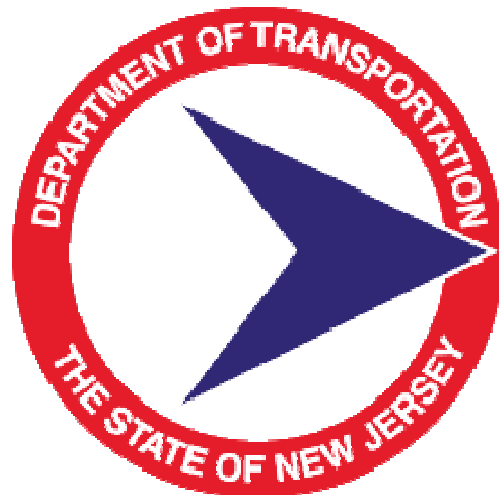


# TECHNICAL APPENDIX FOR REPORT ON RED-LIGHT TRAFFIC CONTROL SIGNAL MONITORING SYSTEMS Second Annual Report

Prepared by the New Jersey  
Department of Transportation

November 2012



## **AUTHORIZATION PROCESS**

As per Public Law 2007, Chapter 348 (P.L. 2007, c.348), *the Commissioner of Transportation shall establish a five-year pilot program to determine the effectiveness of the installation and utilization of traffic control monitoring systems in this State.* While P.L. 2007, c.348 outlines the application process and the data requirements, it does not speak to any process of application evaluation or methodology for the selection of program participants.

The accepted national discussion regarding red-light running (RLR) is from the Institute of Transportation Engineers' (ITE) report "Establishing a Uniform Definition of Red-Light Running Crashes", published in the March 2006 edition of the ITE Journal. The purpose of that report was to unify thoughts on how RLR crashes should be defined, thereby solidifying estimates of national data. As a result of this research, it was determined that, on average, 219,000 annual RLR crashes, about half of which resulted in persons injured, caused an estimated 188,000 injuries and 940 deaths.

With this report as its basis, the Department considers not only RLR crashes but also intersection enforcement efforts undertaken by municipal police departments, creating both crash and citation components to the safety score gleaned from the application data. However, the Department understood that raw crash and citation statistics would heavily favor the larger urban municipalities with higher crash numbers and larger police departments that potentially enabled stronger localized enforcement efforts.

From this realization, the Department added a traffic volume component, encompassing the morning, lunchtime and evening peak periods. This volume calculation allows the Department to equalize the crash and citation data into the common denominator of million vehicle miles travelled, thereby creating the opportunity for smaller communities to qualify for participation. As an example, if town A reports ten (10) RLR crashes at its specified signalized intersection, and town B reports nine (9), using raw numbers, one would conclude that town A has the more-critical RLR issue. However, if town A has a volume of 50,000 vehicles, and town B only 10,000, with the RLR crashes occurring under lower volume, it stands to reason that town B is more RLR critical. The volume data allows the Department to have an apples-to-apples application comparison and selection process.

Also as per P.L. 2007, c.348, *the commissioner may approve as many municipalities making application as he deems appropriate;* as such, the Department has capped participation at 25 authorized municipalities. Limiting participation allows for an appropriate sampling of safety data across a fairly broad spectrum while remaining manageable in terms of analysis and recommendations by a traffic engineering staff tasked with many additional duties.

## **DETERMINING YELLOW CHANGE INTERVALS**

In New Jersey, yellow change intervals are determined by nationally accepted standards. The Department's guiding principle in determining the yellow change interval at traffic signals is the 2009 edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), as amended and supplemented. Section 4D.26 of the MUTCD states: *The duration of the yellow change interval shall be determined using engineering practices.* The MUTCD is adopted in New Jersey through existing motor vehicle law, specifically Title 39 of the Revised Statutes.

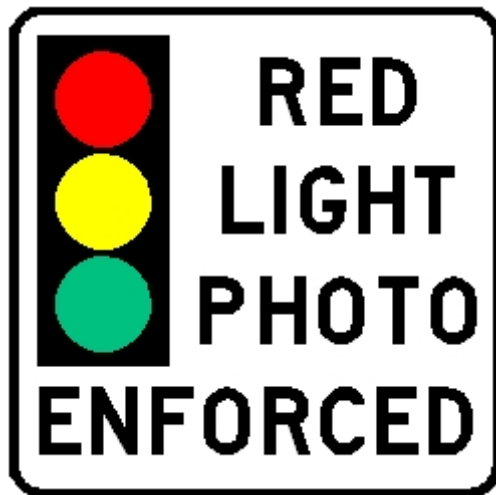
The accepted engineering practice to determine yellow change intervals is from the Institute of Transportation Engineers (ITE) 1994 report titled "Determining Vehicle Signal Change and Clearance Intervals". The formula is:  $y = t + (v / 2a + 2Gg)$  where **y** is the length of the yellow interval, **t** is driver perception-reaction time (recommended as 1 second), **v** is the speed limit (feet per second), **a** is the deceleration rate (10 feet per second squared), **g** is gravitational acceleration (32 feet per second squared), and **G** is the approach grade, usually 0%. Using this formula, a speed limit of 45 MPH will result in 4.3 seconds of required yellow change interval time.

