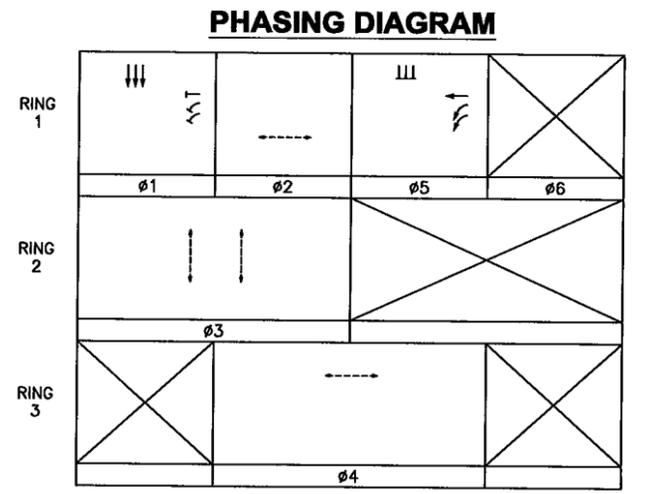
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø5	HOURS OF OPERATION
1	90	21	48	42	ALL OTHER TIMES
2	100	45	58	42	6:00AM - 10:00AM
3	100	8	61	39	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	3:00AM - 6:00AM

TIMING AND SEQUENCE CHART																	
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION FLASHING
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
SASB/SB/5B,8A,8B		GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
INDIA ST/WB/5A,7A		R	R	R	R	R	R	R	R	R	R	R	R	GL	YL	R	FR
INDIA ST/WB/8D		R	R	R	R	R	R	R	R	R	R	R	R	GV	Y	R	FR
C.W./N-S/2E,3F,4E,5E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/3E,4F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF
C.W./E-W/5F,6E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF

PROGRAM/COORDINATION																		
CYCLE NO.		CYCLE LENGTH		OFFSET (SEC.)		PHASE SPLITS IN SECONDS											HOURS OF OPERATION	
						ø1,ø3			ø2,ø3,ø4			ø4,ø5						
1		90		68		38			20			32			ALL OTHER TIMES			
2		100		8		47			20			33			6:00 A.M. TO 10:00 A.M.			
3		100		48		44			20			36			2:30 P.M. TO 7:00 P.M.			
COORDINATED OPERATION																		
PROGRAMMED FLASH																		

LOOP DETECTOR DATA										CLEARANCES								TECHNICAL NOTES	
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	#CALL	#EXT.	CHNL.		FROM	TO								
										G	R	-	-	-	W	DW			
										G	G	Y	-	-	-	-	-		
										GL	-	YL	-	-	-	-	-		
										GV	-	Y	-	-	-	-	-		
										R	-	R	-	-	-	-	-		
										-	-	-	-	-	-	-	-		
										W	-	-	-	-	-	W	FDW		
										DW	-	-	-	-	-	-	DW		

S/P = SERIES/PARALLEL



BTD
BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
DRAWN BY K. CHRONLEY
CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
INDIA STREET & SURFACE ARTERY
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 2259

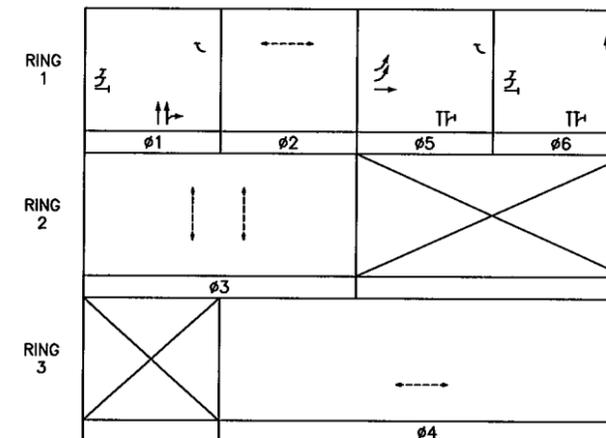
SCALE: NOT TO SCALE
DISTRICT: --
AREA: 13
DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

		TIMING AND SEQUENCE CHART																		OPERATION FLASHING		
		ϕ1			ϕ2			ϕ3			ϕ4			ϕ5			ϕ6					
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
ATLANTIC/NB/3A,3B,3C		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
MILK ST/EB/4B,4C		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR		
MILK ST/EB/4A		R	R	R	R	R	R	R	R	R	R	R	R	GL/G	Y	R	R	R	R	FR		
MILK ST/WB/2A,2B		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	GR	YR	R	FR		
C.W./N-S/2E,3F,4F,5F		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./E-W/4E,5E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./E-W/2F,3E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
I N T E R V A L S S E C O N D S	MINIMUM GREEN	8												8			8					
	VEHICLE EXTENSION	2												2			2					
	MAXIMUM 1 GREEN	44												20			11					
	MAXIMUM 2 GREEN	43												24			11					
	YELLOW CLEARANCE		3												3			3				
	RED CLEARANCE			2			4			5			5			2			2			
	WALK INTERVAL				8			8*			8											
	PED. CLEARANCE					7			5**			5**										
	MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK							
	RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF							
PROGRAM/COORDINATION																						
CYCLE NO.		CYCLE LENGTH		OFFSET (SEC.)		PHASE SPLITS IN SECONDS															HOURS OF OPERATION	
						ϕ1,ϕ3			ϕ2,ϕ3,ϕ4			ϕ4,ϕ5			ϕ4,ϕ6							
1		90		14		38			19			17			16			ALL OTHER TIMES				
2		100		36		36			19			29			16			6:00 A.M. TO 10:00 A.M.				
3		100		33		48			19			18			15			2:30 P.M. TO 7:00 P.M.				
COORDINATED OPERATION		EVERYDAY																				
PROGRAMMED FLASH		3:00 A.M. TO 6:00 A.M.																				
LOOP DETECTOR DATA									CLEARANCES									TECHNICAL NOTES				
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	ØCALL	ØEXT.	CHNL.	FROM	TO								* ϕ3 PED SHALL REST IN WALK DURING CO-ORD ϕ1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.				
									G	G	GL/G	R	-	-	W	DW						
									G	-	-	Y	-	-	-	-						
									GL/G	YL/G	GL/G	YL/Y	-	-	-	-						
									GR	-	-	YR	-	-	-	-						
									R	-	-	R	-	-	-	-						
									-	-	-	-	-	-	-	-						
									W	-	-	-	-	-	W	FDW						
									DW	-	-	-	-	-	-	DW						

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
MILK STREET & ATLANTIC AVE
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 2006

DESIGNED BY A. SIU
 DRAWN BY K. CHRONLEY
 CHECKED BY D. MATTON

SCALE: NOT TO SCALE AREA: 13
 DISTRICT: - DESIGN DATE: OCT. 2009

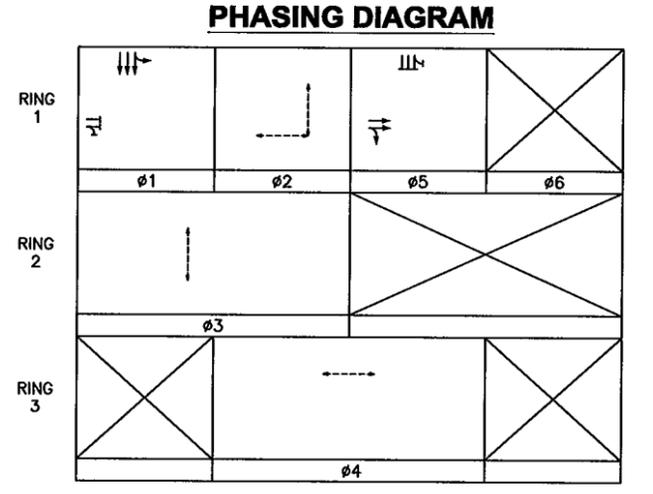
HOWARD/STEIN-HUDSON ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

TIMING AND SEQUENCE CHART																	
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
SASB/SB/3C,4A,4B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
MILK ST/EB/3A,3B,3D		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR
C.W./N-S/4F,5F		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/2F,3E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/3F,4E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/2E,5E		DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	OFF

PROGRAM/COORDINATION						
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS			HOURS OF OPERATION
			ø1,ø3	ø2,ø3,ø4	ø4,ø5	
1	90	67	41	18	31	ALL OTHER TIMES
2	100	2	53	18	29	6:00 A.M. TO 10:00 A.M.
3	100	36	48	18	34	2:30 P.M. TO 7:00 P.M.
COORDINATED OPERATION						
PROGRAMMED FLASH						

LOOP DETECTOR DATA									CLEARANCES								TECHNICAL NOTES					
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO								* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.				
									G	R	-	-	-	W	DW							
									G	G	R	-	-	-	-	-						
									R	-	R	-	-	-	-	-						
									-	-	-	-	-	-	-	-						
									-	-	-	-	-	-	-	-						
									W	-	-	-	-	-	W	FDW						
									DW	-	-	-	-	-	-	DW						

S/P = SERIES/PARALLEL



DESIGNED BY A. SIU
 DRAWN BY K. CHRONLEY
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
MILK STREET & SURFACE ARTERY
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 1052

SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 13
 DESIGN DATE: OCT. 2009

HOWARD/STEIN-HUDSON ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: State Street and Atlantic Avenue

DESIGN DATE: 10/02/2009

INTERSECTION No.: 2023

DATE FIRST IN SERVICE: _____

SECTION No.: 13

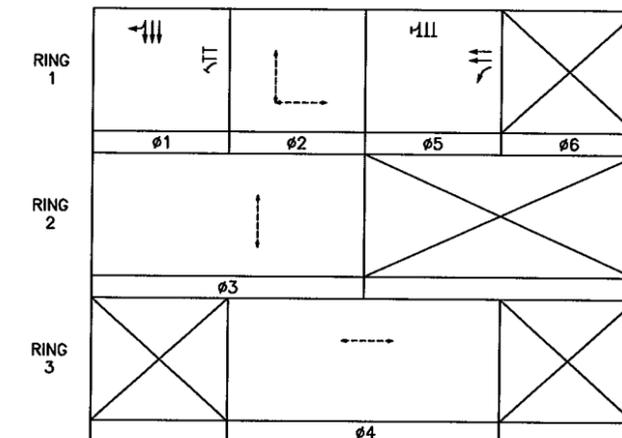
PHASE 1

CLEARANCE TABLE							↑↑↑	TTT			FLASH OPERATION
		TO									
		G	GV	R	-	W	DW				
FROM	G	G	-	Y	-	-	-				
	GV	-	GV	Y	-	-	-				
	R	-	-	R	-	-	-				
	-	-	-	-	-	-	-				
	W	-	-	-	-	W	FDW				
DW	-	-	-	-	-	DW					
STREET	DIR	FACE		Ø1,Ø3			Ø4,Ø5				
ATLANTIC AVE	NB	3A,3B,7A		G	Y	R	R	R	R		FY
ATLANTIC AVE	NB	5A,5B,6A		GV	Y	R	R	R	R		FY
STATE STREET	WB	2A,2B,3C		R	R	R	G	Y	R		FR
CROSSWALK	N/S	2E,3E		W/ FDW	DW	DW	DW	DW	DW		OFF
CROSSWALK	N/S	7F,8E		W/ FDW	DW	DW	DW	DW	DW		OFF
CROSSWALK	E/W	2F,3F,7E,8F		DW	DW	DW	W/ FDW	DW	DW		OFF
WALK TO SEA	E/W	4E,6E		DW	DW	DW	W/ FDW	DW	DW		OFF
TIMING IN SECONDS											
MINIMUM GREEN				8			8				
VEHICLE EXTENSION				2			2				
MAXIMUM #1 GREEN				50			35				
MAXIMUM #2 GREEN				46			44				
YELLOW CLEARANCE					3			3			
RED CLEARANCE						2			2		
WALK INTERVAL				8*			8				
PEDESTRIAN CLEARANCE				5**			5**				
MEMORY				NON-LOCK			NON-LOCK				
RECALL (VEH/PED)				MAX			OFF				
*Ø1 PED SHALL REST IN WALK ** PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS											
COORDINATION INFORMATION (TIMES IN SECONDS)											
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø5						HOURS OF OPERATION	
1	90	41	46	44						ALL OTHER TIMES	
2	100	65	51	49						6:00AM - 10:00AM	
3	100	40	51	49						2:30PM - 7:00PM	
FLASH OPERATION		-	-	-						3:00AM - 6:00AM	

TIMING AND SEQUENCE CHART																					
 (APPROX.) STATE STREET SURFACE AVENUE		←			L						→						OPERATION				
		ø1			ø2			ø3			ø4			ø5							
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL					
SASB/SB/4A,4B,4D		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R					
STATE ST/WB/4C,5A,5B		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R					
C.W./N-S/2E,3E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW			OFF		
C.W./N-S/4F,5E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF		
C.W./E-W/3F,4E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF		
C.W./E-W/2F,6E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW			OFF		
I N S E C O N D S R V I C E S	MINIMUM GREEN	8												8							
	VEHICLE EXTENSION	2												2							
	MAXIMUM 1 GREEN	50												27							
	MAXIMUM 2 GREEN	48												27							
	YELLOW CLEARANCE		3												3						
	RED CLEARANCE			2			4			5			5			2					
	WALK INTERVAL				8			8*			8										
	PED. CLEARANCE					7			5**			5**									
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK								
RECALL (VEH./PED.)	MAX			OFF			PED			OFF			OFF								
PROGRAM/COORDINATION																					
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1,ø3			ø2,ø3,ø4			ø4,ø5						HOURS OF OPERATION						
1	90	61	39			19			32						ALL OTHER TIMES						
2	100	91	53			19			28						6:00 A.M. TO 10:00 A.M.						
3	100	39	46			19			35						2:30 P.M. TO 7:00 P.M.						
COORDINATED OPERATION																					
PROGRAMMED FLASH																					
3:00 A.M. TO 6:00 A.M.																					
LOOP DETECTOR DATA							CLEARANCES					TECHNICAL NOTES									
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	#CALL	#EXT.	CHNL.	FROM	TO				* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.							
									G	G	R	-	-						-	W	DW
									R	-	R	-	-						-	-	-
									-	-	-	-	-						-	-	-
									-	-	-	-	-						-	-	-
									W	-	-	-	-	-	W	FDW					
									DW	-	-	-	-	-	-	DW					

S/P = SERIES/PARALLEL

PHASING DIAGRAM



BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
 DRAWN BY K. CHRONLEY
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
STATE STREET & SURFACE ARTERY
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 4106

SCALE: NOT TO SCALE AREA: 13
 DISTRICT: - DESIGN DATE: OCT. 2009

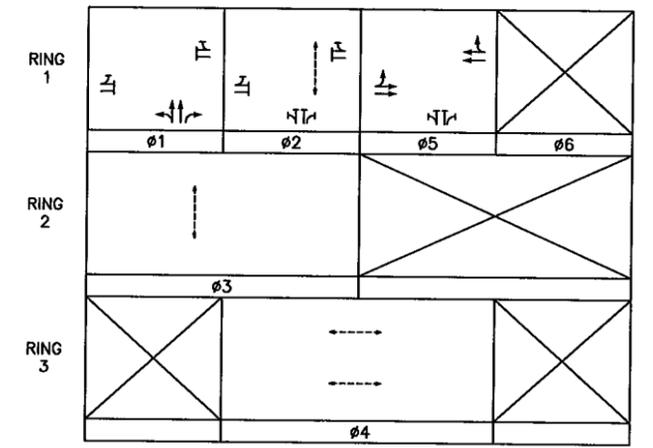
HOWARD/STEIN-HUDSON ASSOCIATES
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

TIMING AND SEQUENCE CHART																			
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION FLASHING		
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
ATLANTIC/NB/3A,3B,3C,4C		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
MERCANTILE/EB/4A,4B		R	R	R	R	R	R	R	R	R	R	R	G	Y	R		FR		
ATLANTIC/WB/2A,2B		R	R	R	R	R	R	R	R	R	R	R	G	Y	R		FR		
C.W./N-S/2E,5E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW		OFF		
C.W./N-S/3E,4E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW		OFF		
C.W./E-W/4F,5F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW		OFF		
C.W./E-W/2F,3F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW		OFF		
MINUTE SECONDS	MINIMUM GREEN	8											8						
	VEHICLE EXTENSION	2											2						
	MAXIMUM 1 GREEN	47											29						
	MAXIMUM 2 GREEN	40											33						
	YELLOW CLEARANCE		3											3					
	RED CLEARANCE			2			4			5					5				
	WALK INTERVAL					8				8*				8					
	PED. CLEARANCE						11				10**				6**				
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						
RECALL (VEH./PED.)	MAX			OFF			PED			OFF			OFF						
PROGRAM/COORDINATION																			
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1,ø3			ø2,ø3,ø4			ø4,ø5						HOURS OF OPERATION				
1	90	42	35			23			32						ALL OTHER TIMES				
2	100	64	39			23			38						6:00 A.M. TO 10:00 A.M.				
3	100	48	45			23			32						2:30 P.M. TO 7:00 P.M.				
COORDINATED OPERATION																			

PROGRAMMED FLASH																			
3:00 A.M. TO 6:00 A.M.																			
LOOP DETECTOR DATA								CLEARANCES						TECHNICAL NOTES					
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO						* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.			
									G	G	R	-	-	-	W				DW
									G	G	Y	-	-	-	-				-
									R	-	R	-	-	-	-				-
									-	-	-	-	-	-	-				-
									-	-	-	-	-	-	-				-
									W	-	-	-	-	-	W	FDW			
									DW	-	-	-	-	-	-	DW			

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
ATLANTIC AVE & CROSS STREET
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 7002
 SCALE: NOT TO SCALE AREA: 13
 DISTRICT: - DESIGN DATE: OCT. 2009

DESIGNED BY A. SIU
 DRAWN BY K. CHRONLEY
 CHECKED BY D. MATTON

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Mercantile Street and Surface Road

DESIGN DATE: 10/02/2009

INTERSECTION No.: 4117

DATE FIRST IN SERVICE: _____

SECTION No.: 13

PHASE 1

CLEARANCE TABLE														FLASH OPERATION	
		TO													
		G	GL	GV	R	W	DW								
FROM	G	G	-	-	Y	-	-								
	GL	-	GL	-	YL	-	-								
	GV	-	-	GV	Y	-	-								
	R	-	-	-	R	-	-								
	W	-	-	-	-	W	FDW								
DW	-	-	-	-	-	DW									
STREET	DIR	FACE						Ø1		Ø5					
SURFACE ROAD	SB	3A,3B,3C						GV	Y	R	R	R	R		FY
SURFACE ROAD	SB	4A,4B,4D						G	Y	R	R	R	R		FY
MERCANTILE ST	WB	4C,5A						R	R	R	GL	YL	R		FR
CROSSWALK	N/S	6E,7E						W/ FDW	DW	DW	DW	DW	DW		OFF
WALK TO SEA	E/W	2E,3E						DW	DW	DW	W/ FDW	DW	DW		OFF
TIMING IN SECONDS															
MINIMUM GREEN							8			8					
VEHICLE EXTENSION							2			2					
MAXIMUM #1 GREEN							51			35					
MAXIMUM #2 GREEN							60			40					
YELLOW CLEARANCE								3			3				
RED CLEARANCE									2			2			
WALK INTERVAL							8*			8					
PEDESTRIAN CLEARANCE							5**			5**					
MEMORY							NON-LOCK		NON-LOCK						
RECALL (VEH/PED)							MAX		OFF						
*Ø1 PED SHALL REST IN WALK															
** PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS															
COORDINATION INFORMATION (TIMES IN SECONDS)															
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø5			HOURS OF OPERATION								
1	90	61	48	42			ALL OTHER TIMES								
2	100	80	65	35			6:00AM - 10:00AM								
3	100	49	55	45			2:30PM - 7:00PM								
FLASH OPERATION		-	-	-			3:00AM - 6:00AM								

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Commercial Street and Cross Street

DESIGN DATE: 10/2009

INTERSECTION No.: 290

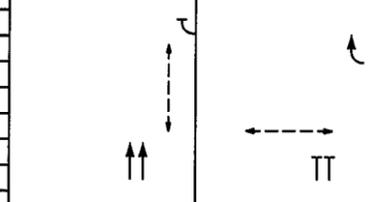
DATE FIRST IN SERVICE: _____

SECTION No.: 13

PHASE 1

CLEARANCE TABLE

		TO												FLASH OPERATION
		G	GR	GV	R	W	DW							
FROM	G	G	-	-	Y	-	-							
	GR	-	GR	-	YR	-	-							
	GV	-	-	GV	Y	-	-							
	R	-	-	-	R	-	-							
	W	-	-	-	-	W	FDW							
	DW	-	-	-	-	-	DW							



STREET	DIR	FACE	Ø1			Ø5										
CROSS STREET	NB	3A,5A,5B	GV	Y	R	R	R	R								FY
COMMERCIAL ST	WB	4A,5C	R	R	R	GR	YR	R								FR
CROSSWALK	N/S	2F,6E	W/ FDW	DW	DW	DW	DW	DW								OFF
CROSSWALK	E/W	2E,3E	DW	DW	DW	W/ FDW	DW	DW								OFF

TIMING IN SECONDS

MINIMUM GREEN	8			8									
VEHICLE EXTENSION	2			2									
MAXIMUM #1 GREEN	50			30									
MAXIMUM #2 GREEN	52			45									
YELLOW CLEARANCE			3			3							
RED CLEARANCE				1			1						
WALK INTERVAL	8*			10									
PEDESTRIAN CLEARANCE	5**			5**									
MEMORY			OFF			NON-LOCK							
RECALL (VEH/PED)			MAX			OFF							

*Ø1 PED SHALL REST IN WALK
 ** PED INDICATIONS SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

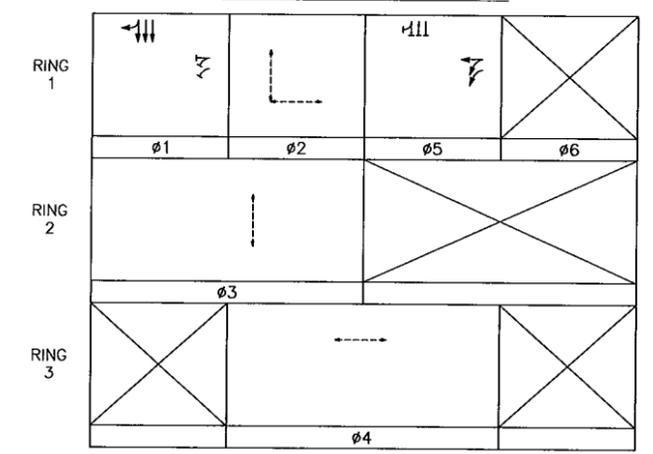
COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø5			HOURS OF OPERATION
1	90	63	45	45			ALL OTHER TIMES
2	100	73	51	49			6:00AM - 10:00AM
3	100	43	56	44			2:30PM - 7:00PM
FLASH OPERATION		-	-	-			3:00AM - 6:00AM

TIMING AND SEQUENCE CHART																		
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION	
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL		
SUFRACE/SB/6A,6B,6G		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY	
I-93 RAMP/WB/4A,6A,6D,7A		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR	
C.W./N-S/3E,4E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./N-S/7E,8E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./E-W/4F,5E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./E-W/2E,8F		DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	OFF	
I N T E R S E C O N D S R E A L	MINIMUM GREEN	8	/			/			/			/			8	/		
	VEHICLE EXTENSION	2	/			/			/			/			2	/		
	MAXIMUM 1 GREEN	42	/			/			/			/			30	/		
	MAXIMUM 2 GREEN	36	/			/			/			/			37	/		
	YELLOW CLEARANCE		3	/			/			/			/				/	
	RED CLEARANCE			3	/			/			/				3	3		
	WALK INTERVAL				10		4		10*		6		8		6		3	
	PED. CLEARANCE					10			7**				5**					
	MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			
	RECALL (VEH./PED.)		MAX.			OFF			PED			OFF			OFF			
PROGRAM/COORDINATION																		
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS												HOURS OF OPERATION			
			ø1,ø3			ø2,ø3,ø4			ø4,ø5									
1	90	66	36			24			30						ALL OTHER TIMES			
2	100	2	33			24			43						6:00 A.M. TO 10:00 A.M.			
3	100	27	42			24			34						2:30 P.M. TO 7:00 P.M.			
COORDINATED OPERATION																		
PROGRAMMED FLASH																		
EMERGENCY/CONFLICT																		
LOOP DETECTOR DATA									CLEARANCES						TECHNICAL NOTES			
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO						* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.		
									G	R	-	-	-	W	DW			
									G	G	Y	-	-	-	-			
									R	-	R	-	-	-	-			
									-	-	-	-	-	-	-			
									-	-	-	-	-	-	-			
									W	-	-	-	-	W	FDW			
									DW	-	-	-	-	-	DW			

S/P = SERIES/PARALLEL

PHASING DIAGRAM



BID
BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
DRAWN BY A. SIU
CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
CLINTON STREET & SURFACE ROAD
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 1960

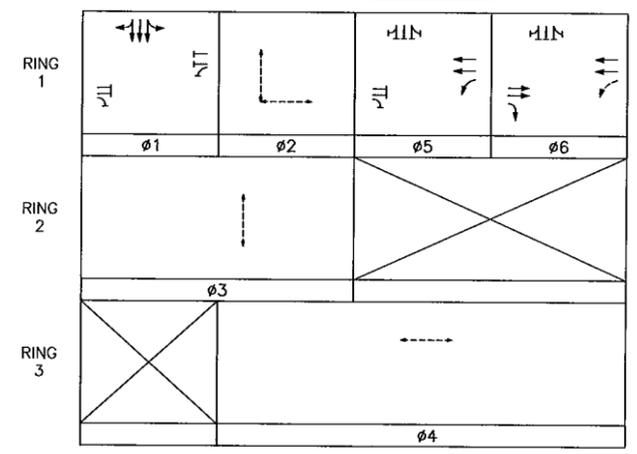
SCALE: NOT TO SCALE
DISTRICT: -
AREA: 13
DESIGN DATE: OCT. 2009

HOWARD Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

		TIMING AND SEQUENCE CHART																		OPERATION FLASHING							
		ø1			ø2			ø3			ø4			ø5			ø6										
STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL						
SURFACE/SB/6B,7A,7C	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY					
KNEELAND/EB/4A,5A,6A,7B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	FR				
KNEELAND/WB/9B,9C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	FR					
KNEELAND/WB/9A	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	GL/G	YL/Y	R	G	Y	R	FR					
C.W./N-S/4E,5E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF					
C.W./E-W/2E,3E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF					
C.W./-/6E,7E,8E,9E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF					
INTERSECTIONS	MINIMUM GREEN	8											4			8											
	VEHICLE EXTENSION	2											2			2											
	MAXIMUM 1 GREEN	38											7			30											
	MAXIMUM 2 GREEN	31											7			32											
	YELLOW CLEARANCE		3											3			3										
	RED CLEARANCE			3			4			6			6			3		3				3					
	WALK INTERVAL				7			7*			7			7													
	PED. CLEARANCE					13			9**			7**															
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK											
RECALL (VEH./PED.)	MAX.			OFF			PED			OFF			OFF			MIN											
PROGRAM/COORDINATION																											
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS															HOURS OF OPERATION									
			ø1,ø3	ø2,ø3,ø4	ø4,ø5	ø4,ø6																					
1	90	34	30	24	11	25																ALL OTHER TIMES					
2	100	67	28	24	10	38																6:00 A.M. TO 10:00 A.M.					
3	100	4	37	24	13	26																2:30 P.M. TO 7:00 P.M.					
COORDINATED OPERATION																						EVERYDAY					
PROGRAMMED FLASH																						3:00 A.M. TO 6:00 A.M.					
LOOP DETECTOR DATA						CLEARANCES						TECHNICAL NOTES															
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO					* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1												
									G	G	GL/G	R	-	-	W	DW	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.										
									GL/G	YL/G	GL/G	YL/Y	-	-	-	-											
									R	-	-	R	-	-	-	-											
									-	-	-	-	-	-	-	-											
									W	-	-	-	-	-	W	FDW											
									DW	-	-	-	-	-	-	DW											

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
KNEELAND STREET & SASB

PHASE 1
BOSTON PROPER

INTERSECTION NUMBER 1290

DESIGNED BY A. SIU
DRAWN BY A. SIU
CHECKED BY D. MATTON

SCALE: NOT TO SCALE
DISTRICT: -

AREA: 11
DESIGN DATE: OCT. 2009

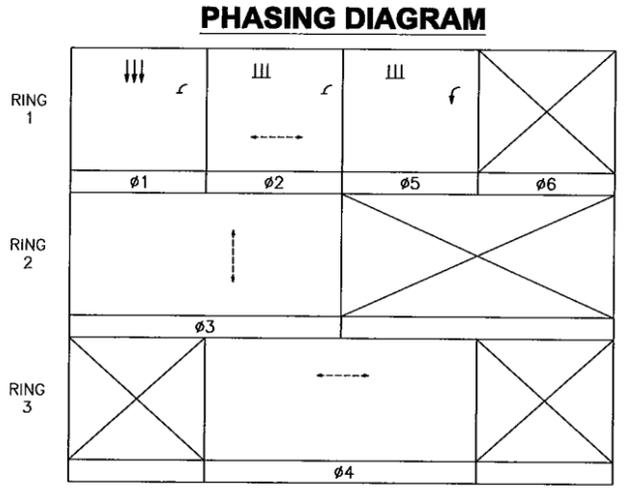
Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

TIMING AND SEQUENCE CHART																	
(APPROX.)		III			-----			I			III			III			OPERATION
		φ1			φ2			φ3			φ4			φ5			
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
SASB/SB/4A,5B,6B		GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
BEACH ST/WB/3A,5A,6A		R	R	R	R	R	R	R	R	R	R	R	R	GL	Y	R	FR
C.W./E-W/4E,5E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/2E,3E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/6E,7E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF

I N T E R V A L	SECONDS	PROGRAM/COORDINATION														
		PHASE SPLITS IN SECONDS														
		φ1,φ3			φ2,φ3,φ4			φ4,φ5						HOURS OF OPERATION		
MINIMUM GREEN	8	/			/			/			/			ALL OTHER TIMES		
VEHICLE EXTENSION	2	/			/			/			/			6:00 A.M. TO 10:00 A.M.		
MAXIMUM 1 GREEN	52	/			/			/			/			2:30 P.M. TO 7:00 P.M.		
MAXIMUM 2 GREEN	55	/			/			/			/					
YELLOW CLEARANCE	3	/			/			/			/					
RED CLEARANCE		2			4			5			5					
WALK INTERVAL		7			6			7*			5**					
PED. CLEARANCE					6			5**			5**					
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK		
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF		

LOOP DETECTOR DATA										CLEARANCES								TECHNICAL NOTES	
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	φCALL	φEXT.	CHNL.		FROM	TO								
										G	G	GL	GV	R	-	W	DW	* φ3 PED SHALL REST IN WALK DURING CO-ORD φ1	
										G	G	-	-	Y	-	-	-	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.	
										GL	-	GL	-	YL	-	-	-		
										GV	-	-	GV	Y	-	-	-		
										R	-	-	-	R	-	-	-		
										-	-	-	-	-	-	-	-		
										W	-	-	-	-	-	W	FDW		
										DW	-	-	-	-	-	-	DW		

S/P = SERIES/PARALLEL



BTD
BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
DRAWN BY A. SIU
CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
BEACH STREET & SURFACE ARTERY
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 1292

SCALE: NOT TO SCALE
DISTRICT: -
AREA: 11
DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

TIMING AND SEQUENCE CHART

(APPROX.)

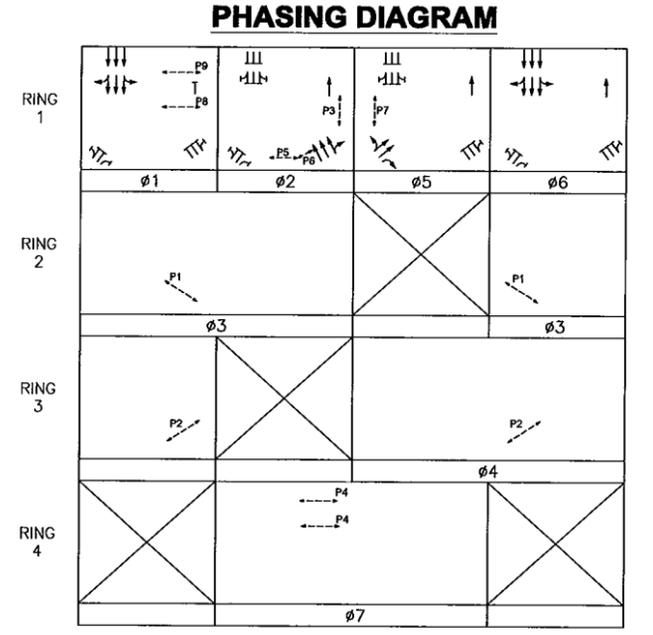
STREET/DIRECTION/FACE	ø1			ø2			ø3			ø4			ø5			ø6			ø7			OPERATION FLASHING		
	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL		GRN	CL
SASB/SB/4A,10A,13A	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R			FR
SASB/SB/19A,20A,22A	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R			FR
ESSEX/EB/2A,3A,4C,6A,10B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R			FR
RAMP R-T/NB/16A,16B,18A	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	R			FR
LINCOLN/NB/4B,11A,12A	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			FR
C.W./P1/9E,10E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./P2/3F,5E	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./P3/2E,3E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./P4/13E,14F,19E,21E	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW		OFF
C.W./P5/7F,8E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./P6/6E,7E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./P7/11E,12E	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./P8/14E,15E	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./P9/17E,18E	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF

MINIMUM GREEN	VEHICLE EXTENSION	MAXIMUM 1 GREEN	MAXIMUM 2 GREEN	YELLOW CLEARANCE	RED CLEARANCE	WALK INTERVAL	PED. CLEARANCE	PROGRAM/COORDINATION						
								ø1,ø3,ø4	ø2,ø3,ø7	ø4,ø5,ø7	ø3,ø4,ø6	ø5	ø6	ø7
8	2	20	21	3	3	7	5**	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK
2	2	22	22	3	4	7*	5**	MAX	OFF	PED	OFF	OFF	MAX	OFF

CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS				HOURS OF OPERATION
			ø1,ø3,ø4	ø2,ø3,ø7	ø4,ø5,ø7	ø3,ø4,ø6	
1	90	21	25	29	26	10	ALL OTHER TIMES
2	100	59	27	29	34	10	6:00 A.M. TO 10:00 A.M.
3	100	98	26	29	35	10	2:30 P.M. TO 7:00 P.M.
COORDINATED OPERATION							EVERYDAY
PROGRAMMED FLASH							EMERGENCY/CONFLICT

LOOP DETECTOR DATA								CLEARANCES				TECHNICAL NOTES			
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	#CALL	#EXT.	CHNL.	FROM	TO					
									G	G	R	Y	W	DW	* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1
									R	G	R	Y	W	DW	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE
															YELLOW AND RED CLEARANCE INTERVALS.
															- PHASE 4 SHALL BE CONCURRENT AS SHOWN AND SHALL RUN AS AN OVERLAP DURING PHASES 5 & 6
															- PHASE 3 SHALL BE CONCURRENT AS SHOWN AND SHALL RUN AS AN OVERLAP DURING PHASES 2 & 6
															- PHASE 7 SHALL BE CONCURRENT AS SHOWN AND SHALL RUN AS AN OVERLAP DURING PHASE 2
															- P5 AND P6 SHALL DISPLAY DW FOR THE FIRST 3 SECONDS OF PHASE 2

S/P = SERIES/PARALLEL



BTD
BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING

ESSEX ST. & LINCOLN ST. & SASB

BOSTON PROPER
INTERSECTION NUMBER 1291

SCALE: NOT TO SCALE AREA: 11
 DISTRICT: - DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

TIMING AND SEQUENCE CHART

(APPROX.)
SUMMER STREET

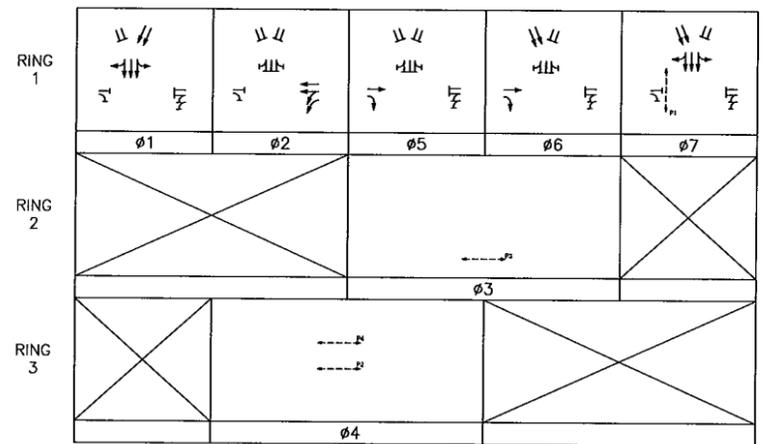
STREET/DIRECTION/FACE	ø1			ø2			ø5			ø6			ø7			ø4			ø3			OPERATION	
	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL														
RAMP R-R/SB/2A,3B,12B	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	
PURCHASE/SB/7B,8A,10A	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	
PURCHASE/SB/3A,12A,13A	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	FR	
SUMMER/EB/6B,7A,10C	R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	FR	
SUMMER/WB/5A,6A,9A,10D	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	
SUMMER/WB/10B	R	R	R	GL	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	
C.W./P1/9E,10E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	OFF										
C.W./P2/4E,11E	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF													
C.W./P3/7E,8E	DW	DW	DW	DW	DW	DW	W	FDW	DW	OFF													
C.W./P4/3E,12E	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF													
MINIMUM GREEN VEHICLE EXTENSION MAXIMUM 1 GREEN MAXIMUM 2 GREEN YELLOW CLEARANCE RED CLEARANCE WALK INTERVAL PED. CLEARANCE	10			10			8			1			8			-			-				
	2			2			2			2			2			-			-				
	20			25			8			1			20			-			-				
	24			29			9			1			22			-			-				
	3			3			3			3			3										
			3			4			2			2			3			5			5		
													7			7			5**			7	6**
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK																
RECALL (VEH./PED.)	MAX			OFF			OFF																

CYCLE NO.		CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS					HOURS OF OPERATION	
				ø1	ø2,ø4	ø3,ø4,ø5	ø3,ø6	ø7		
1	90	39		22	21	13	6	28	ALL OTHER TIMES	
2	100	5		23	36	13	6	22	6:00 A.M. TO 10:00 A.M.	
3	100	56		30	26	14	6	24	2:30 P.M. TO 7:00 P.M.	

LOOP DETECTOR DATA										CLEARANCES										TECHNICAL NOTES	
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	#CALL	#EXT.	CHNL.		FROM	TO										
										G	G	R	-	-	-	-	-	-	W	DW	
										G	G	Y	-	-	-	-	-	-	-	-	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.
										GL	-	YL	-	-	-	-	-	-	-	-	
										R	-	R	-	-	-	-	-	-	-	-	
										-	-	-	-	-	-	-	-	-	-	-	
										-	-	-	-	-	-	-	-	-	-	-	
										W	-	-	-	-	-	-	-	W	FDW		
										DW	-	-	-	-	-	-	-	-	DW		

S/P = SERIES/PARALLEL

PHASING DIAGRAM



BOSTON TRANSPORTATION DEPARTMENT

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING

SUMMER ST. & PURCHASE ST.

BOSTON PROPER
INTERSECTION NUMBER 3012

DESIGNED BY A. SIU

DRAWN BY A. SIU

CHECKED BY D. MATTON

SCALE: NOT TO SCALE

DISTRICT: -

AREA: 11

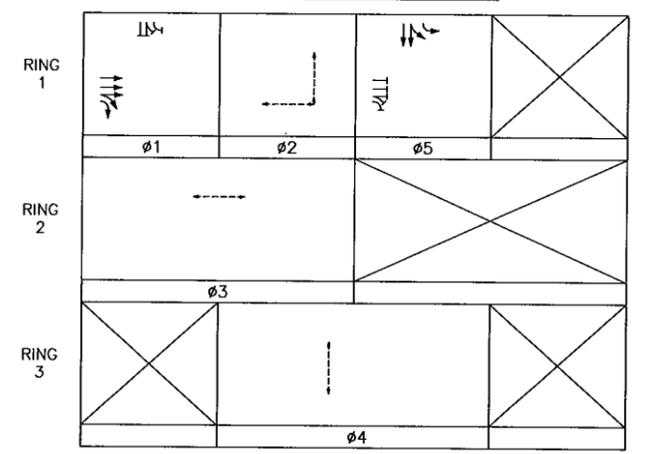
DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

TIMING AND SEQUENCE CHART																		
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION	
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL		
CONGRESS ST/EB/2A,4B,5B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	
PURCHASE ST/SB/4A,5A		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FY	
C.W./P1/8E,9E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./P2/6E,7E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF	
C.W./P3/2E,3E,4E,5E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
I N T E R V A L S	MINIMUM GREEN	8											8					
	VEHICLE EXTENSION	2											2					
	MAXIMUM 1 GREEN	38											38					
	MAXIMUM 2 GREEN	31											41					
	YELLOW CLEARANCE		3											3				
	RED CLEARANCE			3		4		5		6					3			
	WALK INTERVAL				7		4		5		7		6					
	PED. CLEARANCE					8		5**		6**								
MEMORY		NON-LOCK			LOCK			NON-LOCK			NON-LOCK			NON-LOCK				
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF				
PROGRAM/COORDINATION																		
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS												HOURS OF OPERATION			
			ø1,ø3			ø2,ø3,ø4			ø4,ø5									
1	90	63	31			19			40						ALL OTHER TIMES			
2	100	98	34			19			47						6:00 A.M. TO 10:00 A.M.			
3	100	6	37			19			44						2:30 P.M. TO 7:00 P.M.			
COORDINATED OPERATION															EVERYDAY			
PROGRAMMED FLASH															EMERGENCY/CONFLICT			
LOOP DETECTOR DATA									CLEARANCES						TECHNICAL NOTES			
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO						* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.		
									G	G	Y	-	-	-	W			DW
									R	-	R	-	-	-	-			-
									-	-	-	-	-	-	-			-
									-	-	-	-	-	-	-			-
									W	-	-	-	-	-	W	FDW		
									DW	-	-	-	-	-	-	DW		

S/P = SERIES/PARALLEL

PHASING DIAGRAM



BTD
BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
DRAWN BY A. SIU
CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
CONGRESS ST. & PURCHASE ST.
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 3055

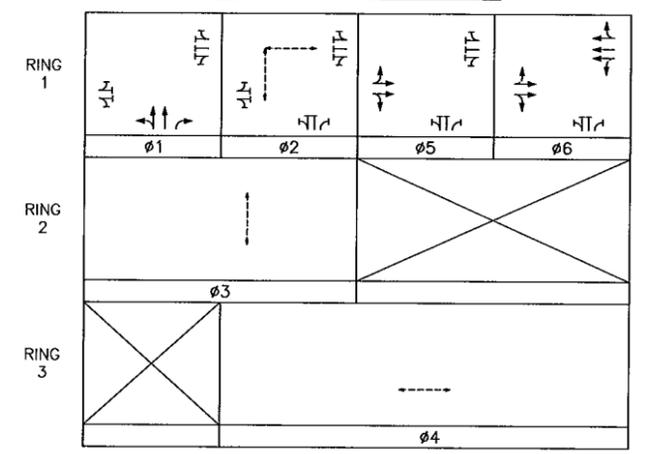
SCALE: NOT TO SCALE
DISTRICT: -
AREA: 13
DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417