The Department utilizes a generally conservative form of the ITE formula:  $y = v$  (miles per hour) **divided by 10**. This formula demands a yellow change interval of 4.5 seconds for 45 MPH, but since tenths of seconds are not recognized by the Department, the time is increased, meaning 45 MPH results in 5 seconds of yellow change interval time.

Section 4D.26 of the MUTCD states further: *The duration of a yellow change interval may be different in different signal timing plans for the same controller unit and a yellow change interval should have a minimum duration of 3 seconds and a maximum duration of 6 seconds; the longer intervals should be reserved for use on approaches with higher speeds.* As such, it should be noted that the yellow change interval for a protected left turn movement (a left turn that moves on an arrow indication), is usually lower than the yellow time for the through movement on the same approach. This is because left turns are never made safely at roadway speeds, and in most cases, the maneuvers are completed at speeds less than 25 MPH. Therefore, following the Department's engineering practice and the provisions of the MUTCD, yellow change intervals are usually set at the suggested minimum duration of 3 seconds.

Finally, Section 4D.26 of the MUTCD states that *the exclusive function of the yellow change interval shall be to warn traffic of an impending change in the right-of-way assignment.* Neither ITE nor the MUTCD has any expectation of the yellow time being long enough for the vehicle to completely clear the intersection prior to green for the conflicting movement. That clearance time is determined by the ITE formula  $TC = t + v / 2a + (w + L) / v$  where **TC** is the total clearance (yellow change plus all-red clearance) time, **w** is total intersection crossing width, **L** is vehicle length (assumed to be 20 feet), and the other variables are as per the aforementioned yellow interval formula. Yellow change time is simply subtracted from the total clearance time.

**YEAR 1 - REGIONAL  
CRASH DATA  
SEVERITY DATA  
COST/BENEFIT ANALYSIS  
CITATION GRAPH**  
(for locations with one year of operation)



### Regional – RLR Intersections Crash Data

Region	Year	Right Angle	Same Direction	Other	Total
North	Pre-Camera	31	167	163	361
	Year 1	21	188	116	325
Central	Pre-Camera	8	47	16	71
	Year 1	12	51	18	81
South	Pre-Camera	21	72	52	145
	Year 1	18	104	54	176
Statewide	Pre-Camera	60	286	231	577
	Year 1	51	343	188	582

### Regional – Reference Intersections Crash Data

Region	Year	Right Angle	Same Direction	Other	Total
North	Pre-Camera	0	25	16	41
	Year 1	5	24	14	43
Central	Pre-Camera	13	18	10	41
	Year 1	8	24	13	45
South	Pre-Camera	10	36	21	67
	Year 1	10	33	20	63
Statewide	Pre-Camera	23	79	47	149
	Year 1	23	81	47	151

### Regional – RLR Intersections Severity Data

Region	Year	Crash	K	A	B	C	O	Total
North	Pre-Camera	Right Angle	0	0	0	8	23	31
		Same Direction	0	0	0	37	130	167
	Year 1	Right Angle	0	0	2	13	6	21
		Same Direction	0	0	3	33	152	188
Central	Pre-Camera	Right Angle	0	0	0	1	7	8
		Same Direction	0	0	1	5	41	47
	Year 1	Right Angle	0	0	2	5	5	12
		Same Direction	0	0	0	14	37	51
South	Pre-Camera	Right Angle	0	0	1	11	9	21
		Same Direction	0	1	0	30	41	72
	Year 1	Right Angle	0	0	1	8	9	18
		Same Direction	0	0	1	33	70	104
Statewide	Pre-Camera	Right Angle	0	0	1	20	39	60
		Same Direction	0	1	1	72	212	286
	Year 1	Right Angle	0	0	5	26	20	51
		Same Direction	0	0	4	80	259	343

### Regional – Reference Intersections Severity Data

Region	Year	Crash	K	A	B	C	O	Total
<b>North</b>	Pre-Camera	Right Angle	0	0	0	0	0	0
		Same Direction	0	0	0	6	19	25
	Year 1	Right Angle	0	0	0	2	3	5
		Same Direction	0	0	2	8	14	24
<b>Central</b>	Pre-Camera	Right Angle	0	0	3	1	9	13
		Same Direction	0	0	0	0	18	18
	Year 1	Right Angle	0	0	1	1	6	8
		Same Direction	0	0	0	2	22	24
<b>South</b>	Pre-Camera	Right Angle	0	0	0	2	8	10
		Same Direction	0	0	0	5	31	36
	Year 1	Right Angle	0	0	0	1	9	10
		Same Direction	0	0	0	8	25	33
<b>Statewide</b>	Pre-Camera	Right Angle	0	0	3	3	17	23
		Same Direction	0	0	0	11	68	79
	Year 1	Right Angle	0	0	1	4	18	23
		Same Direction	0	0	2	18	61	81

**Regional – RLR Intersections Cost Benefit / (Loss)**

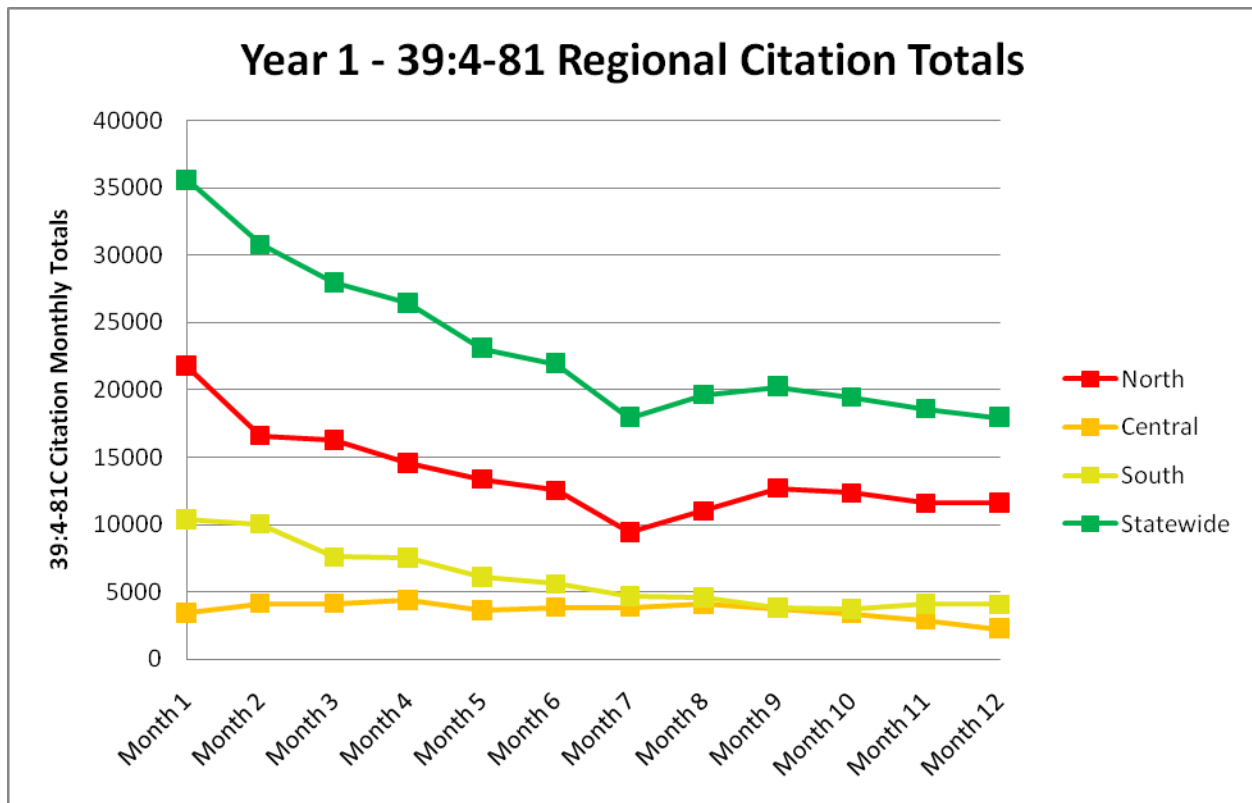
**Pre-Camera Year to Year 1**

Region	Right Angle	Same Direction	Total
North	(\$256,700)	(\$220,200)	(\$476,900)
Central	(\$322,800)	(\$295,500)	(\$618,300)
South	\$134,700	(\$212,300)	(\$77,600)
Statewide	(\$444,800)	(\$728,000)	(\$1,172,800)

**Regional – Reference Intersections Cost Benefit / (Loss)**

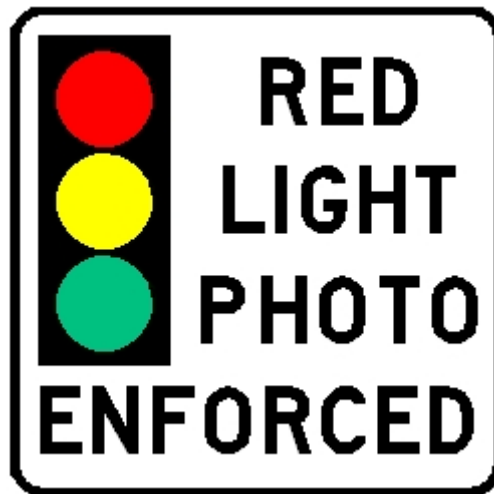
**Pre-Camera Year to Year 1**

Region	Right Angle	Same Direction	Total
North	(\$112,000)	(\$210,800)	(\$322,800)
Central	\$180,200	(\$119,400)	\$60,800
South	\$37,500	(\$90,300)	(\$52,800)
Statewide	\$105,700	(\$420,500)	(\$314,800)