		TIMING AND SEQUENCE CHART																		OPERATION FLASHING							
		ø1			ø2			ø3			ø4			ø5			ø6										
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL					
RAMP X/NB/4A		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY				
RAMP X/NB/4B		GL	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY				
KNEELAND ST/EB/6A		R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	G	Y	R	FR				
KNEELAND ST/EB/6B		R	R	R	R	R	R	R	R	R	R	R	R	GL/G	YL/Y	R	G	Y	R	G	Y	R	FR				
KNEELAND ST/WB/3A,3B		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	FR				
C.W./P1/5E,6E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF				
C.W./P2/2F,7E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF				
C.W./P3/2E,3E,3F,4E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF				
INTERSECTIONS	MINIMUM GREEN	8	/			/			/			/			8	/			8	/							
	VEHICLE EXTENSION	2	/			/			/			/			2	/			2	/							
	MAXIMUM 1 GREEN	33	/			/			/			/			12	/			24	/							
	MAXIMUM 2 GREEN	24	/			/			/			/			12	/			24	/							
	YELLOW CLEARANCE		3	/			/			/			/			3	/			3	/						
	RED CLEARANCE			3	/			/			/			/				3	/			3	/				
	WALK INTERVAL				7	/			/			/			/					/			3	/			
	PED. CLEARANCE					11	/			/			/			/					/				/		
MEMORY		NON-LOCK			LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK				NON-LOCK						
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF			OFF				OFF						
PROGRAM/COORDINATION																											
CYCLE NO.		CYCLE LENGTH		OFFSET (SEC.)		PHASE SPLITS IN SECONDS																		HOURS OF OPERATION			
						ø1,ø3			ø2,ø3,ø4			ø4,ø5			ø4,ø6												
1		90		43		24			22			18			26			ALL OTHER TIMES									
2		100		59		32			22			16			30			6:00 A.M. TO 10:00 A.M.									
3		100		14		30			22			19			29			2:30 P.M. TO 7:00 P.M.									
COORDINATED OPERATION		EVERYDAY																									
PROGRAMMED FLASH		3:00 A.M. TO 6:00 A.M.																									
LOOP DETECTOR DATA										CLEARANCES						TECHNICAL NOTES											
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.		FROM	TO							* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.									
										G	G	GL	GL/G	R	-	W	DW										
										GL	-	GL	-	Y	-	-	-										
										GL/G	YL/G	GL/Y	GL/G	YL/Y	-	-	-										
										R	-	-	-	R	-	-	-										
										W	-	-	-	-	-	W	FDW										
										DW	-	-	-	-	-	-	DW										

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
KNEELAND ST. & LINCOLN ST.
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 403

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

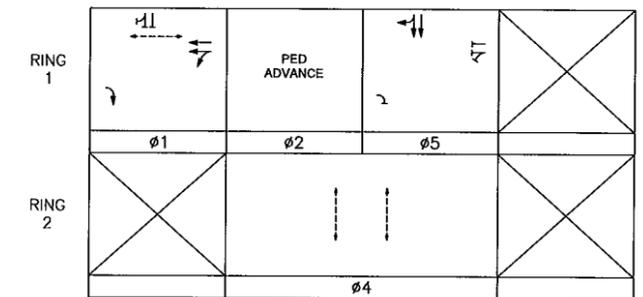
SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 11
 DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 36 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

TIMING AND SEQUENCE CHART																
STREET/DIRECTION/FACE		ø1			ø2			ø4			ø5			OPERATION		
		GRN	CL	CL	GRN			GRN	CL	CL	GRN	CL	CL			
NORTH ST/EB/4A,4B		GR	Y	R	R			R	R	R	R	R	R	FR		
RAMP CN-SA/WB/3A,7B		G	Y	R	R			R	R	R	R	R	R	FR		
RAMP CN-SA/WB/6A		GL	Y	R	R			R	R	R	R	R	R	FR		
RAMP CN-SA/WB/7A		GV	Y	R	R			R	R	R	R	R	R	FR		
SURFACE/SB/5A		R	R	R	R			R	R	R	GV	Y	R	FY		
SURFACE/SB/5B		R	R	R	R			R	R	R	G	Y	R	FY		
C.W./E-W/2F,8E		W/FDW	DW	DW	DW			DW	DW	DW	DW	DW	DW	OFF		
C.W./N-S/3E,4E,6E,7E		DW	DW	DW	W			W	FDW	DW	DW	DW	DW	OFF		
I N T E R V A L S	MINIMUM GREEN	10									10					
	VEHICLE EXTENSION	2									2					
	MAXIMUM 1 GREEN	45									40					
	MAXIMUM 2 GREEN	47									40					
	YELLOW CLEARANCE		3								3					
	RED CLEARANCE			2									2			
	WALK INTERVAL	10*			4				7						5	
	PED. CLEARANCE	5**							10**							
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK					
RECALL (VEH./PED.)		MAX			OFF			OFF			OFF					
PROGRAM/COORDINATION																
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS											HOURS OF OPERATION		
			ø1	ø2,ø4			ø4,ø5									
1	90	89	50	4			36						ALL OTHER TIMES			
2	100	24	52	4			44						6:00 A.M. TO 10:00 A.M.			
3	100	54	51	4			45						2:30 P.M. TO 7:00 P.M.			
COORDINATED OPERATION														EVERYDAY		
---														-----		
---														-----		
PROGRAMMED FLASH														EMERGENCY ONLY		
LOOP DETECTOR DATA									CLEARANCES				TECHNICAL NOTES			
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO				* ø1 PED SHALL REST IN WALK ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.		
									G	GL	GV	GR	R		W	DW
									G	G	-	-	Y		-	-
									GL	-	GL	-	Y		-	-
									GV	-	-	GV	Y		-	-
									GR	-	-	-	GR		Y	-
									R	-	-	-	R		-	-
									W	-	-	-	-		W	FDW
									DW	-	-	-	-	-	DW	

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
NORTH ST. & SURFACE ARTERY
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 7000
 SCALE: NOT TO SCALE AREA: GC
 DISTRICT: - DESIGN DATE: OCT. 2009

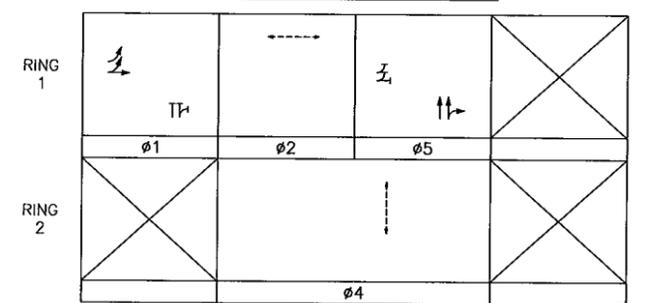
DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

Howard/Stein-Hudson Assoc., Inc.
 35 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

TIMING AND SEQUENCE CHART																				
		ø1			ø2			ø4			ø5			OPERATION FLASHING						
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL							
RAMP CN-SA/EB/2A		GV	Y	R	R	R	R	R	R	R	R	R	R	FR						
RAMP CN-SA/EB/2B		GV/GL	Y	R	R	R	R	R	R	R	R	R	R	FR						
RAMP CN-SA/EB/4C		G	Y	R	R	R	R	R	R	R	R	R	R	FR						
CROSS ST/NB/4A		R	R	R	R	R	R	R	R	R	G	Y	R	FY						
CROSS ST/NB/4B		R	R	R	R	R	R	R	R	R	GV	Y	R	FY						
C.W./N-S/2F,3E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF						
C.W./E-W/2E,4E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF						
I N T E R V A L S	MINIMUM GREEN	8									8									
	VEHICLE EXTENSION	2									2									
	MAXIMUM 1 GREEN	45									35									
	MAXIMUM 2 GREEN	42									39									
	YELLOW CLEARANCE		3								3									
	RED CLEARANCE			2			4			5			2							
	WALK INTERVAL				7			7												
	PED. CLEARANCE					6			5**											
MEMORY		NON-LOCK			LOCK			NON-LOCK			NON-LOCK									
RECALL (VEH./PED.)		MAX			OFF			OFF			OFF									
PROGRAM/COORDINATION																				
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS										HOURS OF OPERATION							
			ø1	ø2,ø4			ø4,ø5													
1	90	88	39	17			34						ALL OTHER TIMES							
2	100	0	47	17			36						6:00 A.M. TO 10:00 A.M.							
3	100	83	39	17			44						2:30 P.M. TO 7:00 P.M.							
COORDINATED OPERATION														EVERYDAY						
PROGRAMMED FLASH														3:00 A.M. TO 6:00 A.M.						
LOOP DETECTOR DATA								CLEARANCES				TECHNICAL NOTES								
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO				** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.						
									G	G	GL/GV	GV	R					-	W	DW
									GL/GV	-	GL/GV	-	Y					-	-	-
									GV	-	-	GV	Y					-	-	-
									R	-	-	-	R					-	-	-
									-	-	-	-	-					-	-	-
									W	-	-	-	-					W	FDW	
									DW	-	-	-	-					-	DW	

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
NORTH STREET & CROSS STREET
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 1961
 SCALE: NOT TO SCALE AREA: GC
 DISTRICT: - DESIGN DATE: OCT. 2009

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

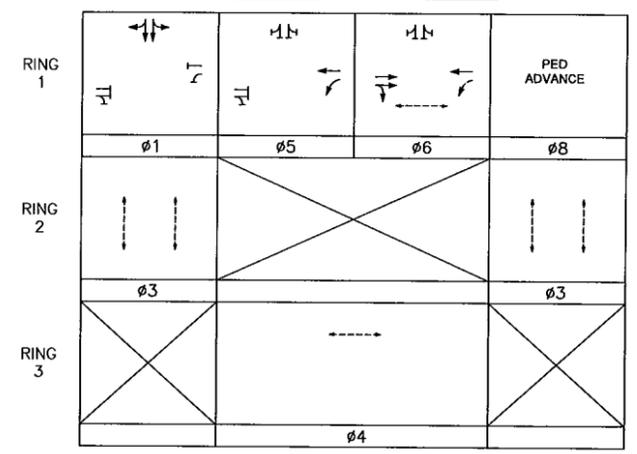
Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Associates Fax: 617.482.7417

		TIMING AND SEQUENCE CHART																OPERATION FLASHING			
		ø1			ø3			ø4			ø5			ø6			ø8				
STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	PED ADVANCE		
SURFACE/SB/2A,2B	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		FY	
HANOVER/EB/5A,5B	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R		FR	
HANOVER/WB/3B	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R		FR	
HANOVER/WB/3A	R	R	R	R	R	R	R	R	R	GL/G	YL/Y	R	G	Y	R	R	R		FR		
C.W./N-S/2F,3E,4F,5E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W			OFF	
C.W./E-W/3F,4E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF	
C.W./E-W/2E,5E	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	DW				OFF	
INTERSECTIONS	MINIMUM GREEN	10								10			10								
	VEHICLE EXTENSION	2								2			2								
	MAXIMUM 1 GREEN	35								20			25								
	MAXIMUM 2 GREEN	34								21			26								
	YELLOW CLEARANCE		3								3			3							
	RED CLEARANCE			2			5			5			2			2					
	WALK INTERVAL				14*			8						12			4				
	PED. CLEARANCE					8**			5**					5**							
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK					
RECALL (VEH./PED.)	MAX			PED			OFF			OFF			OFF			MAX					
PROGRAM/COORDINATION																					
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS													HOURS OF OPERATION					
			ø1,ø3			ø4,ø5			ø4,ø6			ø3,ø8									
1	90	28	35			23			28			4			ALL OTHER TIMES						
2	100	63	39			26			31			4			6:00 A.M. TO 10:00 A.M.						
3	100	8	39			26			31			4			2:30 P.M. TO 7:00 P.M.						
COORDINATED OPERATION																					

PROGRAMMED FLASH																					
3:00 A.M. TO 6:00 A.M.																					
LOOP DETECTOR DATA									CLEARANCES							TECHNICAL NOTES					
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO							* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.				
									G	G	GL/G	R	-	-	W	DW					
									G	-	-	Y	-	-	-	-					
									GL/G	YL/G	GL/G	YL/Y	-	-	-	-					
									R	-	-	R	-	-	-	-					
									-	-	-	-	-	-	-	-					
									-	-	-	-	-	-	-	-					
									W	-	-	-	-	-	W	FDW					
									DW	-	-	-	-	-	-	DW					

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
HANOVER ST. & SURFACE ARTERY
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 4101

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: GC
 DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Hanover Street and Cross Street

DESIGN DATE: 10/2009

INTERSECTION No.: 4096

DATE FIRST IN SERVICE: _____

SECTION No.: GC

PHASE 1

CLEARANCE TABLE

		TO								FLASH OPERATION
	G	GV	GV/GR	R	W	DW				
FROM	G	-	-	Y	-	-				
	GV	GV	-	Y	-	-				
	GV/GR	-	GV/GR	Y	-	-				
	R	-	-	R	-	-				
	W	-	-	-	W	FDW				
	DW	-	-	-	-	DW				

STREET	DIR	FACE	Ø1,Ø3			Ø4,Ø5								
CROSS STREET	NB	2C,3A,3B	G	Y	R	R	R	R						FY
HANOVER ST	EB	5A	R	R	R	G	Y	R						FR
HANOVER ST	EB	5B	R	R	R	GV	Y	R						FR
HANOVER ST	WB	2A,2B	R	R	R	GV/GR	Y	R						FR
CROSSWALK	N/S	2F,4E,5F,6F	W/FDW	DW	DW	DW	DW	DW						OFF
CROSSWALK	E/W	2E,3E,5E,6E	DW	DW	DW	W/FDW	DW	DW						OFF

TIMING IN SECONDS

MINIMUM GREEN	8		8										
VEHICLE EXTENSION	2		2										
MAXIMUM #1 GREEN	55		32										
MAXIMUM #2 GREEN	61		34										
YELLOW CLEARANCE		3		3									
RED CLEARANCE			2		2								
WALK INTERVAL	15*		8										
PEDESTRIAN CLEARANCE	7**		8**										
MEMORY		LOCK	NON-LOCK										
RECALL (VEH/PED)		MAX	OFF										

*Ø1 PED SHALL REST IN WALK
 ** PED INCIATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø5	HOURS OF OPERATION			
1	90	74	51	39	ALL OTHER TIMES			
2	100	82	62	38	6:00AM - 10:00AM			
3	100	56	66	34	2:30PM - 7:00PM			
FLASH OPERATION		-	-	-	3:00AM - 6:00AM			

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: New Sudbury Street and Surface Artery SB

DESIGN DATE: 10/2009

INTERSECTION No.: 4016

DATE FIRST IN SERVICE: _____

SECTION No.: GC

PHASE 1

CLEARANCE TABLE

		TO								FLASH OPERATION
		G	GV	GR	R	W	DW			
FROM		G	GV	GR	R	W	DW			
	G	G	-	-	Y	-	-			
	GV	-	GV	-	Y	-	-			
	GR	-	-	GR	Y	-	-			
	R	-	-	-	R	-	-			
	W	-	-	-	-	W	FDW			
	DW	-	-	-	-	-	DW			

STREET	DIR	FACE	Ø1			Ø3			Ø4									
NEW SUDBURY	EB	5A	GV	Y	R	R	R	R	R	R	R	R						FR
NEW SUDBURY	EB	5B	G	Y	R	R	R	R	R	R	R	R						FR
SASB	SB	3A	R	R	R	GV	Y	R	R	R	R	R						FY
SASB	SB	3B	R	R	R	G	Y	R	R	R	R	R						FY
MBTA DRIVEWAY	SB	2A,3C	R	R	R	R	R	R	GR	Y	R							FR
CROSSWALK	E/W	3E,5F,6E,8F	^W / _{FDW}	DW	DW	DW	DW	DW	DW	DW	DW	DW						OFF
CROSSWALK	N/S	4E,5E,7E,8E	DW	DW	DW	^W / _{FDW}	DW	DW	DW	DW	DW	DW						OFF

TIMING IN SECONDS

MINIMUM GREEN	10			10			6											
VEHICLE EXTENSION	2			2			2											
MAXIMUM #1 GREEN	27			35			19											
MAXIMUM #2 GREEN	34			41			25											
YELLOW CLEARANCE			3			3				3								
RED CLEARANCE				2			3				2							
WALK INTERVAL	8*			8														
PEDESTRIAN CLEARANCE	8**			5**														
MEMORY			NON-LOCK			NON-LOCK				NON-LOCK								
RECALL (VEH/PED)			MAX/PED			OFF				OFF								

*Ø1 PED SHALL REST IN WALK
 ** PED INCIATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø3	Ø4	HOURS OF OPERATION
1	90	80	33	35	22	ALL OTHER TIMES
2	100	27	23	47	30	6:00AM - 10:00AM
3	100	22	39	41	20	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	-	EMERGENCY/CONFLICT

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: New Sudbury Street and Cross Street

DESIGN DATE: 10/2009

INTERSECTION No.: 4094

DATE FIRST IN SERVICE: _____

SECTION No.: GC

PHASE 1

CLEARANCE TABLE

		TO						↑	↑	↑↓		FLASH OPERATION
		G	GSL	GV	R	W	DW					
FROM	G	G	-	-	Y	-	-	↑ ←--- ↑	↑	↑		
	GSL	-	GSL	-	Y	-	-					
	GV	-	-	GV	Y	-	-					
	R	-	-	-	R	-	-					
	W	-	-	-	-	W	FDW					
DW	-	-	-	-	-	DW						

STREET	DIR	FACE	Ø1			Ø2			Ø5						
NEW SUDBURY	EB	3A	GL	Y	R	GL	Y	R	R	R	R				FR
NEW SUDBURY	EB	4D,10A	GSL	Y	R	GSL	Y	R	R	R	R				FR
CROSS STREET	NB	4A	R	R	R	R	R	R	GSL	Y	R				FY
CROSS STREET	NB	4B,4C	R	R	R	R	R	R	GV	Y	R				FY
CROSS STREET	NB	8C	R	R	R	G	Y	R	G	Y	R				FY
CROSS STREET	NB	8A,8B	R	R	R	GV	Y	R	GV	Y	R				FY
CROSSWALK	E/W	5E,6E,7E,9E	W/ FDW	DW	DW	DW	DW	DW	DW	DW	DW				OFF
CROSSWALK	N/S	2E,10E	DW	DW	DW	DW	DW	DW	W/ FDW	DW	DW				OFF

TIMING IN SECONDS

MINIMUM GREEN	10			4			10								
VEHICLE EXTENSION	2			2			2								
MAXIMUM #1 GREEN	24			18			41								
MAXIMUM #2 GREEN	26			19			49								
YELLOW CLEARANCE			3			3			3						
RED CLEARANCE				2			2			2					
WALK INTERVAL	12*						8								
PEDESTRIAN CLEARANCE	5**						5**								
MEMORY		NON-LOCK		NON-LOCK			NON-LOCK								
RECALL (VEH/PED)		MAX/PED		OFF			OFF								

*Ø1 PED SHALL REST IN WALK
 ** PED INCIATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

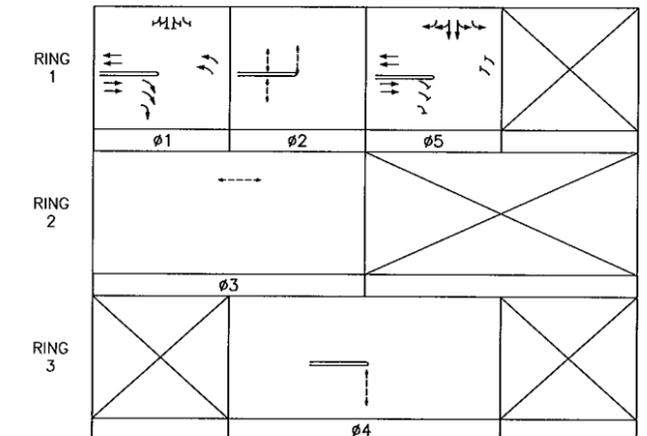
COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø5		HOURS OF OPERATION
1	90	18	31	22	37		ALL OTHER TIMES
2	100	35	31	23	46		6:00AM - 10:00AM
3	100	17	26	20	54		2:30PM - 7:00PM
FLASH OPERATION		-	-	-	-		EMERGENCY/CONFLICT

TIMING AND SEQUENCE CHART																				
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATION FLASHING			
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL				
NEW CHARDON/EB/5A,6A		GR	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY			
NEW CHARDON/EB/11D		GSR	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY			
RAMP ST-SA/WB/2A,2B,3B		GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY			
N.WASHINGTON/SB/3A,11A,11B		R	R	R	R	R	R	R	R	R	R	R	R	GSL	Y	R	FR			
N.WASHINGTON/SB/11C		R	R	R	R	R	R	R	R	R	R	R	R	GR	Y	R	FR			
NEW CHARDON/EB/10A,10B		G	Y	R	R	R	R	R	R	R	R	R	R	G	Y	R	FY			
NEW CHARDON/WB/13A,13B		GV	Y	R	R	R	R	R	R	R	R	R	R	GV	Y	R	FY			
C.W./N-S/9E,11F		DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	OFF			
C.W./N-S/2E,7E,8E,11E,12E,14E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
C.W./E-W/2F,3E		DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
I N T E R V A L	MINIMUM GREEN	8												8						
	VEHICLE EXTENSION	2												2						
	MAXIMUM 1 GREEN	42												31						
	MAXIMUM 2 GREEN	38												38						
	YELLOW CLEARANCE		3												3					
	RED CLEARANCE			3			4			6						3				
	WALK INTERVAL				8			8*			8						3			
	PED. CLEARANCE					15			7**			8**								
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF						
PROGRAM/COORDINATION																				
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS														HOURS OF OPERATION			
			ø1,ø3		ø2,ø3,ø4			ø4,ø5												
			31		27			32												
			29		27			44												
3		100		80		29		27			44									6:00 A.M. TO 10:00 A.M.
3		100		76		44		27			29									2:30 P.M. TO 7:00 P.M.
COORDINATED OPERATION																				
PROGRAMMED FLASH																				
EMERGENCY/CONFLICT																				
LOOP DETECTOR DATA									CLEARANCES							TECHNICAL NOTES				
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO							* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.			
									G	GSR	GSL	GV	GR	R	W	DW				
									G	-	-	-	-	Y	-	-				
									GSR	-	GSR	-	-	Y	-	-				
									GSL	-	-	GSL	-	Y	-	-				
									GV	-	-	-	GV	Y	-	-				
									GR	-	-	-	GR	Y	-	-				
									R	-	-	-	-	R	-	-				
									W	-	-	-	-	-	W	FDW				
									DW	-	-	-	-	-	-	DW				

S/P = SERIES/PARALLEL

PHASING DIAGRAM



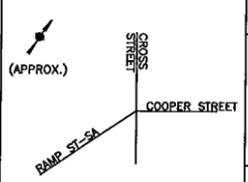
BTD
BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
DRAWN BY A. SIU
CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
TRAFFIC SIGNAL TIMING AND PHASING
NEW CHARDON ST. & N. WASHINGTON ST.
PHASE 1
BOSTON PROPER
INTERSECTION NUMBER 1862

SCALE: NOT TO SCALE
AREA: GC
DISTRICT: -
DESIGN DATE: OCT. 2009

HOWARD STEIN HUDSON ASSOCIATES
Howard/Stein-Hudson Assoc., Inc.
38 Chauncy St., 9th Floor
Boston, MA 02111
Ph: 617.482.7080
Fax: 617.482.7417



TIMING AND SEQUENCE CHART

STREET/DIRECTION/FACE	ø1			ø2			ø3			ø4			ø5			ø6			OPERATION
	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
CROSS ST/NB/4C,4D	GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	R	FY
COOPER ST/WB/4G,5A	R	R	R	GR	Y	R	R	R	R	R	R	R	R	R	R	R	Y	R	FR
RAMP ST-SA/NB/4A,4B	R	R	R	R	R	R	R	R	R	R	R	R	GV	Y	R	R	Y	R	FR
C.W./E-W/2F,3E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/2E,6E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/5E,6F	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	OFF

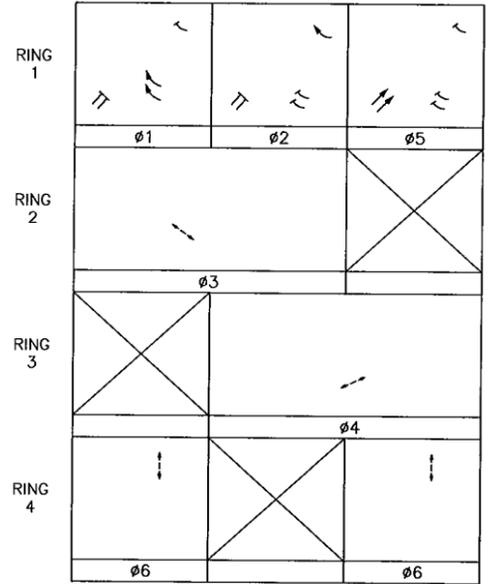
MINIMUM GREEN	ø1			ø2			ø3			ø4			ø5			ø6		
	VEHICLE EXTENSION	2			2													
MAXIMUM 1 GREEN	48			14														
MAXIMUM 2 GREEN	50			16														
YELLOW CLEARANCE		3			3									3				
RED CLEARANCE			2			2			5			5			2			5
WALK INTERVAL							7*			7						7		
PED. CLEARANCE								5**			5**						5**	
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK		
RECALL (VEH./PED.)	MAX			OFF			PED			OFF			OFF			OFF		

CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS			HOURS OF OPERATION
			ø1,ø3,ø6	ø2,ø3,ø4	ø4,ø5,ø6	
1	90	80	55	15	20	ALL OTHER TIMES
2	100	3	52	21	27	6:00 A.M. TO 10:00 A.M.
3	100	93	52	21	27	2:30 P.M. TO 7:00 P.M.
COORDINATED OPERATION						EVERYDAY
PROGRAMMED FLASH						3:00 A.M. TO 6:00 A.M.

LOOP DETECTOR DATA									CLEARANCES								TECHNICAL NOTES		
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO								* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.
									G	G	GV	GR	R	-	W	DW			
									GV	-	GV	-	Y	-	-	-			
									GR	-	-	GR	Y	-	-	-			
									R	-	-	-	R	-	-	-			
									-	-	-	-	-	-	-	-			
									W	-	-	-	-	-	W	FDW			
									DW	-	-	-	-	-	-	DW			

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
COOPER ST. & CROSS STREET
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 34

SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: GC
 DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: North Washington Street and Beverly Street

DESIGN DATE: 10/2009

INTERSECTION No.: 4120

DATE FIRST IN SERVICE: _____

SECTION No.: GC

PHASE 1

CLEARANCE TABLE								TO	Ø1	Ø5	FLASH OPERATION
FROM		GV	GSR	R	W	DW					
-	-	-	-	Y	-	-	-				
GV	-	GV	-	Y	-	-	-				
GSR	-	-	GSR	Y	-	-	-				
R	-	-	-	R	-	-	-				
W	-	-	-	-	W	FDW	-				
DW	-	-	-	-	-	DW	-				
STREET	DIR	FACE		Ø1			Ø5				
N. WASHINGTON	SB	2A,3A,3B		GV	Y	R	R	R	R		FY
BEVERLY ST	EB	3C,3D,5A		R	R	R	GSR	Y	R		FR
CROSSWALK	N/S	4E,5E		W/ FDW	DW	DW	DW	DW	DW		OFF
CROSSWALK	E/W	2E,5F		DW	DW	DW	W/ FDW	DW	DW		OFF

TIMING IN SECONDS

MINIMUM GREEN	8		8			
VEHICLE EXTENSION	2		2			
MAXIMUM #1 GREEN	35		35			
MAXIMUM #2 GREEN	50		42			
YELLOW CLEARANCE		3		3		
RED CLEARANCE			2		2	
WALK INTERVAL	7*		7			
PEDESTRIAN CLEARANCE	5**		9**			
MEMORY	NON-LOCK		LOCK			
RECALL (VEH/PED)	MAX		OFF			

*Ø1 PED SHALL REST IN WALK

** PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø5	HOURS OF OPERATION
1	90	83	43	47	ALL OTHER TIMES
2	100	11	55	45	6:00AM - 10:00AM
3	50	46	23	27	2:30PM - 7:00PM
FLASH OPERATION		-	-	-	3:00AM - 6:00AM

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Valenti Street and North Washington Street

DESIGN DATE: 10/02/2009

INTERSECTION No.: 332

DATE FIRST IN SERVICE: _____

SECTION No.: GC

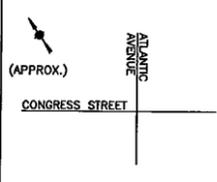
PHASE 1

CLEARANCE TABLE								TO			FLASH OPERATION
FROM	G	GL	RL	R	W	DW					
	G	-	-	-	-	-	-				
	GL	-	GL	YL	-	-	-				
	RL	-	-	RL	-	-	-				
	R	-	-	-	R	-	-				
	W	-	-	-	-	W	FDW				
	DW	-	-	-	-	-	DW				
STREET	DIR	FACE	Ø1			Ø5					
N. WASHINGTON	NB	3B,3C	G	Y	R	R	R	R		FY	
N. WASHINGTON	NB	3A	RL	RL	RL	GL	YL	RL		FRL	
N. WASHINGTON	SB	4A,4B,4C	G	Y	R	R	R	R		FY	
CROSSWALK	N/S	4E,5E	W/ FDW	DW	DW	DW	DW	DW		OFF	
CROSSWALK	E/W	2E,6E	DW	DW	DW	W/ FDW	DW	DW		OFF	

TIMING IN SECONDS										
MINIMUM GREEN	10			8						
VEHICLE EXTENSION	2			2						
MAXIMUM #1 GREEN	63			24						
MAXIMUM #2 GREEN	69			29						
YELLOW CLEARANCE		3			3					
RED CLEARANCE			2			2				
WALK INTERVAL	7*			7						
PEDESTRIAN CLEARANCE	8**			13**						
MEMORY	NON-LOCK		NON-LOCK							
RECALL (VEH/PED)	MAX		OFF							

*Ø1 PED SHALL REST IN WALK
 ** PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)						
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø5		HOURS OF OPERATION
1	90	24	64	26		ALL OTHER TIMES
2	100	92	66	34		6:00AM - 10:00AM
3	100	17	74	26		2:30PM - 7:00PM
FLASH OPERATION		-	-	-		3:00AM - 6:00AM



TIMING AND SEQUENCE CHART

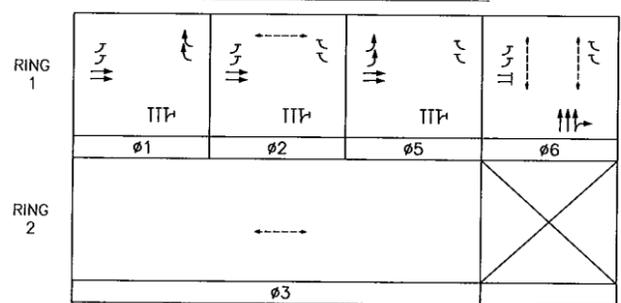
STREET/DIRECTION/FACE	Ø1			Ø2			Ø3			Ø5			Ø6			OPERATION FLASHING
	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
CONGRESS/EB/4A	G	Y	R	G	Y	R	R	R	R	G	Y	R	R	R	R	FR
CONGRESS/EB/9B,9C	GV	Y	R	GV	Y	R	R	R	R	GV	Y	R	R	R	R	FR
CONGRESS/EB/6C,9A	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	FRL
CONGRESS/WB/6A,6D,8A	GR	YR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	FRR
ATLANTIC/NB/2A,6B,7A	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FY
C.W./E-W/2E,3E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/6E,7E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/4E,5E,8E,9E	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	OFF

CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS				HOURS OF OPERATION
			Ø1,Ø3	Ø2,Ø3	Ø3,Ø5	Ø6	
1	90	65	22	20	21	27	ALL OTHER TIMES
2	100	19	22	19	21	38	6:00 A.M. TO 10:00 A.M.
3	100	76	21	19	30	30	2:30 P.M. TO 7:00 P.M.

LOOP DETECTOR DATA									CLEARANCES											TECHNICAL NOTES		
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	ØCALL	ØEXT.	CHNL.	FROM	TO											* Ø3 PED SHALL REST IN WALK DURING CO-ORD Ø1	** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.
									G	GV	GL	GR	R	RL	RR	W	DW					
									G	G	-	-	-	Y	-	-	-					
									GV	-	GV	-	-	Y	-	-	-					
									GL	-	-	GL	-	-	YL	-	-					
									GR	-	-	-	GR	-	-	YR	-					
									R	-	-	-	-	R	-	-	-					
									RL	-	-	-	-	-	RL	-	-					
									RR	-	-	-	-	-	-	RR	-					
									W	-	-	-	-	-	-	-	W					
									DW	-	-	-	-	-	-	-	DW					

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
CONGRESS ST. & ATLANTIC AVE.
 BOSTON PROPER
 INTERSECTION NUMBER 3056
 SCALE: NOT TO SCALE AREA: 13
 DISTRICT: - DESIGN DATE: OCT. 2009

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

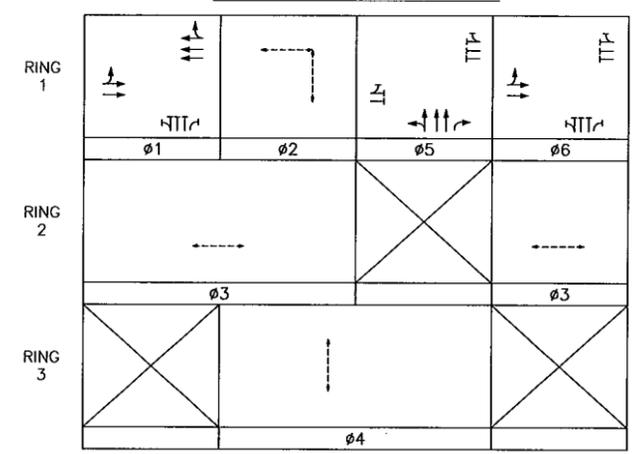
STREET/DIRECTION/FACE		TIMING AND SEQUENCE CHART																		OPERATION FLASHING	
		ø1			ø2			ø3			ø4			ø5			ø6				
GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
ATLANTIC/NB/5A,5B,5C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FY
SUMMER/EB/2B	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR
SUMMER/EB/2A	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	GL/G	YL/Y	R	FR
SUMMER/WB/5C,5D	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
C.W./E-W/2F,3E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/3F,5E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/2E,6F	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/5F,6E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
I N T E R V A L S S E C O N D S	MINIMUM GREEN	10													15			4			
	VEHICLE EXTENSION	2													2						
	MAXIMUM 1 GREEN	34													35			4			
	MAXIMUM 2 GREEN	23													37			4			
	YELLOW CLEARANCE		3												3			3			
	RED CLEARANCE			3		4			6				5				2				1
	WALK INTERVAL				12			10*			8				7						
	PED. CLEARANCE					11			11**			11**			7						
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK				
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF			OFF				

PROGRAM/COORDINATION							
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS				HOURS OF OPERATION
			ø1,ø3	ø2,ø3,ø4	ø4,ø5	ø3,ø6	
1	90	60	27	27	28	8	ALL OTHER TIMES
2	100	25	23	27	42	8	6:00 A.M. TO 10:00 A.M.
3	100	72	29	27	36	8	2:30 P.M. TO 7:00 P.M.
COORDINATED OPERATION							EVERYDAY
PROGRAMMED FLASH							3:00 A.M. TO 6:00 A.M.

LOOP DETECTOR DATA									CLEARANCES								TECHNICAL NOTES	
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO								* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.
									G	G	GL/G	R	-	-	W	DW		
									G	G	-	-	-	-	-	-		
									GL/G	YL/G	GL/G	YL/Y	-	-	-	-		
									R	-	-	R	-	-	-	-		
									-	-	-	-	-	-	-	-		
									W	-	-	-	-	-	W	FDW		
									DW	-	-	-	-	-	-	DW		

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
SUMMER ST. & ATLANTIC AVE.
 BOSTON PROPER
 INTERSECTION NUMBER 43
 SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 11
 DESIGN DATE: OCT. 2009

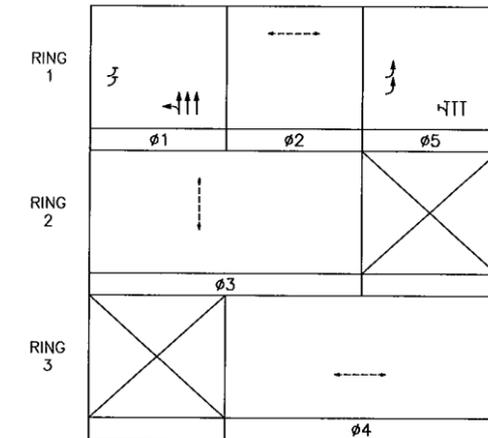
HOWARD
STEIN
HUDSON
ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.462.7080
 Fax: 617.462.7417

TIMING AND SEQUENCE CHART																				
		←-----						-----→			} TTT					OPERATION FLASHING				
		ø1			ø2			ø3			ø4			ø5						
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL				
ATLANTIC/NB/6A,6B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY			
ESSEX/EB/2A,6C		R	R	R	R	R	R	R	R	R	R	R	R	GL	Y	R	FR			
C.W./E-W/4E,5E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
C.W./E-W/2E,3E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF			
C.W./N-S/3F,4F		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF			
INTERSECTIONS	MINIMUM GREEN	10	/			/			/			/			10	/				
	VEHICLE EXTENSION	2	/			/			/			/			2	/				
	MAXIMUM 1 GREEN	50	/			/			/			/			27	/				
	MAXIMUM 2 GREEN	43	/			/			/			/			28	/				
	YELLOW CLEARANCE		3	/			/			/			/			3	/			
	RED CLEARANCE			2	/			4	/			5	/			5	/			
	WALK INTERVAL				7	/			7*	/			7	/			7	/		
	PED. CLEARANCE					9	/			7**	/			8**	/			8**	/	
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						
RECALL (VEH./PED.)		MAX			OFF			PED			OFF			OFF						
PROGRAM/COORDINATION																				
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS													HOURS OF OPERATION				
			ø1,ø3			ø2,ø3,ø4			ø4,ø5											
1	90	23	39			20			31									ALL OTHER TIMES		
2	100	65	47			20			33									6:00 A.M. TO 10:00 A.M.		
3	100	24	48			20			32									2:30 P.M. TO 7:00 P.M.		
COORDINATED OPERATION																				

PROGRAMMED FLASH																				
3:00 A.M. TO 6:00 A.M.																				
LOOP DETECTOR DATA									CLEARANCES						TECHNICAL NOTES					
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO						* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.				
									G	GL	R	-	-	W	DW					
									G	G	-	Y	-	-	-					
									GL	-	GL	Y	-	-	-					
									R	-	-	R	-	-	-					
									-	-	-	-	-	-	-					
									-	-	-	-	-	-	-					
									W	-	-	-	-	W	FDW					
									DW	-	-	-	-	-	DW					

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
ESSEX ST. & ATLANTIC AVE.

BOSTON PROPER
 INTERSECTION NUMBER 45

SCALE: NOT TO SCALE AREA: 11
 DISTRICT: - DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7060
 Fax: 617.482.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Kneeland Street and Atlantic Avenue and Ramps

DESIGN DATE: 10/02/2009

INTERSECTION No.: 3078

DATE FIRST IN SERVICE: _____

SECTION No.: 11

PHASE 1

CLEARANCE TABLE

		TO								Ø1	Ø2*	Ø3	Ø4	FLASH OPERATION
		G	GV	GL	R	RL	W	DW						
FROM	G	G	-	-	Y	-	-	-						
	GV	-	GV	-	Y	-	-	-						
	GL	-	-	GL	Y	-	-	-						
	GL	-	-	GL	-	YL	-	-						
	R	-	-	-	R	-	-	-						
	RL	-	-	-	-	RL	-	-						
	W	-	-	-	-	-	W	FDW						
	DW	-	-	-	-	-	-	DW						

STREET	DIR	FACE	Ø1			Ø2*			Ø3			Ø4			
FRONTAGE RD	NB	2C,5A	G	Y	R	R	R	R	R	R	R	R	R	R	FR
FRONTAGE RD	NB	5B,5H	GL	Y	R	R	R	R	R	R	R	R	R	R	FR
RAMP A	NB	2A,3A,4A	GV	Y	R	R	R	R	R	R	R	GV	Y	R	FR
RAMP A	NB	2B	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	FRL
KNEELAND ST	EB	4B,5C	R	R	R	R	R	R	GL	Y	R	R	R	R	FR
KNEELAND ST	EB	5D	R	R	R	R	R	R	G	Y	R	R	R	R	FR
DRIVEWAY	WB	2D,5G	R	R	R	G	Y	R	R	R	R	R	R	R	FR
CROSSWALK	E/W	4F,5F	DW	DW	DW	DW	DW	DW	^W / _{FDW}	DW	DW	DW	DW	DW	OFF
CROSSWALK	E/W	2E,3E	DW	DW	DW	^W / _{FDW}	DW	DW	DW	DW	DW	DW	DW	DW	OFF
CROSSWALK	N/S	3F,4E	DW	DW	DW	DW	DW	DW	DW	DW	DW	^W / _{FDW}	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	8		8		8		8		8					
VEHICLE EXTENSION	2		2		2		2		2					
MAXIMUM #1 GREEN	18		14		16		17							
MAXIMUM #2 GREEN	24		14		24		34							
YELLOW CLEARANCE		3		3		3		3			3			
RED CLEARANCE			3		1		1						3	
WALK INTERVAL			7		7		7							
PEDESTRIAN CLEARANCE			7**		7**		6**							
MEMORY		NON-LOCK												
RECALL (VEH/PED)		MAX	OFF											

** PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	HOURS OF OPERATION
1	90	84	23	18	26	23	ALL OTHER TIMES
2	100	90	19	18	23	40	6:00AM - 10:00AM
3	100	70	30	18	28	24	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	-	-	EMERGENCY/CONFLICT

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Summer Street and Dorchester Avenue

DESIGN DATE: 10/2009

INTERSECTION No.: 46

DATE FIRST IN SERVICE: _____

SECTION No.: 11

PHASE 1

CLEARANCE TABLE													FLASH OPERATION	
TO														
FROM	G	R	-	-	W	DW								
	G	Y	-	-	-	-								
	R	-	R	-	-	-								
	-	-	-	-	-	-								
W	-	-	-	W	FDW									
DW	-	-	-	-	DW									
STREET	DIR	FACE		Ø1			Ø2*			Ø5				
SUMMER ST	EB	4A,5A		G	Y	R	R	R	R	R	R	R	FY	
SUMMER ST	WB	7A,8A		G	Y	R	R	R	R	R	R	R	FY	
DORCHESTER AVE	NB	2A,3A		R	R	R	R	R	R	G	Y	R	FR	
DORCHESTER AVE	SB	5B,6A		R	R	R	R	R	R	G	Y	R	FR	
CROSSWALK	ALL	ALL		DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF	
TIMING IN SECONDS														
MINIMUM GREEN				10			-			10				
VEHICLE EXTENSION				2			-			2				
MAXIMUM #1 GREEN				51			-			26				
MAXIMUM #2 GREEN				48						34				
YELLOW CLEARANCE					3						3			
RED CLEARANCE							1			4			1	
WALK INTERVAL							7							
PEDESTRIAN CLEARANCE								12						
MEMORY				NON-LOCK			NON-LOCK			NON-LOCK				
RECALL (VEH/PED)				MAX			OFF			OFF				
*Ø2 PUSH-BUTTON ACTUATED ONLY MAX. #2 DURING COORDINATED OPERATION														
COORDINATION INFORMATION (TIMES IN SECONDS)														
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø5	HOURS OF OPERATION								
1	90	31	39	23	28	ALL OTHER TIMES								
2	100	43	52	23	25	6:00AM - 10:00AM								
3	100	42	39	23	38	2:30PM - 7:00PM								
FLASH OPERATION		-	-	-	-	EMERGENCY/CONFLICT								