**YEAR 1 – MUNICIPAL DATA  
CRASH DATA AND COST/BENEFIT  
ANALYSIS  
CITATION DATA AND GRAPHS  
(for locations with one year of operation)**



**Crash Data and Cost/Benefit Analysis: Brick Township – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Route 70 and Chambers Bridge Rd.	Brick Twp.	Ocean	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	1	\$79,000	0	\$0	\$79,000
			C	0	\$0	2	\$89,800	(\$89,800)	3	\$134,700	4	\$179,600	(\$44,900)
			PDO	1	\$7,400	1	\$7,400	\$0	22	\$162,800	16	\$118,400	\$44,400
				Total Benefit/(Loss)			(\$89,800)	Total Benefit/(Loss)			\$78,500		

Total Benefit (Loss) (\$11,300)

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Brick Blvd. and Chambers Bridge Rd.	Brick Twp.	Ocean	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	1	\$79,000	(\$79,000)	0	\$0	0	\$0	\$0
			C	1	\$44,900	2	\$89,800	(\$44,900)	1	\$44,900	2	\$89,800	(\$44,900)
			PDO	4	\$29,600	3	\$22,200	\$7,400	6	\$44,400	11	\$81,400	(\$37,000)
				Total Benefit/(Loss)			(\$116,500)	Total Benefit/(Loss)			(\$81,900)		

Total Benefit (Loss) (\$198,400)

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Brick Blvd. and Cedar Bridge Rd. (Reference Intersection)	Brick Twp.	Ocean	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	1	\$79,000	0	\$0	\$79,000	0	\$0	0	\$0	\$0
			C	1	\$44,900	1	\$44,900	\$0	0	\$0	2	\$89,800	(\$89,800)
			PDO	4	\$29,600	3	\$22,200	\$7,400	3	\$22,200	9	\$66,600	(\$44,400)
				Total Benefit/(Loss)			\$86,400	Total Benefit/(Loss)			(\$134,200)		

Total Benefit (Loss) (\$47,800)

**Crash Data and Cost/Benefit Analysis: Deptford Township – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Route 41 and Deptford Center Dr.	Deptford Twp.	Gloucester	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	5	\$224,500	1	\$44,900	\$179,600	6	\$269,400	3	\$134,700	\$134,700
			PDO	3	\$22,200	0	\$0	\$22,200	4	\$29,600	6	\$44,400	(\$14,800)
				Total Benefit/(Loss)				\$201,800	Total Benefit/(Loss)				\$119,900
Total Benefit (Loss)		\$321,700											

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Almonesson and Deptford Center Dr.	Deptford Twp.	Gloucester	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
(Reference Intersection)			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	1	\$44,900	0	\$0	\$44,900	1	\$44,900	1	\$44,900	\$0
			PDO	3	\$22,200	1	\$7,400	\$14,800	7	\$51,800	11	\$81,400	(\$29,600)
				Total Benefit/(Loss)				\$59,700	Total Benefit/(Loss)				(\$29,600)
Total Benefit (Loss)		\$30,100											

**Crash Data and Cost/Benefit Analysis: Glassboro Township – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	
Route 47 and William Dalton Drive	Glassboro Twp.	Gloucester	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	1	\$79,000	0	\$0	\$79,000	0	\$0	0	\$0	\$0	
			C	2	\$89,800	0	\$0	\$89,800	1	\$44,900	1	\$44,900	\$0	
			O	0	\$0	0	\$0	\$0	3	\$22,200	3	\$22,200	\$0	
						Total Benefit/(Loss)		\$168,800					Total Benefit/(Loss)	\$0

Total Benefit (Loss)	\$168,800
----------------------	-----------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	
Greentree Rd and William Dalton Dr (Reference Intersection)	Glassboro Twp.	Gloucester	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			C	0	\$0	1	\$44,900	(\$44,900)	1	\$44,900	0	\$0	\$44,900	
			O	1	\$7,400	1	\$7,400	\$0	2	\$14,800	0	\$0	\$14,800	
						Total Benefit/(Loss)		(\$44,900)					Total Benefit/(Loss)	\$59,700

Total Benefit (Loss)	\$14,800
----------------------	----------

**Crash Data and Cost/Benefit Analysis: Gloucester Township – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Blackwood-Clementon Rd and Cherrywood Dr	Gloucester Twp.	Camden	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	1	\$216,000	0	\$0	\$216,000
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	1	\$44,900	2	\$89,800	(\$44,900)	2	\$89,800	15	\$673,500	(\$583,700)
			PDO	1	\$7,400	0	\$0	\$7,400	5	\$37,000	5	\$37,000	\$0
					Total Benefit/(Loss)			(\$37,500)				Total Benefit/(Loss)	(\$367,700)