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Summer Street and Melcher Street

DESIGN DATE: 10/2009

INTERSECTION No.: 2008

DATE FIRST IN SERVICE: _____

SECTION No.: 11

PHASE 1

CLEARANCE TABLE		TO											FLASH OPERATION	
FROM	G	R	-	-	W	DW								
	G	Y	-	-	-	-								
	R	-	R	-	-	-								
	-	-	-	-	-	-								
W	-	-	-	-	W	FDW								
DW	-	-	-	-	-	DW								
STREET	DIR	FACE		Ø1			Ø2*			Ø3				
SUMMER ST	EB	5A,5B		G	Y	R	R	R	R	R	R	R		FY
SUMMER ST	WB	2A,3B		G	Y	R	R	R	R	R	R	R		FY
MELCHER ST	NB	3A,4A		R	R	R	R	R	R	G	Y	R		FR
CROSSWALK	ALL	ALL		DW	DW	DW	W	FDW	DW	DW	DW	DW		OFF

TIMING IN SECONDS

MINIMUM GREEN	8	-	8
VEHICLE EXTENSION	2	-	2
MAXIMUM #1 GREEN	54	-	20
MAXIMUM #2 GREEN	49		28
YELLOW CLEARANCE	3		3
RED CLEARANCE		2	4
WALK INTERVAL		8	
PEDESTRIAN CLEARANCE		14	
MEMORY	NON-LOCK	NON-LOCK	NON-LOCK
RECALL (VEH/PED)	MAX	OFF	OFF

*Ø2 PUSH-BUTTON ACTUATED ONLY
MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	HOURS OF OPERATION
1	90	32	43	26	21	ALL OTHER TIMES
2	100	56	54	26	20	6:00AM - 10:00AM
3	100	49	41	26	33	2:30PM - 6:00PM
FLASH OPERATION	-	-	-	-	-	3:00AM - 6:00AM

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Mass Haul Road and Pump House Road

DESIGN DATE: 10/2009

INTERSECTION No.: 9061

DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO								FLASH OPERATION
		G	GL	G/GR	GL/G	R/GR	R	W	DW	
FROM	G	G	-	-	-	-	-	-	-	
	GL	-	GL	-	-	-	Y	-	-	
	G/GR	-	-	G/GR	-	Y	Y/YR	-	-	
	GL/G	YL/G	-	-	GL/G	-	YL/Y	-	-	
	R/GR	-	-	-	-	R/GR	R/YR	-	-	
	R	-	-	-	-	-	R	-	-	
	W	-	-	-	-	-	-	W	FDW	
	DW	-	-	-	-	-	-	-	DW	

STREET	DIR	FACE	Ø1			Ø2			Ø3			Ø4			
HAUL ROAD	EB	5D	G	Y	R	R	R	R	R	R	R	R	R	R	FY
HAUL ROAD	EB	2A,4A	G	Y	R	R/GR	R/YR	R	R	R	R	R	R	R	FY
HAUL ROAD	WB	2B,4B,5A	G	Y	R	R	R	R	R	R	R	GL/G	YL/Y	R	FY
HAUL ROAD	WB	5B	G	Y	R	R	R	R	R	R	R	G	Y	R	FY
PUMP HOUSE RD	NB	5C	R	R	R	GL	Y	R	R	R	R	R	R	R	FR
PUMP HOUSE RD	NB	3A,6A	R	R	R	G	Y	R	R	R	R	R	R	R	FR
PUMP HOUSE RD	NB	5C	R	R	R	GL	Y	R	R	R	R	R	R	R	FR
CROSSWALK	N/S	2E,6E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	15		15		-		6	
VEHICLE EXTENSION	3		3		-		3	
MAXIMUM #1 GREEN	35		24		-		12	
MAXIMUM #2 GREEN	35		31		-		13	
YELLOW CLEARANCE		3		3				3
RED CLEARANCE			3		2		4	1
WALK INTERVAL					7			
PEDESTRIAN CLEARANCE						9		
MEMORY	NON-LOCK		NON-LOCK		LOCK		NON-LOCK	
RECALL (VEH/PED)	MAX		OFF		OFF		OFF	

MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	HOURS OF OPERATION
1	90	5	25	30	20	15	ALL OTHER TIMES
2	100	74	27	36	20	17	6:00AM - 10:00AM
3	100	22	41	22	20	17	2:30PM - 6:00PM
FLASH OPERATION		-	-	-	-	-	3:00AM - 6:00AM

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Ramp D&B and D Street

DESIGN DATE: 10/2009

INTERSECTION No.: 4116

DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO							←↓	↙	↘	↑↑	↑↑	↑↑	FLASH OPERATION
FROM		G	GV	GL	R	RL	W	DW							
	G	G	-	-	Y	-	-	-							
	GV	-	GV	-	Y	-	-	-							
	GL	-	-	GL	-	YL	-	-							
	R	-	-	-	R	-	-	-							
	RL	-	-	-	-	RL	-	-							
	W	-	-	-	-	-	W	FDW							
	DW	-	-	-	-	-	-	-							

STREET	DIR	FACE	Ø1			Ø2*			Ø3			FLASH OPERATION
D STREET	NB	3C,3D	GV	Y	R	R	R	R	GV	Y	R	FY
D STREET	NB	3B,4B	RL	RL	RL	RL	RL	RL	GL	YL	RL	FRL
D STREET	SB	5A,6A	G	Y	R	R	R	R	R	R	R	FY
D STREET	SB	3A,4A	GV	Y	R	R	R	R	R	R	R	FY
CROSSWALK	ALL	-	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	15			-			15					
VEHICLE EXTENSION	2			-			2					
MAXIMUM #1 GREEN	49			-			25					
MAXIMUM #2 GREEN	38			-			26					
YELLOW CLEARANCE		3					3					
RED CLEARANCE			2			4		2				
WALK INTERVAL				7								
PEDESTRIAN CLEARANCE					15							
MEMORY		NON-LOCK	LOCK	NON-LOCK								
RECALL (VEH/PED)		MAX	OFF	OFF								

*Ø2 PUSH-BUTTON ACTUATED ONLY
MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	HOURS OF OPERATION
1	90	38	37	26	27	ALL OTHER TIMES
2	100	12	43	26	31	6:00AM - 10:00AM
3	100	61	43	26	31	2:30PM - 6:00PM
FLASH OPERATION	-	-	-	-	-	3:00AM - 6:00AM

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: MBTA Silverline Transitway and D Street

DESIGN DATE: 10/2009

INTERSECTION No.: 4060

DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO							Ø1	Ø2	Ø5	FLASH OPERATION
		G	GV	R	-	W	DW					
FROM	G	G	-	Y	-	-	-	↑↑↑ →	TTT	TTT		
	GV	-	GV	Y	-	-	-					
	R	-	-	R	-	-	-					
	-	-	-	-	-	-	-					
	W	-	-	-	-	W	FDW					
	DW	-	-	-	-	-	-					

STREET	DIR	FACE	Ø1			Ø2			Ø5			
D STREET	NB	5A,5B	GV	Y	R	R	R	R	R	R	R	FY
D STREET	NB	5C	G	Y	R	R	R	R	R	R	R	FY
D STREET	SB	2A,7C	GV	Y	R	GV	Y	R	R	R	R	FY
D STREET	SB	2B	G	Y	R	G	Y	R	R	R	R	FY
TRANSITWAY	EB	3A,4A,7A	R	R	R	R	R	R	G	Y	R	FR
TRANSITWAY	WB	4B,5D,7B	R	R	R	R	R	R	G	Y	R	FR
CROSSWALK	N/S	2F,5E,6E,8E	W/ FDW	DW	OFF							

TIMING IN SECONDS

MINIMUM GREEN	20		5		8						
VEHICLE EXTENSION	3		3		3						
MAXIMUM #1 GREEN	38		19		25						
MAXIMUM #2 GREEN	41		21		26						
YELLOW CLEARANCE		3		3		3					
RED CLEARANCE			2		2		2				
WALK INTERVAL	14*										
PEDESTRIAN CLEARANCE	5**										
MEMORY		NON-LOCK	NON-LOCK	NON-LOCK							
RECALL (VEH/PED)		MAX	MAX	OFF							

*Ø1 PED SHALL REST IN WALK

**PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS.

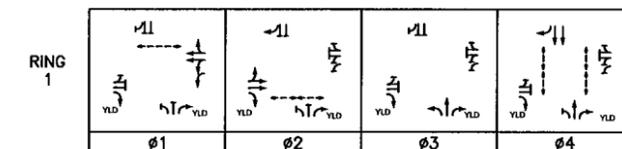
COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	HOURS OF OPERATION
1	90	18	39	23	28	ALL OTHER TIMES
2	100	95	43	26	31	6:00AM - 10:00AM
3	100	32	46	24	30	2:30PM - 6:00PM
FLASH OPERATION	-	-	-	-	-	3:00AM - 6:00AM

TIMING AND SEQUENCE CHART														FLASHING OVERTURN						
ø1			ø2			ø3			ø4											
STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL								
CONGRESS ST/WB/3D	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL								
CONGRESS ST/WB/3E	GL/G	Y	R	R	R	R	R	R	R	R	R	R								
CONGRESS ST/WB/3F	G	Y	R	R	R	R	R	R	R	R	R	R								
CONGRESS ST/EB/3C,4B	R	R	R	GL/G	YL/Y	R	R	R	R	R	R	R								
CONGRESS ST/EB/3A,3B,6B	R	R	R	G	Y	R	R	R	R	R	R	R								
RAMP F/NB/2A	RSL	RSL	RSL	RSL	RSL	RSL	GSL	YSL	RSL	RSL	RSL	RSL								
RAMP F/NB/5A	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL								
RAMP F/NB/3G,4A	R	R	R	R	R	R	R	R	R	G/GV	Y	R								
B ST/SB/5B	R	R	R	R	R	R	R	R	R	G/V	Y	R								
B ST/SB/2B,6A	R	R	R	R/GR	R/YR	R	R	R	R	G/GR	Y/YR	R								
CW/E-W/2F,4F	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW								
CW/E-W/3Z,5E,5F,6E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW								
CW/N-S/2E,3Y,4E,6F,7E,7F	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW								
I N T E R V A L	MINIMUM GREEN	17		8		8		8		8										
	VEHICLE EXTENSION	3		3		3		3		3										
	MAXIMUM 1 GREEN	21		20		11		21												
	MAXIMUM 2 GREEN	26		20		17		21												
	YELLOW CLEARANCE		3		3		3		3		3									
	RED CLEARANCE			3		3		3		3		3								
	WALK INTERVAL	7*			7				7											
PED. CLEARANCE	11**			12**				12**												
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK										
RECALL (VEH./PED.)	MAX			MIN			OFF			OFF										
PROGRAM/COORDINATION																				
PHASE SPLITS IN SECONDS																				
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1			ø2			ø3			ø4			HOURS OF OPERATION					
1	90	21	24			25			14			27			ALL OTHER TIMES					
2	100	67	24			26			23			27			6:00 A.M. TO 10:00 A.M.					
3	100	6	32			26			15			27			2:30 P.M. TO 7:00 P.M.					
COORDINATED OPERATION														EVERYDAY						
PROGRAMMED FLASH														3:00 A.M. TO 6:00 A.M.						
LOOP DETECTOR DATA									CLEARANCES					TECHNICAL NOTES						
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO										1. *ø1 PED SHALL REST IN WALK 2. **PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS
									G	GL	GL/G	G/GR	GSL	G/GV/R/GR	R	RSL	RL	W	DW	
									GL	GL							YL			
									GL/G	YL/G	GL/G						YL/Y			
									GL/G		GL/G					Y				
									G/GR	G/YR		G/GR			Y/GR	Y/YR				
									GSL			GSL				YSL				
									G/GV				G/GV		Y					
									R/GR					R/GR	R/YR					
									R					R						
									RSL							RSL				
									RL								RL			
									W								W	FDW		
									DW									DW		

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
CONGRESS ST. & B STREET/RAMP F
 BOSTON PROPER
 INTERSECTION NUMBER 4058
 SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: SB
 DATE: OCT. 2009

HOWARD/STEIN-HUDSON ASSOCIATES, INC.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

LOCATION: Congress Street & East Service Road
 INTERSECTION No.: 4056 SECTION No.: SB

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS
OPERATION SCHEDULE - PHASE 1

DESIGN DATE: 10/2009
 DATE FIRST IN SERVICE: _____

CLEARANCE TABLE																							FLASH OPERATION
FROM	TO							Ø1	Ø2	Ø3													
	G	GV	GV/GL	GV/GR	R	W	DW																
	G	G	-	-	-	Y	-																
	GV	-	GV	-	-	Y	-																
	GV/GL	-	-	GV/GL	-	Y	-																
	GV/GR	-	-	-	GV/GR	Y	-																
	R	-	-	-	-	R	-																
W	-	-	-	-	-	W	FDW																
DW	-	-	-	-	-	-	DW																
STREET		DIR	FACE		Ø1			Ø2			Ø3												
CONGRESS ST		EB	6A		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
CONGRESS ST		EB	6C,6H		GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
CONGRESS ST		WB	10A,10B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
RAMP C		NB	10C		R	R	R	R	R	R	GV/GR	Y	R										FR
RAMP C		NB	10D		R	R	R	R	R	R	GV	Y	R										FR
RAMP I		NB	4A,4B,5A		R	R	R	G	Y	R	R	R	R										FR
RAMP I		NB	6B		R	R	R	GV/GL	Y	R	R	R	R										FR
RAMP I		NB	6D		R	R	R	GV	Y	R	R	R	R										FR
CROSSWALK		E/W	2F,4E,6E,6F,8F,10E		W/ FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
CROSSWALK		N/S	2E,3E,3F,6G		DW	DW	DW	W/ FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
CROSSWALK		N/S	8E,9E,9F,10F		DW	DW	DW	DW	DW	DW	W/ FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
MINIMUM GREEN					10			8			8												
VEHICLE EXTENSION					3			3			3												
MAXIMUM #1 GREEN					25			24			30												
MAXIMUM #2 GREEN					28			26			37												
YELLOW CLEARANCE						3			3			3											
RED CLEARANCE							3			3			3										
WALK INTERVAL					7*			7			7												
PEDESTRIAN CLEARANCE					12**			14**			15**												
MEMORY					NON-LOCK			NON-LOCK			NON-LOCK												
RECALL (VEH/PED)					MAX			OFF			OFF												
COORDINATION INFORMATION (TIMES IN SECONDS)																							
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3																		
1	90	37	30	30	30																		
2	100	73	29	28	43																		
3	100	27	34	32	34																		
FLASH OPERATION		-	-	-	-																		
HOURS OF OPERATION												TECHNICAL NOTES											
ALL OTHER TIMES												*Ø1 PED SHALL REST IN WALK											
6:00AM - 10:00AM												**PED INDICATION SHALL NOT DISPLAY FDW THROUGH											
2:30PM - 7:00PM												CONCURRENT VEHICLE CLEARANCE INTERVALS											
EMERGENCY/CONFLICT												-											

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Congress Street and Boston Wharf Road

DESIGN DATE: 10/2009

INTERSECTION No.: 4057

DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE								PHASE 1			PED ADVANCE	FLASH OPERATION			
FROM	TO							Ø1	Ø2*	Ø3					
	G	G/GL	R/GR	R	W	DW									
G	G	-	-	Y	Y	-	-								
G/GL	-	G/GL	Y	Y	-	-	-								
R/GR	-	-	R/GR	R/YR	-	-	-								
R	-	-	-	R	-	-	-								
W	-	-	-	-	W	FDW	-								
DW	-	-	-	-	-	DW	-								
STREET	DIR	FACE		Ø1			Ø2*			Ø3			Ø4		
CONGRESS ST	EB	6A		G	Y	R	R	R	R	R	R	R			FY
CONGRESS ST	EB	6B		G	Y	R	R/GR	R/YR	R	R	R	R			FY
CONGRESS ST	WB	2C,3A,3B,5A		G	Y	R	R	R	R	R	R	R			FY
BOSTON WHARF	NB	4A		R	R	R	G/GL	Y	R	R	R	R			FR
BOSTON WHARF	NB	4B		R	R	R	G	Y	R	R	R	R			FR
BOSTON WHARF	SB	2A		R	R	R	R	R	R	G/GL	Y	R	R		FR
BOSTON WHARF	SB	2B		R	R	R	R	R	R	G	Y	R	R		FR
CROSSWALK	E/W	2E,3F,4E,6F		W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	W		OFF
CROSSWALK	N/S	4F,5E,5F,6E		DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW		OFF
CROSSWALK	N/S	2F,3E		DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	DW		OFF
TIMING IN SECONDS															
MINIMUM GREEN				10			8			8			-		
VEHICLE EXTENSION				3			3			3			-		
MAXIMUM #1 GREEN				30			21			25					
MAXIMUM #2 GREEN				37			22			30			-		
YELLOW CLEARANCE					3			3			3				
RED CLEARANCE						2			2			2			
WALK INTERVAL				7*			7			7			6		
PEDESTRIAN CLEARANCE				7**			13**			10**					
MEMORY				NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK			
RECALL (VEH/PED)				MAX		OFF		OFF		OFF		MAX			
*Ø1 PED SHALL REST IN WALK															
**PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS															
COORDINATION INFORMATION (TIMES IN SECONDS)															
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	HOURS OF OPERATION								
1	90	31	29	27	28	6	ALL OTHER TIMES								
2	100	75	42	26	26	6	6:00AM - 10:00AM								
3	100	19	33	26	35	6	2:30PM - 7:00PM								
FLASH OPERATION		-	-	-	-	-	EMERGENCY/CONFLICT								

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Seaport Boulevard and B Street

DESIGN DATE: 10/2009

INTERSECTION No.: 2351

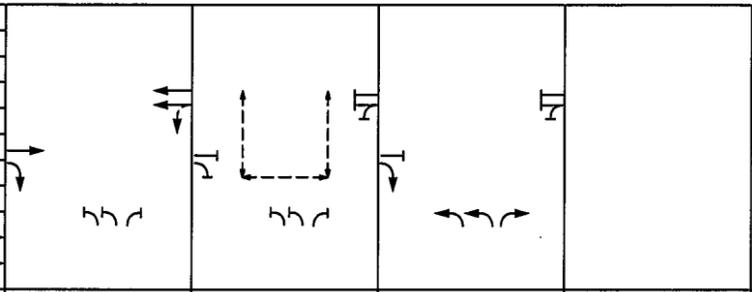
DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO									FLASH OPERATION	
		G	G/GR	GL	R/GR	R	RL	W	DW			
FROM	G	G	-	-	-	Y	-	-	-	-		
	G/GR	G/GR	G/GR	-	Y/GR	Y/GR	-	-	-	-		
	GL	-	-	GL	-	-	YL	-	-	-		
	R/GR	-	-	-	R/GR	R/YR	-	-	-	-		
	R	-	-	-	-	R	-	-	-	-		
	RL	-	-	-	-	-	RL	-	-	-		
	W	-	-	-	-	-	-	W	FDW	-		
	DW	-	-	-	-	-	-	-	-	DW		



STREET	DIR	FACE	Ø1			Ø2*			Ø3						
SEAPORT BLVD	EB	6B,6C	G	Y	R	R	R	R	R	R	R				FY
SEAPORT BLVD	EB	6A	G	Y	R	R	R	R	R/GR	R/YR	R				FY
SEAPORT BLVD	WB	4A,4B	G	Y	R	R	R	R	R	R	R				FY
B STREET	NB	2A,3A,4C,4D	RL	RL	RL	RL	RL	RL	GL	YL	RL				FRL
B STREET	NB	5A	R	R	R	R	R	R	G/GR	Y	R				FR
CROSSWALK	ALL	-	DW	DW	DW	W	FDW	DW	DW	DW	DW				OFF

TIMING IN SECONDS

MINIMUM GREEN	10			-				8							
VEHICLE EXTENSION	3			-				3							
MAXIMUM #1 GREEN	57			-				18							
MAXIMUM #2 GREEN	47			-				20							
YELLOW CLEARANCE		3							3						
RED CLEARANCE			3					4			1				
WALK INTERVAL				7											
PEDESTRIAN CLEARANCE					12										
MEMORY		NON-LOCK		LOCK		NON-LOCK									
RECALL (VEH/PED)		MAX		OFF		OFF									

MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	HOURS OF OPERATION
1	90	84	49	23	18	ALL OTHER TIMES
2	100	23	53	23	24	6:00AM - 10:00AM
3	100	12	53	23	24	2:30PM - 6:00PM
FLASH OPERATION	-	-	-	-	-	3:00AM - 6:00AM

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Seaport Boulevard and Sleeper Street

DESIGN DATE: 10/2009

INTERSECTION No.: 3109

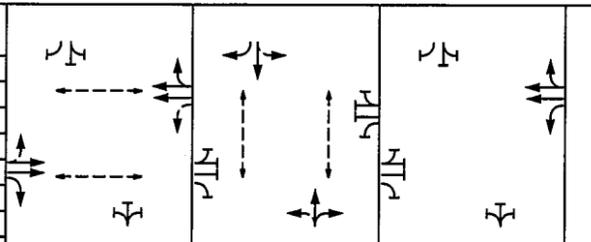
DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO										FLASH OPERATION
		G	GL/G	R	-	W	DW					
FROM	G	G	-	Y	-	-	-					
	GL/G	YL/G	GL/G	YL/Y	-	-	-					
	R	-	-	R	-	-	-					
	-	-	-	-	-	-	-					
W	-	-	-	-	W	FDW						
DW	-	-	-	-	-	-						