Total Benefit (Loss)	(\$405,200)
----------------------	-------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Blackwood-Clementon Rd and Erial Road	Gloucester Twp.	Camden	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	0	\$0	2	\$89,800	(\$89,800)	4	\$179,600	7	\$314,300	(\$134,700)
			PDO	0	\$0	0	\$0	\$0	13	\$96,200	17	\$125,800	(\$29,600)
					Total Benefit/(Loss)			(\$89,800)				Total Benefit/(Loss)	(\$164,300)

Total Benefit (Loss)	(\$254,100)
----------------------	-------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Blackwood-Clementon Rd and Little Gloucester Road	Gloucester Twp.	Camden	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	1	\$79,000	(\$79,000)	0	\$0	0	\$0	\$0
			C	3	\$134,700	1	\$44,900	\$89,800	7	\$314,300	1	\$44,900	\$269,400
			PDO	1	\$7,400	4	\$29,600	(\$22,200)	13	\$96,200	21	\$155,400	(\$59,200)
					Total Benefit/(Loss)			(\$11,400)				Total Benefit/(Loss)	\$210,200

Total Benefit (Loss)	\$198,800
----------------------	-----------

**Crash Data and Cost/Benefit Analysis: Gloucester Township – Year 1 (CONTINUED)**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Blackwood-Clementon Rd and Millbridge Road	Gloucester Twp.	Camden	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	1	\$79,000	(\$79,000)
			C	0	\$0	0	\$0	\$0	8	\$359,200	3	\$134,700	\$224,500
			PDO	2	\$14,800	3	\$22,200	(\$7,400)	2	\$14,800	13	\$96,200	(\$81,400)
					Total Benefit/(Loss)			(\$7,400)	Total Benefit/(Loss)			\$64,100	

Total Benefit (Loss)	\$56,700
----------------------	----------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Little Gloucester Road and Erial Road (Reference Intersection)	Gloucester Twp.	Camden	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	0	\$0	0	\$0	\$0	2	\$89,800	4	\$179,600	(\$89,800)
			PDO	2	\$14,800	5	\$37,000	(\$22,200)	13	\$96,200	5	\$37,000	\$59,200
					Total Benefit/(Loss)			(\$22,200)	Total Benefit/(Loss)			(\$30,600)	

Total Benefit (Loss)	(\$52,800)
----------------------	------------

**Crash Data and Cost/Benefit Analysis: Linden City – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
US Rt 1 and South Park Ave	Linden	Union	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	3	\$237,000	(\$237,000)
			C	3	\$134,700	1	\$44,900	\$89,800	3	\$134,700	9	\$404,100	(\$269,400)
			PDO	4	\$29,600	2	\$14,800	\$14,800	18	\$133,200	31	\$229,400	(\$96,200)
				Total Benefit/(Loss)				\$104,600	Total Benefit/(Loss)				(\$602,600)

Total Benefit (Loss)	(\$498,000)
----------------------	-------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
US Rt 1 and South Stiles Ave	Linden	Union	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	0	\$0	2	\$89,800	(\$89,800)	16	\$718,400	6	\$269,400	\$449,000
			PDO	1	\$7,400	1	\$7,400	\$0	43	\$318,200	67	\$495,800	(\$177,600)
				Total Benefit/(Loss)				(\$89,800)	Total Benefit/(Loss)				\$271,400

Total Benefit (Loss)	\$181,600
----------------------	-----------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
NJ Rt 27 and North Stiles Ave	Linden	Union	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	0	\$0	0	\$0	\$0	4	\$179,600	3	\$134,700	\$44,900
			PDO	1	\$7,400	0	\$0	\$7,400	14	\$103,600	13	\$96,200	\$7,400
				Total Benefit/(Loss)				\$7,400	Total Benefit/(Loss)				\$52,300

Total Benefit (Loss)	\$59,700
----------------------	----------

**Crash Data and Cost/Benefit Analysis: Linden City – Year 1 (CONTINUED)**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes						
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)		
US Rt 1 and Pleasant Ave	Linden	Union	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
(Reference Intersection)			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			B	0	\$0	0	\$0	\$0	0	\$0	2	\$158,000	(\$158,000)		
			C	0	\$0	2	\$89,800	(\$89,800)	6	\$269,400	6	\$269,400	\$0		
			PDO	0	\$0	2	\$14,800	(\$14,800)	16	\$118,400	12	\$88,800	\$29,600		
						Total Benefit/(Loss)		(\$104,600)					Total Benefit/(Loss)		(\$128,400)
Total Benefit (Loss)		(\$233,000)													