STREET	DIR	FACE	Ø1			Ø3			Ø4							
SEAPORT BLVD	EB	5A,5B	G	Y	R	R	R	R	R	R	R				FY	
SEAPORT BLVD	WB	9B,9C	G	Y	R	R	R	R	G	Y	R				FY	
SEAPORT BLVD	WB	9A	G	Y	R	R	R	R	GL/G	YL/Y	R				FY	
SLEEPER ST	NB	2A,3A,4A	R	R	R	G	Y	R	R	R	R				FR	
SLEEPER ST	SB	6A,7A,8A	R	R	R	G	Y	R	R	R	R				FR	
CROSSWALK	E/W	2E,3E,6E,7E	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW				OFF
CROSSWALK	N/S	4E,5E,8E,9E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW				OFF

TIMING IN SECONDS

MINIMUM GREEN	10		8		8										
VEHICLE EXTENSION	2		2		2										
MAXIMUM #1 GREEN	43		26		10										
MAXIMUM #2 GREEN	51		32		13										
YELLOW CLEARANCE		3		3		3									
RED CLEARANCE			3		3			3							
WALK INTERVAL	14*		7												
PEDESTRIAN CLEARANCE	5**		14**												
MEMORY		NON-LOCK	NON-LOCK	NON-LOCK											
RECALL (VEH/PED)		MAX	OFF	OFF											

*Ø1 PED SHALL REST IN WALK
 **PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø3	Ø4	HOURS OF OPERATION
1	90	62	47	29	14	ALL OTHER TIMES
2	100	80	57	29	14	6:00AM - 10:00AM
3	100	88	43	38	19	2:30PM - 6:00PM
FLASH OPERATION	-	-	-	-	-	3:00AM - 6:00AM

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Congress Street and Dorchester Avenue

DESIGN DATE: 10/2009

INTERSECTION No.: 361

DATE FIRST IN SERVICE: _____

SECTION No.: 13

PHASE 1

CLEARANCE TABLE		TO							Ø1			Ø2*			Ø3			FLASH OPERATION	
FROM	G	R	R/GR	-	W	DW													
	G	Y	-	-	-	-													
	R	-	R	-	-	-													
	R/GR	-	R/YR	R/GR	-	-													
	-	-	-	-	-	-													
	W	-	-	-	-	W	FDW												
	DW	-	-	-	-	-	DW												
STREET	DIR	FACE					Ø1			Ø2*			Ø3						
CONGRESS ST	EB	2A,2E					G	Y	R	R	R	R	R	R	R				FY
CONGRESS ST	EB	6A					G	Y	R	R	R	R	R/GR	R/YR	R				FY
CONGRESS ST	WB	2B,2C,2D					G	Y	R	R	R	R	R	R	R				FY
DORCHESTER	NB	4B,5B					R	R	R	R	R	R	G	Y	R				FR
CROSSWALK	ALL	2F,2G,3G,5E,6E,6F					DW	DW	DW	W	FDW	DW	DW	DW	DW				OFF

TIMING IN SECONDS

MINIMUM GREEN	10			-			8						
VEHICLE EXTENSION	2			-			2						
MAXIMUM #1 GREEN	51			-			25						
MAXIMUM #2 GREEN	48			-			32						
YELLOW CLEARANCE		3						3					
RED CLEARANCE			2			4			1				
WALK INTERVAL				7									
PEDESTRIAN CLEARANCE					11								
MEMORY		NON-LOCK		NON-LOCK		NON-LOCK							
RECALL (VEH/PED)		MAX		OFF		OFF							

*Ø2 PED RECALL FROM 7AM-8PM. OTHERWISE, PUSH-BUTTON ACTUATED.
MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	HOURS OF OPERATION
1	90	73	41	22	27	ALL OTHER TIMES
2	100	6	42	22	36	6:00AM - 10:00AM
3	100	80	53	22	25	2:30PM - 6:00PM
FLASH OPERATION	-	-	-	-	-	3:00AM - 6:00AM

LOCATION: Congress Street & A Street & Thomson Place
 INTERSECTION No.: 1662 SECTION No.: SB

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS
OPERATION SCHEDULE - PHASE 1

DESIGN DATE: 10/2009
 DATE FIRST IN SERVICE: _____

CLEARANCE TABLE							TO		FROM		Ø1		Ø2		Ø3		Ø4		Ø5		FLASH OPERATION	
		G	GL/G	R	-	W	DW															
		G	GL/G	YL/G	YL/Y	-	-															
		GL/G	YL/G	GL/G	YL/Y	-	-															
		R	-	-	-	-	-															
		W	-	-	-	-	W															
		DW	-	-	-	-	-															
CONGRESS ST	EB	8A,8B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R					FY
CONGRESS ST	WB	4B		G	Y	R	R	R	R	R	R	R	R	R	G	Y	R					FY
CONGRESS ST	WB	4A		G	Y	R	R	R	R	R	R	R	R	R	GL/G	YL/Y	R					FY
A STREET	NB	2A,3A		R	R	R	R	R	R	G	Y	R	R	R	R	R	R					FR
THOMSON PLACE	SB	6A,7A		R	R	R	R	R	R	R	R	R	G	Y	R	R	R					FR
CROSSWALK	-	ALL		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW					OFF
MINIMUM GREEN				10			-			8			10			8						
EXTENSION				2			-			2			2			2						
MAXIMUM #1 GREEN				29			-			16			12			11						
MAXIMUM #2 GREEN				21						20			13			13						
YELLOW CLEARANCE					3						3			3			3					
RED CLEARANCE						1			4			2			2			1				
WALK INTERVAL							7															
PEDESTRIAN CLEARANCE								10														
MEMORY				NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK						
RECALL				MAX		OFF		OFF		OFF		OFF		OFF		OFF						
COORDINATION INFORMATION (TIMES IN SECONDS)																						
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	Ø5								HOURS OF OPERATION	TECHNICAL NOTES						
1	90	29	22	21	17	17	13								ALL OTHER TIMES	-						
2	100	57	25	21	21	18	15								6:00AM - 10:00AM	-						
3	100	25	23	21	25	17	14								2:30PM - 6:00PM	-						
FLASH OPERATION		-	-	-	-	-	-								3:00AM - 6:00AM	-						

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Summer Street and West Side Drive

DESIGN DATE: 10/2009

INTERSECTION No.: 4111

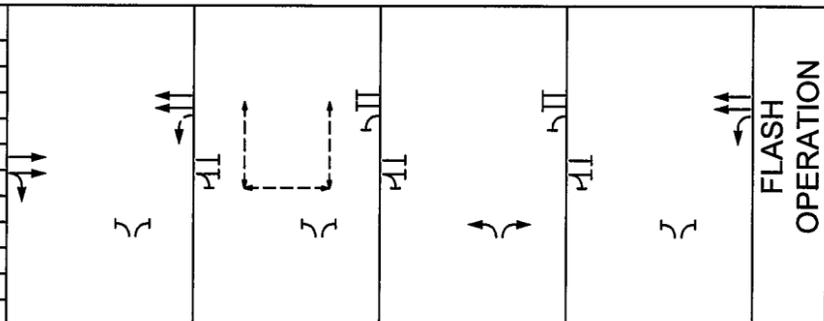
DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO												FLASH OPERATION
		G	GL	GL/G	GL/GR	R/GR	R	W	DW					
FROM	G	G	-	-	-	-	Y	-	-					
	GL	-	GL	-	-	-	YL	-	-					
	GL/G	YL/G	-	GL/G	-	-	YL/Y	-	-					
	GL/GR	-	-	-	GL/GR	-	YL/YR	-	-					
	R/GR	-	-	-	-	R/GR	R/YR	-	-					
	R	-	-	-	-	-	R	-	-					
	-	-	-	-	-	-	-	-	-					
	W	-	-	-	-	-	-	W	FDW					
	DW	-	-	-	-	-	-	-	DW					



STREET	DIR	FACE	Ø1			Ø2*			Ø3			Ø4			
SUMMER ST	EB	4A,4B	G	Y	R	R	R	R	R	R	R	R	R	R	FY
SUMMER ST	WB	6B,6C	G	Y	R	R	R	R	R	R	R	G	Y	R	FY
SUMMER ST	WB	6A	G	Y	R	R	R	R	R	R	R	GL/G	YL/Y	R	FY
WEST SIDE DR	NB	2A	R	R	R	R	R	R	GL	YL	R	R	R	R	FR
WEST SIDE DR	NB	3A	R	R	R	R	R	R	GL/GR	YL/YR	R	R/GR	R/YR	R	FR
CROSSWALK	ALL	3F,4E,4F,5E,5F,6F	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	10			-			8			8				
VEHICLE EXTENSION	2			-			2			2				
MAXIMUM #1 GREEN	45			-			13			9				
MAXIMUM #2 GREEN	37			-			14			10				
YELLOW CLEARANCE		3						3			3			
RED CLEARANCE			2			4			2				2	
WALK INTERVAL				7										
PEDESTRIAN CLEARANCE					17									
MEMORY		NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK									
RECALL (VEH/PED)		MAX	OFF	OFF	OFF	OFF								

*Ø2 PUSH-BUTTON ACTUATED ONLY
MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	HOURS OF OPERATION
1	90	86	28	28	19	15	ALL OTHER TIMES
2	100	7	38	28	19	15	6:00AM - 10:00AM
3	100	89	42	28	17	13	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	-	-	EMERGENCY/CONFLICT

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Summer Street and World Trade Center Avenue

DESIGN DATE: 10/2009

INTERSECTION No.: 664

DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO							Ø1	Ø2*	Ø3	Ø4	FLASH OPERATION
		G	GL/R	R	-	W	DW						
FROM	G	G	-	Y	-	-	-						
	GL/R	-	GL/R	YL/R	-	-	-						
	R	-	-	R	-	-	-						
	W	-	-	-	-	W	FDW						
	DW	-	-	-	-	-	-						

STREET	DIR	FACE	Ø1			Ø2*			Ø3			Ø4			
SUMMER ST	EB	4B,4C,6B	G	Y	R	R	R	R	R	R	R	R	R	R	FY
SUMMER ST	EB	4A	G	Y	R	R	R	R	R	R	R	GL/R	YL/R	R	FY
SUMMER ST	WB	2B,8A,8B	G	Y	R	R	R	R	R	R	R	R	R	R	FY
SUMMER ST	WB	7A	G	Y	R	R	R	R	R	R	R	GL/R	YL/R	R	FY
WORLD TRADE	NB	3A,9A	R	R	R	R	R	R	G	Y	R	R	R	R	FR
WORLD TRADE	SB	5A,6A	R	R	R	R	R	R	G	Y	R	R	R	R	FR

CROSSWALK	ALL	2F,3E,5E,5F 6E,6F,9E,9F	DW	DW	DW	W	FDW	DW	OFF							
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TIMING IN SECONDS

MINIMUM GREEN	10			-				8				8			
VEHICLE EXTENSION	2			-				2				2			
MAXIMUM #1 GREEN	49			-				14				13			
MAXIMUM #2 GREEN	39			-				17				17			
YELLOW CLEARANCE			3							3			3		
RED CLEARANCE				2				4			2				1
WALK INTERVAL					7										
PEDESTRIAN CLEARANCE						15									
MEMORY			NON-LOCK			LOCK			NON-LOCK			NON-LOCK			
RECALL (VEH/PED)			MAX			OFF			OFF			OFF			

*Ø2 PUSH-BUTTON ACTUATED ONLY
MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	HOURS OF OPERATION
1	90	0	24	26	19	21	ALL OTHER TIMES
2	100	6	42	26	16	16	6:00AM - 10:00AM
3	100	0	37	26	22	15	2:30PM - 6:00PM
FLASH OPERATION		-	-	-	-	-	3:00AM - 6:00AM

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Seaport Boulevard and Boston Wharf Road

DESIGN DATE: 10/2009

INTERSECTION No.: 3108

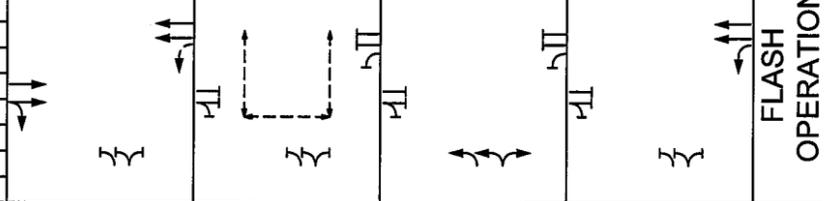
DATE FIRST IN SERVICE: _____

SECTION No.: SB

PHASE 1

CLEARANCE TABLE

		TO												FLASH OPERATION
		G	GL	GL/G	GL/GR	RL	R	W	DW					
FROM	G	G	-	-	-	-	-	-	-					
	GL	-	GL	-	-	YL	-	-	-					
	GL/G	YL/G	-	GL/G	-	-	YL/Y	-	-					
	GL/GR	-	-	-	GL/GR	-	-	-	-					
	R	-	-	-	-	-	R	-	-					
W	-	-	-	-	-	-	W	FDW						
DW	-	-	-	-	-	-	-	-						



STREET	DIR	FACE	Ø1			Ø2*			Ø3			Ø4			
SEAPORT BLVD	EB	7A,7B	G	Y	R	R	R	R	R	R	R	R	R	R	FY
SEAPORT BLVD	WB	4A,4B	G	Y	R	R	R	R	R	R	R	G	Y	R	FY
SEAPORT BLVD	WB	4C	G	Y	R	R	R	R	R	R	R	GL/G	YL/Y	R	FY
BOSTON WHARF	NB	5A	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	FRL
BOSTON WHARF	NB	5B	R	R	R	R	R	R	GL/GR	Y	R	R	R	R	FR
CROSSWALK	-	ALL	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	10			-			8			8				
VEHICLE EXTENSION	3			-			3			3				
MAXIMUM #1 GREEN	48			-			11			9				
MAXIMUM #2 GREEN	43			-			16			12				
YELLOW CLEARANCE		3						3			3			
RED CLEARANCE			3			4			2			2		
WALK INTERVAL				7										
PEDESTRIAN CLEARANCE					14									
MEMORY		NON-LOCK		LOCK		NON-LOCK		NON-LOCK		NON-LOCK				
RECALL (VEH/PED)		MAX		OFF		OFF		OFF		OFF				

*Ø2 PUSH-BUTTON ACTUATED ONLY
MAX. #2 DURING COORDINATED OPERATION

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	HOURS OF OPERATION
1	90	82	39	25	13	13	ALL OTHER TIMES
2	100	2	49	25	13	13	6:00AM - 10:00AM
3	100	29	37	25	21	17	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	-	-	EMERGENCY/CONFLICT

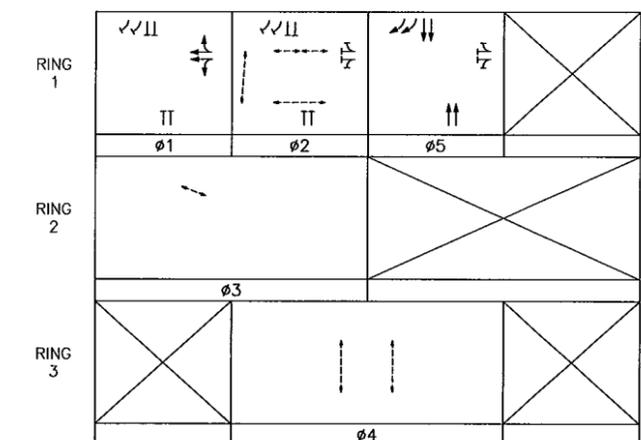
		TIMING AND SEQUENCE CHART															OPERATING FLASHING	
		ø1			ø2			ø3			ø4			ø5				
STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
STATE ST/WB/4A,4B,9B	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R			FR
CONGRESS ST/NB/5A,6A	R	R	R	R	R	R	R	R	R	R	R	R	GV	Y	R			FY
CONGRESS ST/SB/8A,9A	R	R	R	R	R	R	R	R	R	R	R	R	GV	Y	R			FY
CONGRESS ST/SB/10A,11A	R	R	R	R	R	R	R	R	R	R	R	R	GV/GR	Y	R			FY
C.W./E-W/2F,3E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW			OFF
C.W./N-W/4E,6F,7F,9E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW			OFF
C.W./E-W/2E,4F,5E,5F,6E,7E,8E,11E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			OFF

I N T E R V A L	SECONDS	PROGRAM/COORDINATION															HOURS OF OPERATION
		PHASE SPLITS IN SECONDS															
MINIMUM GREEN	10	ø1,ø3			ø2,ø3,ø4			ø4,ø5									ALL OTHER TIMES
VEHICLE EXTENSION	2	34			22			34									6:00 A.M. TO 10:00 A.M.
MAXIMUM 1 GREEN	39	36			22			42									2:30 P.M. TO 7:00 P.M.
MAXIMUM 2 GREEN	29	34			22			44									
YELLOW CLEARANCE	3																
RED CLEARANCE	4																
WALK INTERVAL	7																
PED. CLEARANCE	11																
MEMORY	NON-LOCK	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						EVERYDAY
RECALL (VEH./PED.)	MAX	PED			PED			PED			MAX						EMERGENCY/CONFLICT

LOOP DETECTOR DATA									CLEARANCES							TECHNICAL NOTES		
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO							* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.	
									G	GV	GV/GR	R	-	W	DW			
									G	G	-	-	Y	-	-			
									GV	-	GV	-	Y	-	-			
									GV/GR	-	-	GV/GR	Y	-	-			
									R	-	-	-	R	-	-			
									-	-	-	-	-	-	-			
									W	-	-	-	-	W	FDW			
									DW	-	-	-	-	-	DW			

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
STATE ST. & CONGRESS ST.

BOSTON PROPER
 INTERSECTION NUMBER 52

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: GC
 DESIGN DATE: OCT. 2009

HOWARD
 STEIN
 HUDSON
 ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.462.7080
 Fax: 617.462.7417

LOCATION: North Street & Congress Street
 INTERSECTION No.: 26 SECTION No.: GC

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS
OPERATION SCHEDULE - PHASE 1

DESIGN DATE: 10/2009
 DATE FIRST IN SERVICE: _____

CLEARANCE TABLE																																																																																																																																																																																																																																																																																																																																																																														
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BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Hanover Street and Congress Street

DESIGN DATE: 10/2009

INTERSECTION No.: 4035

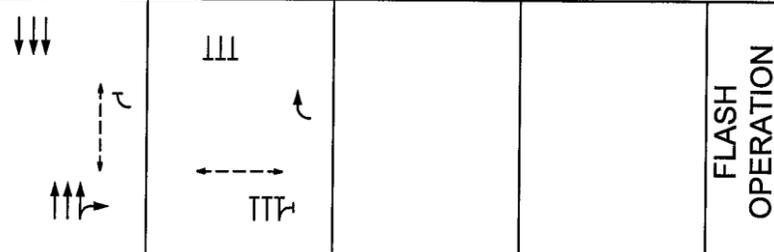
DATE FIRST IN SERVICE: _____

SECTION No.: GC

PHASE 1

CLEARANCE TABLE

		TO					
		G	GR	GV	R	W	DW
FROM	G	G	-	-	Y	-	-
	GR	-	GR	-	Y	-	-
	GV	-	-	GV	Y	-	-
	R	-	-	-	R	-	-
	W	-	-	-	-	W	FDW
	DW	-	-	-	-	-	DW



FLASH OPERATION

STREET	DIR	FACE	Ø1			Ø2							FLASH OPERATION	
HANOVER ST	WB	3A,6A	R	R	R	GR	Y	R						FR
CONGRESS ST	NB	7A,7B	GV	Y	R	R	R	R						FY
CONGRESS ST	NB	7C	G	Y	R	R	R	R						FY
CONGRESS ST	SB	3B,4A,4B	GV	Y	R	R	R	R						FY
CROSSWALK	N/S	2E,8E	W/ FDW	DW	DW	DW	DW	DW						OFF
CROSSWALK	E/W	2F,3E,3F,5E	DW	DW	DW	W/ FDW	DW	DW						OFF

TIMING IN SECONDS

MINIMUM GREEN	10			8									
VEHICLE EXTENSION	2			2									
MAXIMUM #1 GREEN	56			25									
MAXIMUM #2 GREEN	61			35									
YELLOW CLEARANCE		3			3								
RED CLEARANCE			2			1							
WALK INTERVAL	7*			8									
PEDESTRIAN CLEARANCE	6**			15**									
MEMORY		NON-LOCK		NON-LOCK									
RECALL (VEH/PED)		MAX		OFF									

*Ø1 PED SHALL REST IN WALK

** PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	HOURS OF OPERATION			
1	90	13	57	33	ALL OTHER TIMES			
2	100	38	61	39	6:00AM - 10:00AM			
3	100	40	66	34	2:30PM - 7:00PM			
FLASH OPERATION		-	-	-	3:00AM - 6:00AM			

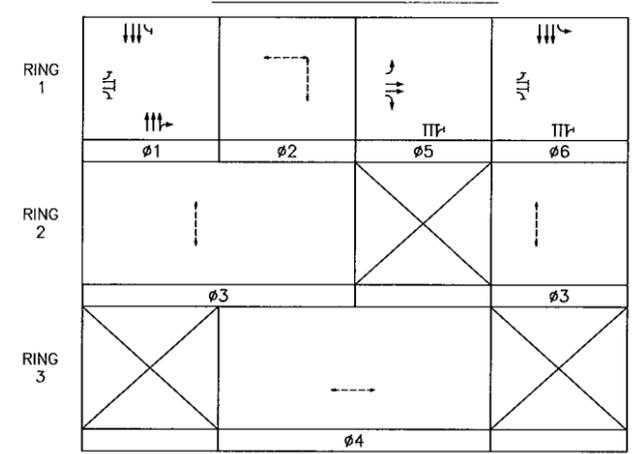
(APPROX.) NEW SUDBURY MERRIMACK STREET CONGRESS STREET		TIMING AND SEQUENCE CHART																		OPERATING FLASHING				
		ø1			ø2			ø3			ø4			ø5			ø6							
STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
CONGRESS ST/NB/2A,2B	GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
CONGRESS ST/NB/2C	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
CONGRESS ST/SB/6A,6B	GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	GV	Y	R	FY		
CONGRESS ST/SB/5A	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	GL	Y	R	FY		
NEW SUDBURY/EB/3A,3B,3C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR		
C.W./-/6F,7E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./-/3E,4F,7F,8E,9E,10E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./-/4E,6E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
I N T E R V A L S	MINIMUM GREEN	10	/			/			/			/			11	/			7	/				
	VEHICLE EXTENSION	2	/			/			/			/			2	/			2	/				
	MAXIMUM 1 GREEN	40	/			/			/			/			20	/			10	/				
	MAXIMUM 2 GREEN	31	/			/			/			/			22	/			10	/				
	YELLOW CLEARANCE		3	/			/			/			/			3	/			3	/			
	RED CLEARANCE			3	/			/			/			/				/				/		
	WALK INTERVAL				7	/			/			/				/				/				
PED. CLEARANCE					15	/			/			/				/				/				
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK		
RECALL (VEH./PED.)	MAX.			OFF			PED			OFF			OFF			OFF			OFF			OFF		

CYCLE NO.		CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS				HOURS OF OPERATION	
				ø1,ø3	ø2,ø3,ø4	ø4,ø5	ø3,ø6		
1	90	31		26	26	25	13	ALL OTHER TIMES	
2	100	57		35	26	25	14	6:00 A.M. TO 10:00 A.M.	
3	100	49		34	26	28	12	2:30 P.M. TO 7:00 P.M.	
COORDINATED OPERATION								EVERYDAY	
PROGRAMMED FLASH								EMERGENCY/CONFLICT	

LOOP DETECTOR DATA									CLEARANCES								TECHNICAL NOTES		
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO								* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1 ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.	
									G	GV	GL	R	W	DW					
									G	G	-	-	Y	-	-				
									GV	-	GV	-	Y	-	-				
									GL	-	-	GL	Y	-	-				
									R	-	-	-	R	-	-				
									W	-	-	-	-	W	FDW				
									DW	-	-	-	-	-	DW				

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

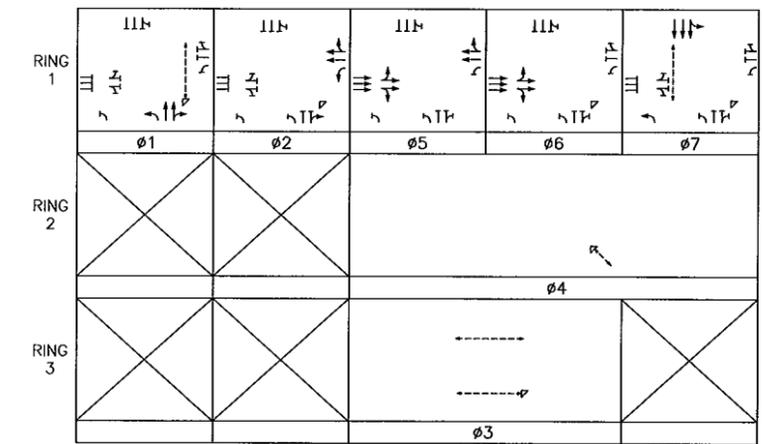
CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
NEW SUDBURY ST. & CONGRESS ST.
 BOSTON PROPER
 INTERSECTION NUMBER 1685
 SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: GC
 DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.462.7080
 Fax: 617.462.7417

TIMING AND SEQUENCE CHART																							
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			ø6			ø7			OPERATION FLASHING
GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
MERRIMAC ST/NB/2H	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL		
MERRIMAC ST/NB/2K,2M	GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
MERRIMAC ST/NB/12A,14A	GSR	YSR	RSR	GSR	YSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	FYSR		
MERRIMAC ST/SB/2G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	GV/GL	Y	R	FY	
MERRIMAC ST/SB/2A	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY	
NEW CHARDON/EB/2B,2D	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	FR	
NEW CHARDON/EB/4A,4B	R	R	R	R	R	R	R	R	R	R	R	R	R	GV	Y	R	GV	Y	R	R	R	FR	
NEW CHARDON/WB/2C	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL	
NEW CHARDON/WB/2J,2L	R	R	R	G	Y	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	FR	
GARAGE/NB/4C,5A	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	FRL
C.W./2E,15E	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./13E,14E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./8E,6F	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./15F,16E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF	
C.W./3E,6E	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	OFF	
I N T E R V A L	MINIMUM GREEN	7		7		-		-		10		1		10		1		10					
	VEHICLE EXTENSION	2		2		-		-		2		2		2		2		2					
	MAXIMUM 1 GREEN	22		8		-		-		19		1		16		1		17					
	MAXIMUM 2 GREEN	23		9		-		-		21		1		17		1		17					
	YELLOW CLEARANCE		3		3					3		3		3		3		3					
	RED CLEARANCE			3		4		6		6		3		3		3		3					
	WALK INTERVAL	7*					7		7					7				7					
	PED. CLEARANCE	13**					12**		5**					8**				8**					
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						
RECALL (VEH./PED.)		MAX/PED			OFF			PED			PED			MAX			PED						
PROGRAM/COORDINATION																							
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS															HOURS OF OPERATION					
			ø1	ø2	ø3,ø4,ø5			ø3,ø4,ø6			ø4,ø7								ALL OTHER TIMES				
1	90	36	28	14	20			7			21								6:00 A.M. TO 10:00 A.M.				
2	100	66	29	16	27			7			21								2:30 P.M. TO 7:00 P.M.				
3	100	48	27	16	27			7			23												
COORDINATED OPERATION																							
PROGRAMMED FLASH																							
EVERYDAY																							
EMERGENCY/CONFLICT																							
LOOP DETECTOR DATA									CLEARANCES									TECHNICAL NOTES					
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO									* ø1 PED SHALL REST IN WALK. ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.				
									G	GV/GL	GL	GSR	GV	R	W	DW							
									G	-	-	-	-	Y	-	-							
									GV/GL	-	GV/GL	-	-	Y	-	-							
									GL	-	GL	-	-	YL	-	-							
									GSR	-	-	GSR	-	Y	-	-							
									GV	-	-	-	GV	Y	-	-							
									R	-	-	-	-	R	-	-							
									W	-	-	-	-	-	W	FDW							
									DW	-	-	-	-	-	-	DW							

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
NEW CHARDON ST. & MERRIMAC ST.
 BOSTON PROPER
 INTERSECTION NUMBER 311
 SCALE: NOT TO SCALE AREA: GC
 DISTRICT: - DESIGN DATE: OCT. 2009

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

HOWARD
 HUDSON
 ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.462.7080
 Fax: 617.462.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: South Station Connector (SSCONN) and Albany Street

DESIGN DATE: 10/2009

INTERSECTION No.: 4110

DATE FIRST IN SERVICE: _____

SECTION No.: 11

PHASE 1

CLEARANCE TABLE

		TO							FLASH OPERATION
	G	GL	R	-	W	DW			
FROM	G	-	Y	-	-	-			
	GL	-	GL	Y	-	-			
	R	-	-	R	-	-			
	-	-	-	-	-	-			
	W	-	-	-	W	FDW			
	DW	-	-	-	-	DW			

STREET	DIR	FACE	Ø1			Ø2*			Ø3						
ALBANY STREET	SB	4A,4B	G	Y	R	R	R	R	R	R	R	R			FY
SSCONN	WB	4C,5A	R	R	R	R	R	R	GL	Y	R				FR
CROSSWALK	N/S	2E,3E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW			OFF

TIMING IN SECONDS

MINIMUM GREEN	10			-			8							
VEHICLE EXTENSION	2			-			2							
MAXIMUM #1 GREEN	57			-			18							
MAXIMUM #2 GREEN	50			-			19							
YELLOW CLEARANCE			3						3					
RED CLEARANCE				2				4			2			
WALK INTERVAL					10									
PEDESTRIAN CLEARANCE						10								
MEMORY		NON-LOCK		LOCK		NON-LOCK								
RECALL (VEH/PED)		MAX		OFF		OFF								

*Ø2 PUSH-BUTTON ACTUATED ONLY

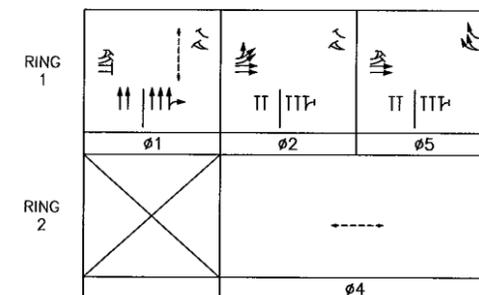
COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	HOURS OF OPERATION
1	90	50	42	24	24	ALL OTHER TIMES
2	100	71	55	24	21	6:00AM - 10:00AM
3	100	0	53	24	23	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	-	3:00AM - 6:00AM

TIMING AND SEQUENCE CHART																
STREET/DIRECTION/FACE		ø1			ø2			ø4			ø5			OPERATING FLASHING		
FRONTAGE/NB/2A,4A	GV	Y	R	R	R	R	R	R	R	R	R	R	FY			
FRONTAGE/NB/7A,8A,10A,11A	G	Y	R	R	R	R	R	R	R	R	R	R	FY			
TRAVELER/EB/3A,9C,9D	R	R	R	GV	Y	R	R	R	R	GV	Y	R	FR			
TRAVELER/EB/9A,9B	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	FRL			
BROADWAY/EB/4B,5A	R	R	R	R	R	R	R	R	R	GSR	Y	R	FR			
TRAVELER/EB/4C,6A,7C	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	FRL			
BROADWAY/EB/7B,8B	R	R	R	R	R	R	R	R	R	GR	Y	R	FR			
C.W./N-S/8E,9E	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
C.W./E-W/2E,10E,11E,11F	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF			
INTERSECTIONS	MINIMUM GREEN	10	8		-		8		-		8					
	VEHICLE EXTENSION	2	2		-		2		-		2					
	MAXIMUM 1 GREEN	25	27		-		40		-		51					
	MAXIMUM 2 GREEN	26	30		-		51		-		51					
	YELLOW CLEARANCE		4	4				4	4							
	RED CLEARANCE			2		2			2							
	WALK INTERVAL	7*					7		6			2				
PED. CLEARANCE	16**						14**									
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						
RECALL (VEH./PED.)	MAX			OFF			OFF			OFF						
PROGRAM/COORDINATION																
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1			ø2,ø4			ø4,ø5			HOURS OF OPERATION				
1	100	80	31			36			33			ALL OTHER TIMES				
2	120	74	32			31			57			6:00 A.M. TO 10:00 A.M.				
3	110	12	31			31			48			2:30 P.M. TO 7:00 P.M.				
COORDINATED OPERATION																
PROGRAMMED FLASH																
EMERGENCY/CONFLICT																
LOOP DETECTOR DATA									CLEARANCES				TECHNICAL NOTES			
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO			*ø1 PED SHALL REST IN WALK ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.			
									G	GV	GL	R		RL	W	DW
									G	-	-	Y		-	-	-
									GV	-	GV	-		Y	-	-
									GL	-	-	GL		-	YL	-
									GSR	-	-	-		Y	-	-
									GR	-	-	-		Y	-	-
									W	-	-	-	-	W	FDW	
									DW	-	-	-	-	-	DW	

S/P = SERIES/PARALLEL

PHASING DIAGRAM



CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
BROADWAY BRIDGE & FRONTAGE RD.
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 4114
 SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 19
 DESIGN DATE: OCT. 2009

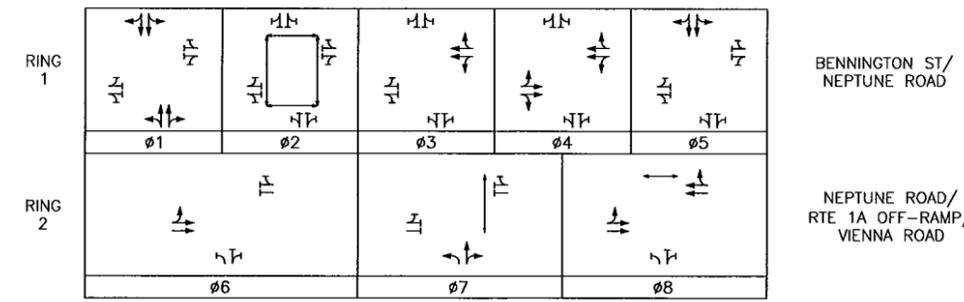
DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

HOWARD
 STEIN
 HUDSON
 ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

		TIMING AND SEQUENCE CHART																								OPERATION FLASHING			
(APPROX.)		#1			#2			#3			#4			#5			#6			#7			#8						
STREET/DIRECTION/FACE		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL				
BENNINGTON/SB/11B		G	Y	R	R	R	R	R	R	R	R	R	R	G	Y	R													FY
BENNINGTON/SBLT/11A		G	Y	R	R	R	R	R	R	R	R	R	R	GL/G	YL/Y	R													FY
BENNINGTON/NB/8A,8B		G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R													FY
NEPTUNE/EB/10A,10B		R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R													FR
NEPTUNE/WB/12B		R	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R													FR
NEPTUNE/WBLT/12A		R	R	R	R	R	R	GL/G	YL/Y	R	G	Y	R	R	R	R													FR
C.W./E-W/BE,10E,11E,12E		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW													OFF
C.W./N-S/8F,10F,11F,12F		DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW													OFF
NEPTUNE/EBLT/4A														GL/G	Y	R	R	R	R	R	R	R	G	Y	R				FY
NEPTUNE/EB/5A														G	Y	R	R	R	R	R	R	R	G	Y	R				FY
NEPTUNE/WB/6A,7A														R	R	R	R	R	R	R	R	R	G	Y	R				FY
ROUTE 1A RAMP/NB/2A,3A														R	R	R	G	Y	R	R	R	R	R	R	R				FR
C.W./E-W/2E,3E														DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW				OFF
C.W./N-S/3F,5F														DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW				OFF
INTERSECTIONS	MINIMUM GREEN	8					6			6			8			8			6			8							
	VEHICLE EXTENSION	2					2			2			2			2			2			2							
	MAXIMUM 1 GREEN	26					9			15			20			41			38			19							
	MAXIMUM 2 GREEN	19					10			22			34			47			43			26							
	YELLOW CLEARANCE		4					4				4			3					3									
	RED CLEARANCE			3					3							1					1								
	WALK INTERVAL				7																	7							
	PED. CLEARANCE					14																12**							
MEMORY		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK									
RECALL (VEH./PED.)		MAX			OFF			OFF			OFF			OFF			OFF			OFF									
PROGRAM/COORDINATION																													
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS																					HOURS OF OPERATION					
1	100	0	20	25	17	22	16	45	38	17												ALL OTHER TIMES							
2	110	0	15	25	13	16	41	40	40	30												6:00 A.M. TO 10:00 A.M.							
3	120	0	26	25	17	29	23	51	47	22												2:30 P.M. TO 7:00 P.M.							
COORDINATED OPERATION																								EVERYDAY					
PROGRAMMED FLASH																								3:00 A.M. TO 6:00 A.M.					
LOOP DETECTOR DATA												CLEARANCES								TECHNICAL NOTES									
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	#CALL	#EXT.	CHNL.	FROM TO								** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.												
									G	GL/G	R	-	-	-	W	DW													
									G	G	-	Y	-	-	-	-													
									GL/G	YL/G	GL/G	YL/Y	-	-	-	-													
									GL/G	-	GL/G	Y	-	-	-	-													
									R	-	-	R	-	-	-	-													
									-	-	-	-	-	-	-	-													
									W	-	-	-	-	-	W	FDW													
									DW	-	-	-	-	-	-	DW													

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
BENNINGTON ST. & NEPTUNE & RTE 1A
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 450
 SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: -
 DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: South Station Connector (SSCONN) and Ramps K&X

DESIGN DATE: 10/2009

INTERSECTION No.: 4109

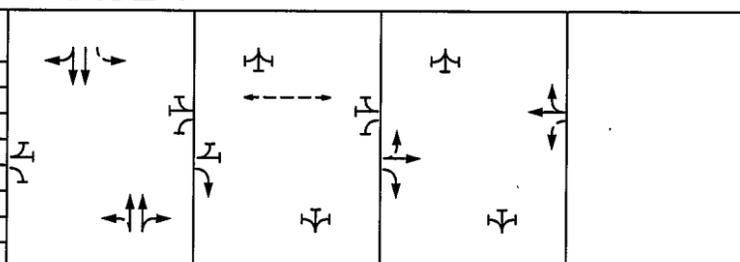
DATE FIRST IN SERVICE: _____

SECTION No.: 11

PHASE 1

CLEARANCE TABLE

		TO						Ø1	Ø2	Ø5	FLASH OPERATION
		G	GR	R	-	W	DW				
FROM	G	G	-	Y	-	-					
	GR	-	GR	YR	-	-					
	R	-	-	R	-	-					
	-	-	-	-	-	-					
	W	-	-	-	-	W	FDW				
DW	-	-	-	-	-	DW					



STREET	DIR	FACE	Ø1			Ø2			Ø5			
RAMP K	NB	2J,2K	G	Y	R	R	R	R	R	R	R	FY
LINCOLN ST	SB	2F,2G,2H	G	Y	R	R	R	R	R	R	R	FY
SSCONN	EB	2A,2B	R	R	R	R	R	R	G	Y	R	FR
SSCONN	EB	3A	R	R	R	GR	YR	R	G	Y	R	FR
SSCONN	WB	2C,2D,4A	R	R	R	R	R	R	G	Y	R	FR
CROSSWALK	-	2E,6E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	10		8		8						
VEHICLE EXTENSION	2		2		2						
MAXIMUM #1 GREEN	39		23		19						
MAXIMUM #2 GREEN	49		27		26						
YELLOW CLEARANCE		3		3		3					
RED CLEARANCE			2		2		2				
WALK INTERVAL			7								
PEDESTRIAN CLEARANCE			8**								
MEMORY		NON-LOCK	NON-LOCK	NON-LOCK							
RECALL (VEH/PED)		MAX	OFF	OFF							

**PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

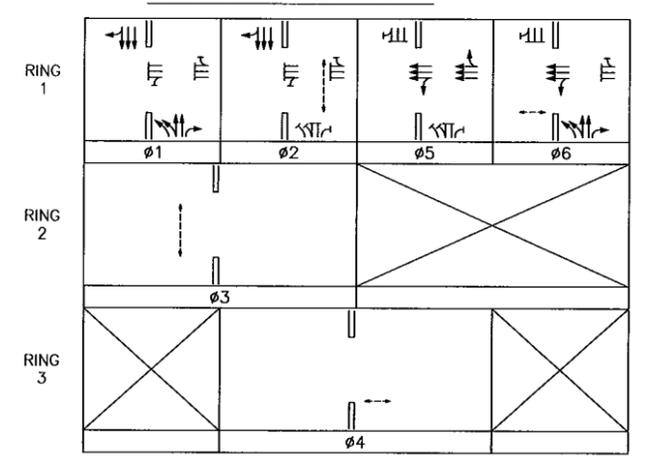
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø5	HOURS OF OPERATION
1	90	69	42	26	22	ALL OTHER TIMES
2	100	59	54	26	20	6:00AM - 10:00AM
3	100	15	37	32	31	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	-	EMERGENCY/CONFLICT

		TIMING AND SEQUENCE CHART																		OPERATION FLASHING		
		ø1			ø2			ø3			ø4			ø5			ø6					
STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL				
FRONTAGE/NB/6A,8A,9A,12A	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FY			
ALBANY/SB/3A,3B,4C	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY			
WEST 4TH/WB/4A,4B,5A	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	Y	R	FR			
WEST 4TH/WB/7A,8B,10A	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR			
C.W./N-S/3F,4E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
C.W./N-S/9E,11F	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF			
C.W./E-W/6E,11E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF			
C.W./E-W/2E,3E	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	OFF			
INTERSECTIONS	MINIMUM GREEN	10		10			-			-			8			8						
	VEHICLE EXTENSION	2		2			-			-			2			2						
	MAXIMUM 1 GREEN	17		20			-			-			31			20						
	MAXIMUM 2 GREEN	19		22			-			-			36			22						
	YELLOW CLEARANCE		4		4									3			3					
	RED CLEARANCE			2			2			6						2			2			
	WALK INTERVAL				7			7*			7					7						
PED. CLEARANCE				12**					5**				5**			5**						
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						
RECALL (VEH./PED.)	MAX			OFF			OFF			OFF			OFF			OFF						
PROGRAM/COORDINATION																						
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1,ø3				ø2,ø3,ø4				ø4,ø5				ø6				HOURS OF OPERATION			
1	100	0	21				25				31				23				ALL OTHER TIMES			
2	120	0	25				28				41				26				6:00 A.M. TO 10:00 A.M.			
3	110	20	23				25				35				27				2:30 P.M. TO 7:00 P.M.			
COORDINATED OPERATION																						

PROGRAMMED FLASH																						
EMERGENCY/CONFLICT																						
LOOP DETECTOR DATA										CLEARANCES					TECHNICAL NOTES							
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.		FROM	TO				*ø3 PED SHALL REST IN WALK DURING CO-ORD ø1. ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.							
										G	R	-	-	-						W	DW	
									G	G	Y	-	-	-						-	-	
									R	-	R	-	-	-						-	-	
									-	-	-	-	-	-						-	-	
									W	-	-	-	-	-						W	FDW	
									DW	-	-	-	-	-	-	DW						

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
E. BERKELEY / FRNB / ALBANY / 4TH ST.
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 312

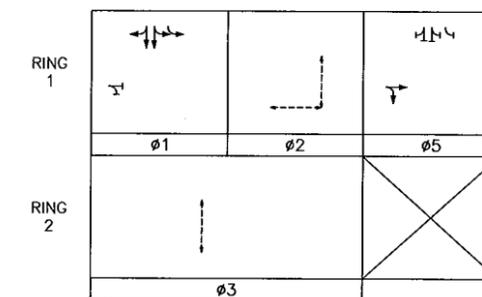
SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 19
 DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