**Crash Data and Cost/Benefit Analysis: New Brunswick City – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	
Easton Avenue and Park Boulevard	New Brunswick City	Middlesex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	0	\$0	1	\$79,000	(\$79,000)	0	\$0	0	\$0	\$0	
			C	0	\$0	1	\$44,900	(\$44,900)	0	\$0	0	\$0	\$0	
			O	2	\$14,800	1	\$7,400	\$7,400	5	\$37,000	1	\$7,400	\$29,600	
						Total Benefit/(Loss)			(\$116,500)				Total Benefit/(Loss)	\$29,600

Total Benefit (Loss)	(\$86,900)
----------------------	------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	
Easton Ave and Albany St	New Brunswick City	Middlesex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
(Reference Intersection)			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	1	\$79,000	0	\$0	\$79,000	0	\$0	0	\$0	\$0	
			C	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			O	3	\$22,200	3	\$22,200	\$0	11	\$81,400	8	\$59,200	\$22,200	
						Total Benefit/(Loss)			\$79,000				Total Benefit/(Loss)	\$22,200

Total Benefit (Loss)	\$101,200
----------------------	-----------

**Crash Data and Cost/Benefit Analysis: Newark City – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Broad St. & Market St.	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	0	\$0	1	\$44,900	(\$44,900)	3	\$134,700	3	\$44,900	\$134,700
			O	1	\$7,400	1	\$7,400	\$0	3	\$22,200	3	\$37,000	\$22,200
				Total Benefit/(Loss)					Total Benefit/(Loss)				
									\$0				

Total Benefit (Loss)	(\$44,900)
----------------------	------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Broad Street and Murray Street	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	0	\$0	0	\$0	\$0	0	\$0	1	\$44,900	(\$44,900)
			O	2	\$14,800	0	\$0	\$14,800	2	\$14,800	0	\$0	\$14,800
				Total Benefit/(Loss)					Total Benefit/(Loss)				
				\$14,800					(\$30,100)				

Total Benefit (Loss)	(\$15,300)
----------------------	------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Broad St and Raymond Blvd	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	2	\$89,800	1	\$44,900	\$44,900	2	\$89,800	0	\$0	\$89,800
			O	4	\$29,600	0	\$0	\$29,600	4	\$29,600	0	\$0	\$29,600
				Total Benefit/(Loss)					Total Benefit/(Loss)				
				\$74,500					\$119,400				

Total Benefit (Loss)	\$193,900
----------------------	-----------

**Crash Data and Cost/Benefit Analysis: Newark City – Year 1 (CONTINUED)**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	
McCarter Highway and Edison Place	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			C	0	\$0	0	\$0	\$0	3	\$134,700	2	\$89,800	\$44,900	
			PDO	0	\$0	0	\$0	\$0	9	\$66,600	1	\$7,400	\$59,200	
						Total Benefit/(Loss)		\$0					Total Benefit/(Loss)	\$104,100

Total Benefit (Loss)	\$104,100
----------------------	-----------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	
McCarter Highway and Lafayette St	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			C	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			O	4	\$29,600	2	\$14,800	\$14,800	3	\$22,200	4	\$29,600	(\$7,400)	
						Total Benefit/(Loss)		\$14,800					Total Benefit/(Loss)	(\$7,400)

Total Benefit (Loss)	\$7,400
----------------------	---------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	
McCarter Highway. & Market St.	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	0	\$0	1	\$79,000	(\$79,000)	0	\$0	0	\$0	\$0	
			C	2	\$89,800	3	\$134,700	(\$44,900)	1	\$44,900	3	\$134,700	(\$89,800)	
			O	3	\$22,200	0	\$0	\$22,200	17	\$125,800	8	\$59,200	\$66,600	
						Total Benefit/(Loss)		(\$101,700)					Total Benefit/(Loss)	(\$23,200)

Total Benefit (Loss)	(\$124,900)
----------------------	-------------

**Crash Data and Cost/Benefit Analysis: Newark City – Year 1 (CONTINUED)**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes						
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)		
McCarter Highway. & South St.	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			C	1	\$44,900	4	\$179,600	(\$134,700)	3	\$134,700	4	\$179,600	(\$44,900)		
			O	2	\$14,800	0	\$0	\$14,800	4	\$29,600	13	\$96,200	(\$66,600)		
				Total Benefit/(Loss)					(\$119,900)	Total Benefit/(Loss)					(\$111,500)

Total Benefit (Loss) (\$231,400)

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes						
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)		
Mulberry St. & Market St.	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			C	0	\$0	0	\$0	\$0	1	\$44,900	0	\$0	\$44,900		
			O	0	\$0	0	\$0	\$0	4	\$29,600	4	\$29,600	\$0		
				Total Benefit/(Loss)					\$0	Total Benefit/(Loss)					\$44,900

Total Benefit (Loss) \$44,900

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes						
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)		
Raymond Blvd and Raymond Pl West	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			B	0	\$0	1	\$79,000	(\$79,000)	0	\$0	0	\$0	\$0		
			C	0	\$0	1	\$44,900	(\$44,900)	0	\$0	1	\$44,900	(\$44,900)		
			O	0	\$0	0	\$0	\$0	4	\$29,600	3	\$22,200	\$7,400		
				Total Benefit/(Loss)					(\$123,900)	Total Benefit/(Loss)					(\$37,500)