TIMING AND SEQUENCE CHART													OPERATION FLASHING				
ø1			ø2			ø3			ø5								
STREET/DIRECTION/FACE	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL					
ALBANY/SB/4A,4B,5A	G	Y	R	R	R	R	R	R	R	R	R	R	FY				
ALBANY/SB/3C	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FYL				
TRAVELER/EB/3A,3B	R	R	R	R	R	R	R	R	R	G	Y	R	FR				
C.W./N-S/4F,5E	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF				
C.W./E-W/2E,4E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF				
C.W./N-S/3E,6E	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF				
I N T E R S E C O N D S R V A L	MINIMUM GREEN	10								8							
	VEHICLE EXTENSION	2								2							
	MAXIMUM 1 GREEN	66								28							
	MAXIMUM 2 GREEN	59								30							
	YELLOW CLEARANCE		4								4						
	RED CLEARANCE			2			4					2					
	WALK INTERVAL				7			7*									
	PED. CLEARANCE					8			5**								
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK							
RECALL (VEH./PED.)	MAX			OFF			PED			OFF							
PROGRAM/COORDINATION																	
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS									HOURS OF OPERATION					
			ø1,ø3	ø2,ø3	ø5												
1	100	39	49	19	32								ALL OTHER TIMES				
2	120	116	65	19	36								6:00 A.M. TO 10:00 A.M.				
3	110	80	56	19	35								2:30 P.M. TO 7:00 P.M.				
COORDINATED OPERATION													EVERYDAY				
PROGRAMMED FLASH													3:00 A.M. TO 6:00 P.M.				
LOOP DETECTOR DATA									CLEARANCES				TECHNICAL NOTES				
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO				*ø3 PED SHALL REST IN WALK DURING CO-ORD ø1. ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.			
									G	GL	R	RL	-			W	DW
									G	-	Y	-	-			-	-
									GL	-	GL	YL	-			-	-
									R	-	-	R	-			-	-
									RL	-	-	-	RL			-	-
									-	-	-	-	-	-	-		
									W	-	-	-	-	W	FDW		
									DW	-	-	-	-	-	DW		

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
TRAVELER ST. & ALBANY ST.
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 4115
 SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 19
 DESIGN DATE: OCT. 2009

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: Herald Street and Albany Street

DESIGN DATE: 10/2009

INTERSECTION No.: 70

DATE FIRST IN SERVICE: _____

SECTION No.: 9

PHASE 1

CLEARANCE TABLE

		TO										FLASH OPERATION
		G	GR	R	-	W	DW					
FROM	G	G	-	Y	-	-	-					
	GR	-	GR	Y	-	-	-					
	R	-	-	R	-	-	-					
	-	-	-	-	-	-	-					
	W	-	-	-	-	W	FDW					
	DW	-	-	-	-	-	DW					
STREET	DIR	FACE		Ø1			Ø2					
HERALD ST	EB	1A,2A		GR	Y	R	R	R	R			FY
ALBANY ST	SB	3A,3B		R	R	R	G	Y	R			FR
CROSSWALK	E/W	6E,7E		W/ FDW	DW	DW	DW	DW	DW			OFF
CROSSWALK	N/S	4E,5E		DW	DW	DW	W/ FDW	DW	DW			OFF

TIMING IN SECONDS

MINIMUM GREEN	8		8								
VEHICLE EXTENSION	2		2								
MAXIMUM #1 GREEN	37		43								
MAXIMUM #2 GREEN	45		45								
YELLOW CLEARANCE		4		4							
RED CLEARANCE			1		1						
WALK INTERVAL	7*		7								
PEDESTRIAN CLEARANCE	5**		5**								
MEMORY		NON-LOCK	NON-LOCK								
RECALL (VEH/PED)		MAX	OFF								

*Ø1 PED SHALL REST IN WALK
 **PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	HOURS OF OPERATION	
1	90	25	45	45	ALL OTHER TIMES	
2	80	25	32	48	6:00AM - 10:00AM	
3	100	0	50	50	2:30PM - 7:00PM	
FLASH OPERATION		-	-	-	EMERGENCY/CONFLICT	

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS

OPERATION SCHEDULE

LOCATION: MBTA Driveway (near Randolph) and Albany Street

DESIGN DATE: 10/2009

INTERSECTION No.: 1333

DATE FIRST IN SERVICE: _____

SECTION No.: 19

PHASE 1

CLEARANCE TABLE

		TO											FLASH OPERATION
		G	GV/GL	GV/GR	GR	R	W	DW					
FROM	G	G	-	-	-	Y	-	-					
	GV/GL	-	GV/GL	-	-	Y	-	-					
	GV/GR	-	-	GV/GR	-	Y	-	-					
	GR	-	-	-	GR	Y	-	-					
	R	-	-	-	-	R	-	-					
	W	-	-	-	-	-	W	FDW					
	DW	-	-	-	-	-	-	DW					

STREET	DIR	FACE	Ø1			Ø2			Ø3			Ø4			
ALBANY ST	SB	8B,8C	G	Y	R	G	Y	R	R	R	R	R	R	R	FY
ALBANY ST	SB	7A,8A	GV/GL	Y	R	GV/GL	Y	R	R	R	R	R	R	R	FY
ALBANY ST	SB	9B,10A,10B	G	Y	R	G	Y	R	R	R	R	G	Y	R	FY
ALBANY ST	SB	2A,2B	G	Y	R	R	R	R	G	Y	R	G	Y	R	FY
ALBANY ST	NB	8D,8G,8H	R	R	R	R	R	R	R	R	R	GR	Y	R	FY
MBTA DRIVEWAY	EB	8J,8K,9A	R	R	R	R	R	R	GV/GR	Y	R	R	R	R	FR
CROSSWALK	-	3F,4E	W/FDW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
CROSSWALK	-	2E,3E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
CROSSWALK	-	5E,6E	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	OFF

TIMING IN SECONDS

MINIMUM GREEN	10		10		10		10	
VEHICLE EXTENSION	2		2		2		2	
MAXIMUM #1 GREEN	16		16		12		41	
MAXIMUM #2 GREEN	19		17		13		46	
YELLOW CLEARANCE		4		4		4		4
RED CLEARANCE			2		2		3	
WALK INTERVAL	7*		7				7	
PEDESTRIAN CLEARANCE	5**		5**				5**	
MEMORY	NON-LOCK		NON-LOCK		NON-LOCK		NON-LOCK	
RECALL (VEH/PED)	MAX		OFF		OFF		ON	

*Ø1 PED SHALL REST IN WALK
 **PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

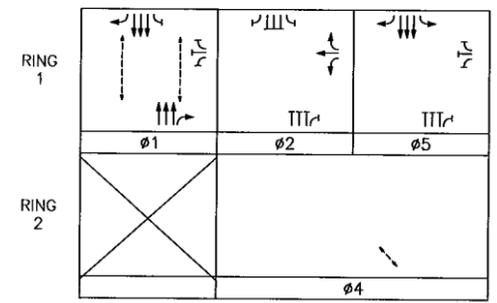
COORDINATION INFORMATION (TIMES IN SECONDS)

CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	Ø4	HOURS OF OPERATION
1	100	24	21	21	19	39	ALL OTHER TIMES
2	120	35	25	23	20	52	6:00AM - 10:00AM
3	110	97	21	21	19	49	2:30PM - 7:00PM
FLASH OPERATION		-	-	-	-	-	EMERGENCY/CONFLICT

TIMING AND SEQUENCE CHART																							
STREET/DIRECTION/FACE		ø1			ø2			ø4			ø5			OPERATION FLASHING									
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL										
RUTHERFORD/NB/2B,6B		GV	Y	R	R	R	R	R	R	R	R	R	R		FY								
RUTHERFORD/NB/7C,7F,7H		GV	Y	R	R	R	R	R	R	R	R	R	R		FY								
RUTHERFORD/NB/11A,12A,12B		G	Y	R	R	R	R	R	R	R	R	R	R		FY								
RUTHERFORD/SB/4A,7A,7B		GV	Y	R	R	R	R	R	R	R	GV	Y	R		FY								
RUTHERFORD/SB/2A,6A		RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL		FRL								
CHELSEA/WB/7D		R	R	R	G	Y	R	R	R	R	R	R	R		FR								
CHELSEA/WB/9A		R	R	R	GL	Y	R	R	R	R	R	R	R		FR								
CHELSEA/WB/7E		R	R	R	G	Y	R	R	R	R	R	R	R		FR								
CHELSEA/WB/7G		R	R	R	GV/GR	Y	R	R	R	R	R	R	R	FR									
C.W./N-S/4E,5E,8E,10E		W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF									
C.W./N-S/11E,13E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF									
INTERVAL SECONDS	MINIMUM GREEN	10			8			-			8												
	VEHICLE EXTENSION	2			2			-			2												
	MAXIMUM 1 GREEN	27			38			-			26												
	MAXIMUM 2 GREEN	30			50			-			30												
	YELLOW CLEARANCE		3			3						3											
	RED CLEARANCE			2			3			5			2										
	WALK INTERVAL	7*						7															
	PED. CLEARANCE	16**							5**														
MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK													
RECALL (VEH./PED.)	MAX			OFF			OFF			OFF													
PROGRAM/COORDINATION																							
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS										HOURS OF OPERATION										
			ø1	ø2,ø4			ø4,ø5						ALL OTHER TIMES										
1	100	35	35	36			29						6:00 A.M. TO 10:00 A.M.										
2	100	26	31	39			30						2:30 P.M. TO 7:00 P.M.										
3	120	39	29	56			35																
COORDINATED OPERATION																							
PROGRAMMED FLASH																							
EMERGENCY/CONFLICT																							
LOOP DETECTOR DATA									CLEARANCES					TECHNICAL NOTES									
IDENT.	QTY.	SIZE	SPLICE	URNS	MODE	#CALL	#EXT.	CHNL.	FROM	TO									*ø1 PED SHALL REST IN WALK ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.				
									G	G	GV/GR	GL	GV	R	RL	W	DW						
									GV/GR	-	GV/GR	-	-	Y	-	-	-						
									GL	-	-	GL	-	-	YL	-	-						
									GV	-	-	-	GV	Y	-	-	-						
									R	-	-	-	-	R	-	-	-						
									RL	-	-	-	-	-	RL	-	-						
									-	-	-	-	-	-	-	-	-						
									W	-	-	-	-	-	-	W	FDW						
									DW	-	-	-	-	-	-	-	DW						

S/P = SERIES/PARALLEL

PHASING DIAGRAM



BOSTON TRANSPORTATION DEPARTMENT

DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
N. WASHINGTON / RUTHERFORD / CHELSEA ST.
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 162

SCALE: NOT TO SCALE
 DISTRICT: -

AREA: 30
 DESIGN DATE: OCT. 2009

HOWARD
 HUD ASSOCIATES
 Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7090
 Fax: 617.482.7417

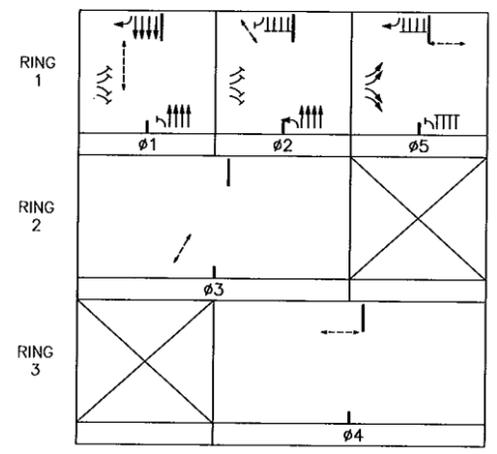
TIMING AND SEQUENCE CHART																	
STREET/DIRECTION/FACE		ø1			ø2			ø3			ø4			ø5			OPERATING FLASHING
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
RUTHERFORD/NB/2B,12A		RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	GRN	RL	RL	FRL
RUTHERFORD/NB/14A,14B		GV	Y	R	GV	Y	R	R	R	R	R	R	R	R	R	R	FY
RUTHERFORD/SB/2A,6A,6B		GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
RUTHERFORD/SB/8A,8B		GR	Y	R	R	R	R	R	R	R	R	R	R	GR	Y	R	FY
RUTHERFORD/SB/10A		GR	YR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	GR	YR	RR	FYR
RAMP T-L/EB/7A,14C,15A		R	R	R	R	R	R	R	R	R	R	R	R	R	GL	Y	FR
RAMP T-L/EB/3A,3B,5A		R	R	R	R	R	R	R	R	R	R	R	R	GR	Y	R	FR
C.W./N-S/4E,5E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/6E,10E		W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./N-S/9E,11E		DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
C.W./E-W/11F,12F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	OFF
C.W./E-W/12E,13E		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	OFF

INTERSECTIONS	PROGRAM/COORDINATION															HOURS OF OPERATION
	PHASE SPLITS IN SECONDS															
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	ø1,ø3			ø2,ø3,ø4			ø4,ø5							
1	100	0	42			35			23						ALL OTHER TIMES	
2	100	0	41			26			33						6:00 A.M. TO 10:00 A.M.	
3	120	0	46			33			41						2:30 P.M. TO 7:00 P.M.	
COORDINATED OPERATION															EVERYDAY	
PROGRAMMED FLASH															3:00 A.M. TO 6:00 P.M.	

LOOP DETECTOR DATA									CLEARANCES										TECHNICAL NOTES									
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	øCALL	øEXT.	CHNL.	FROM	TO										* ø3 PED SHALL REST IN WALK DURING CO-ORD ø1. ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.								
									G	GV	GL	GR	R	RL	RR	W	DW											
									G	G	-	-	-	Y	-	-	-	-										
									GV	-	GV	-	-	Y	-	-	-	-										
									GL	-	-	GL	-	Y	YL	-	-	-										
									GR	-	-	-	GR	Y	-	YR	-	-										
									R	-	-	-	-	R	-	-	-	-										
									RL	-	-	-	-	-	RL	-	-	-										
									RR	-	-	-	-	-	-	RR	-	-										
									W	-	-	-	-	-	-	-	W	FDW										
									DW	-	-	-	-	-	-	-	-	DW										

S/P = SERIES/PARALLEL

PHASING DIAGRAM



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
RUTHERFORD AVE. & RAMP T-L
PHASE 1
 BOSTON PROPER
 INTERSECTION NUMBER 2345

SCALE: NOT TO SCALE
 DISTRICT: -
 AREA: 30
 DESIGN DATE: OCT. 2009

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

BOSTON TRANSPORTATION DEPARTMENT - AUTOMATIC TRAFFIC SIGNALS
OPERATION SCHEDULE

LOCATION: Albany Street Connector and Frontage Road Northbound

DESIGN DATE: 10/2009

INTERSECTION No.: 3113

DATE FIRST IN SERVICE: _____

SECTION No.: 11

PHASE 1

CLEARANCE TABLE											FLASH OPERATION
TO											
FROM	G	GV	GL	GR	GSL	R	-	W	DW		
G	G	-	-	-	-	Y	-	-	-		
GV	-	GV	-	-	-	Y	-	-	-		
GL	-	-	GL	-	-	Y	-	-	-		
GR	-	-	-	GR	-	Y	-	-	-		
GSL	-	-	-	-	GSL	Y	-	-	-		
R	-	-	-	-	-	R	-	-	-		
-	-	-	-	-	-	-	-	-	-		
W	-	-	-	-	-	-	-	W	FDW		
DW	-	-	-	-	-	-	-	-	DW		

STREET	DIR	FACE	Ø1			Ø2			Ø3			FLASH OPERATION
FRONTAGE RD	NB	7B,7C	G	Y	R	R	R	R	R	R	R	
FRONTAGE RD	NB	7D	GV	Y	R	R	R	R	R	R	R	FY
ALBANY CONN.	WB	7A,7G	R	R	R	R	R	R	GR	Y	R	FR
ALBANY CONN.	EB	3A,9A	R	R	R	GV	Y	R	R	R	R	FR
ALBANY CONN.	EB	4A,8A	R	R	R	GSL	Y	R	R	R	R	FR
ALBANY CONN.	EB	5A	R	R	R	GL	Y	R	G	Y	R	FR
ALBANY CONN.	EB	6A	R	R	R	G	Y	R	R	R	R	FR
CROSSWALK	N/S	3F,4E	W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	OFF
CROSSWALK	E/W	2E,3E	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	OFF

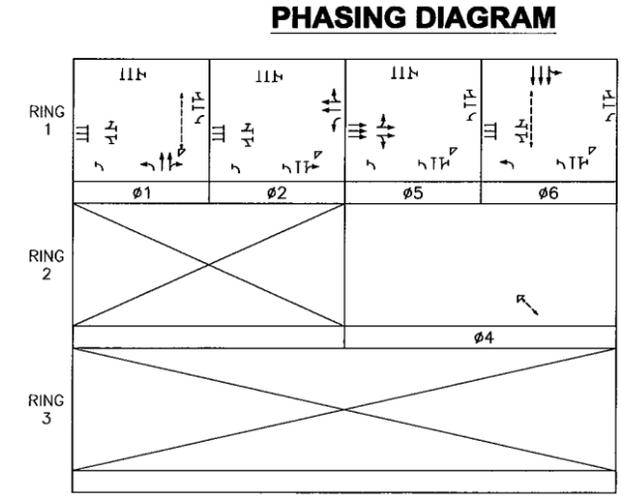
TIMING IN SECONDS											
MINIMUM GREEN	10			8			8				
VEHICLE EXTENSION	3			2			2				
MAXIMUM #1 GREEN	39			44			10				
MAXIMUM #2 GREEN	45			47			11				
YELLOW CLEARANCE		4			3			4			
RED CLEARANCE			2			2			2		
WALK INTERVAL	12*			7							
PEDESTRIAN CLEARANCE	7**			8**							
MEMORY	NON-LOCK		NON-LOCK		NON-LOCK						
RECALL (VEH/PED)	MAX		OFF		OFF						

*Ø1 PED SHALL REST IN WALK
 **PED INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE CLEARANCE INTERVALS

COORDINATION INFORMATION (TIMES IN SECONDS)						
CYCLE	CYCLE LENGTH	OFFSET	Ø1	Ø2	Ø3	HOURS OF OPERATION
1	100	48	40	43	17	ALL OTHER TIMES
2	120	50	51	52	17	6:00AM - 10:00AM
3	110	4	45	51	14	2:30PM - 7:00PM
FLASH OPERATION	-	-	-	-	-	EMERGENCY/CONFLICT

TIMING AND SEQUENCE CHART																			
STREET/DIRECTION/FACE		ø1			ø2			ø4			ø5			ø6			OPERATION FLASHING		
		GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL			
MERRIMAC ST/NB/2H		GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL		
MERRIMAC ST/NB/2K,2M		GV	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FY		
MERRIMAC ST/NB/12A,14A		GSR	YSR	RSR	GSR	YSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	RSR	FYSR		
MERRIMAC ST/SB/2G		R	R	R	R	R	R	R	R	R	R	R	R	GV/GL	Y	R	FY		
MERRIMAC ST/SB/2A		R	R	R	R	R	R	R	R	R	R	R	R	GV	Y	R	FY		
NEW CHARDON/EB/2B,2D		R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR		
NEW CHARDON/EB/4A,4B		R	R	R	R	R	R	R	R	R	GV	Y	R	R	R	R	FR		
NEW CHARDON/WB/2C		RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL		
NEW CHARDON/WB/2J,2L		R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FR		
GARAGE/NB/4C,5A		RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	FRL		
C.W./2E,15E		W/FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./13E,14E		DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OFF		
C.W./8E,6F		DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	OFF		
C.W./15F,16E		DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	DW	DW	DW	OFF		
C.W./3E,6E		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	OFF		
I N T E R V A L S	MINIMUM GREEN	7			7			-			10			1					
	VEHICLE EXTENSION	2			2			-			2			2					
	MAXIMUM 1 GREEN	21			13			-			20			19					
	MAXIMUM 2 GREEN	22			16			-			20			21					
	YELLOW CLEARANCE		3			3						3			3				
	RED CLEARANCE			3			3			6			3			3			
	WALK INTERVAL	7*						7			7			7					
	PED. CLEARANCE	13**							5**		12**			8**					
	MEMORY		NON-LOCK		NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK					
	RECALL (VEH./PED.)		MAX/PED		OFF			PED			PED			PED					
PROGRAM/COORDINATION																			
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC.)	PHASE SPLITS IN SECONDS													HOURS OF OPERATION			
			ø1			ø2			ø4,ø5			ø4,ø6							
			ø1			ø2			ø4,ø5			ø4,ø6							
			ø1			ø2			ø4,ø5			ø4,ø6							
1	90	33	26			14			26			24			ALL OTHER TIMES				
2	100	64	28			22			26			24			6:00 A.M. TO 10:00 A.M.				
3	100	65	27			20			26			27			2:30 P.M. TO 7:00 P.M.				
COORDINATED OPERATION																			
PROGRAMMED FLASH																			
EVERYDAY																			
EMERGENCY/CONFLICT																			
LOOP DETECTOR DATA										CLEARANCES					TECHNICAL NOTES				
IDENT.	QTY.	SIZE	SPLICE	TURNS	MODE	#CALL	#EXT.	CHNL.	FROM	TO								* ø1 PED SHALL REST IN WALK. ** PEDESTRIAN INDICATION SHALL NOT DISPLAY FDW THROUGH CONCURRENT VEHICLE YELLOW AND RED CLEARANCE INTERVALS.	
									G	G	GV/GL	GL	GSR	GV	R	W	DW		
									GV/GL		GV/GL				Y				
									GL			GL			YL				
									GSR				GSR		Y				
									GV					GV	Y				
									R						R				
									W							W	FDW		
									DW								DW		

S/P = SERIES/PARALLEL



DESIGNED BY A. SIU
 DRAWN BY A. SIU
 CHECKED BY D. MATTON

Howard/Stein-Hudson Assoc., Inc.
 38 Chauncy St., 9th Floor
 Boston, MA 02111
 Ph: 617.482.7080
 Fax: 617.482.7417

CITY OF BOSTON TRANSPORTATION DEPARTMENT
 ENGINEERING DIVISION
 TRAFFIC SIGNAL TIMING AND PHASING
NEW CHARDON ST. & MERRIMAC ST.
PHASE 2
 BOSTON PROPER
 INTERSECTION NUMBER 311
 SCALE: NOT TO SCALE AREA: GC
 DISTRICT: - DESIGN DATE: OCT. 2009