Total Benefit (Loss) (\$161,400)

**Crash Data and Cost/Benefit Analysis: Newark City – Year 1 (CONTINUED)**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes								
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)				
Raymond Blvd, Market St and Prospect St	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0				
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0				
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0				
			C	0	\$0	0	\$0	\$0	1	\$44,900	1	\$44,900	\$0				
			O	1	\$7,400	0	\$0	\$7,400	5	\$37,000	5	\$37,000	\$0				
						Total Benefit/(Loss)		\$7,400							Total Benefit/(Loss)		\$0

Total Benefit (Loss)	\$7,400
----------------------	---------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes								
				Pre-Camera (2009)	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera (2009)	Cost	Year 1	Cost	Difference Benefit (Loss)				
Broad St. & E. / W. Kinney St. (Reference Intersection)	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0				
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0				
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0				
			C	0	\$0	0	\$0	\$0	0	\$0	2	\$89,800	(\$89,800)				
			O	0	\$0	1	\$7,400	(\$7,400)	3	\$22,200	2	\$14,800	\$7,400				
						Total Benefit/(Loss)		(\$7,400)							Total Benefit/(Loss)		(\$82,400)

Total Benefit (Loss)	(\$89,800)
----------------------	------------

**Crash Data and Cost/Benefit Analysis: Stratford Borough – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Route 30 and White Horse Road	Stratford	Camden	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	0	\$0	2	\$89,800	(\$89,800)	2	\$89,800	3	\$134,700	(\$44,900)
			O	2	\$14,800	2	\$14,800	\$0	1	\$7,400	5	\$37,000	(\$29,600)
						Total Benefit/(Loss)						Total Benefit/(Loss)	
												(\$89,800)	
												(\$74,500)	

Total Benefit (Loss)	(\$164,300)
----------------------	-------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes				
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)
Laurel Road and Atlantic Avenue	Stratford	Camden	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
(Reference Intersection)			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0
			C	1	\$44,900	0	\$0	\$44,900	1	\$44,900	3	\$134,700	(\$89,800)
			O	2	\$14,800	2	\$14,800	\$0	9	\$66,600	9	\$66,600	\$0
						Total Benefit/(Loss)						Total Benefit/(Loss)	
												(\$89,800)	

Total Benefit (Loss)	(\$44,900)
----------------------	------------

**Crash Data and Cost/Benefit Analysis: Woodbridge Township – Year 1**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes						
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)		
Route 1 and Avenel St	Woodbridge	Middlesex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			C	0	\$0	0	\$0	\$0	1	\$44,900	8	\$359,200	(\$314,300)		
			O	0	\$0	0	\$0	\$0	8	\$59,200	9	\$66,600	(\$7,400)		
						Total Benefit/(Loss)			\$0				Total Benefit/(Loss)		(\$321,700)

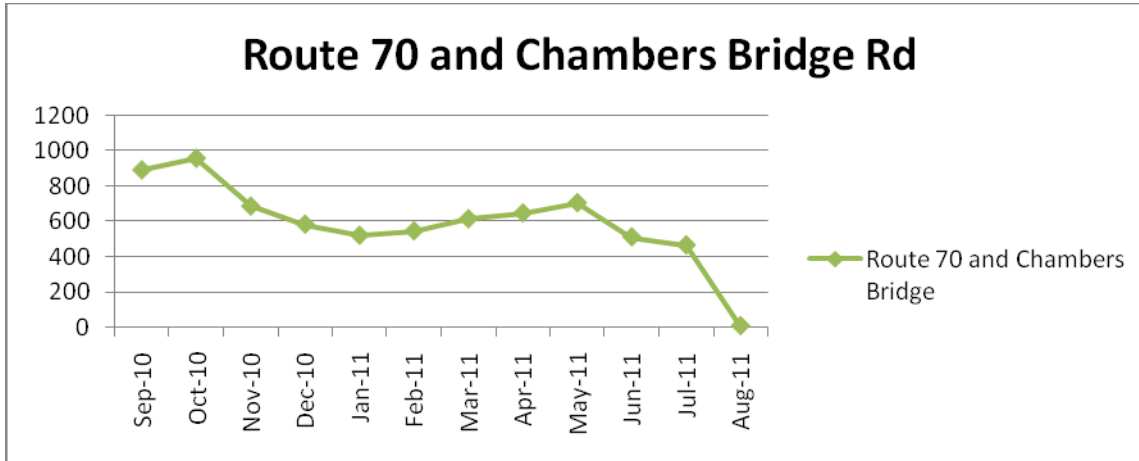
Total Benefit (Loss)	(\$321,700)
----------------------	-------------

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes						
				Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)	Pre-Camera	Cost	Year 1	Cost	Difference Benefit (Loss)		
Route 1 and Smith St	Woodbridge	Middlesex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
(Reference Intersection)			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			B	1	\$79,000	1	\$79,000	\$0	0	\$0	0	\$0	\$0		
			C	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0		
			O	2	\$14,800	0	\$0	\$14,800	4	\$29,600	5	\$37,000	(\$7,400)		
						Total Benefit/(Loss)			\$14,800				Total Benefit/(Loss)		(\$7,400)

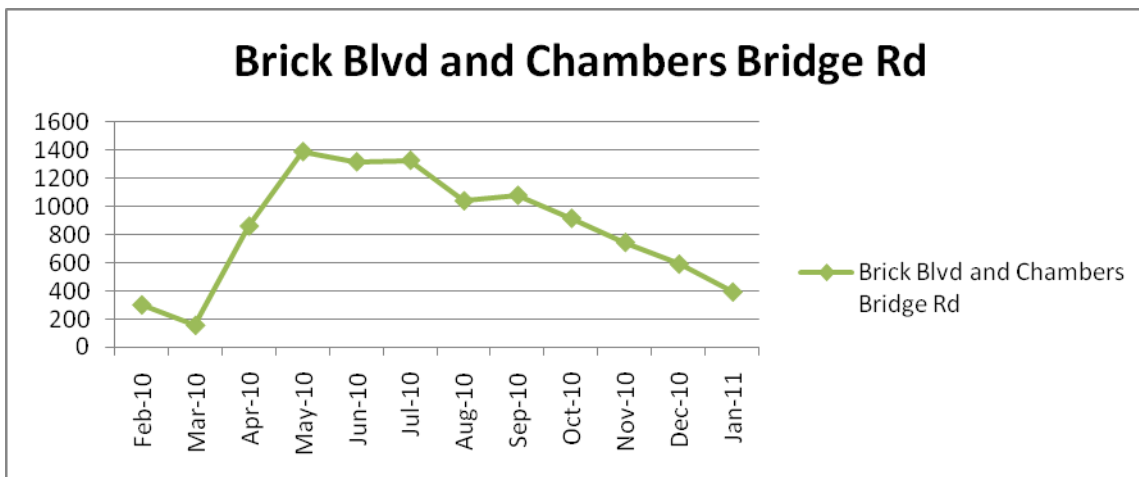
Total Benefit (Loss)	\$7,400
----------------------	---------

**Citation Data Analysis: Brick Township – Year 1**

Citations (39:4-81)	Municipality	County	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Total for Year 1
Route 70 and Chambers Bridge	Brick	Ocean	893	960	687	584	521	546	615	648	706	512	466	6	7144



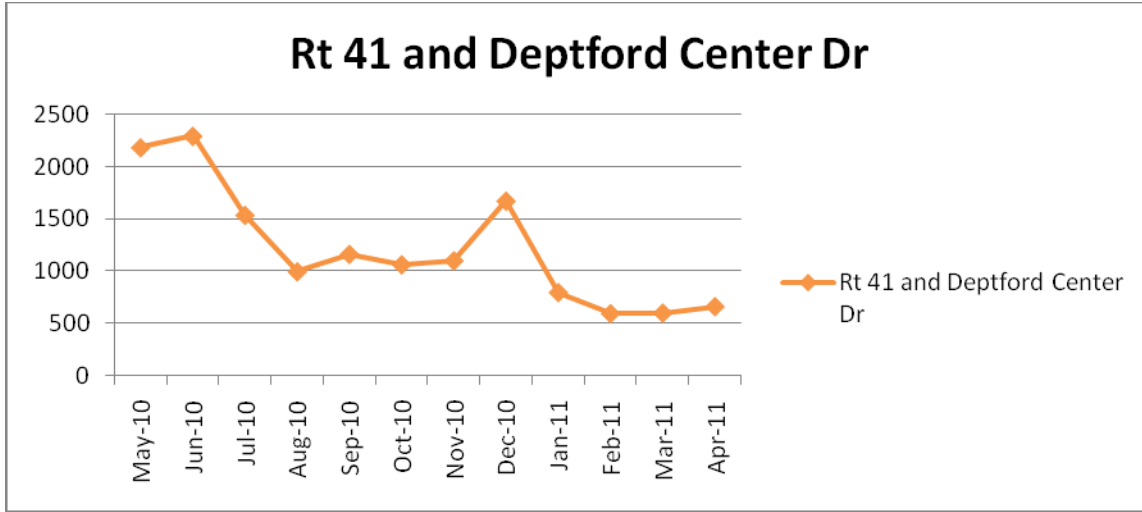
Citations (39:4-81)	Municipality	County	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Total for Year 1
Brick and Chambers Bridge	Brick	Ocean	299	154	858	1386	1314	1325	1037	1076	913	742	588	390	10082





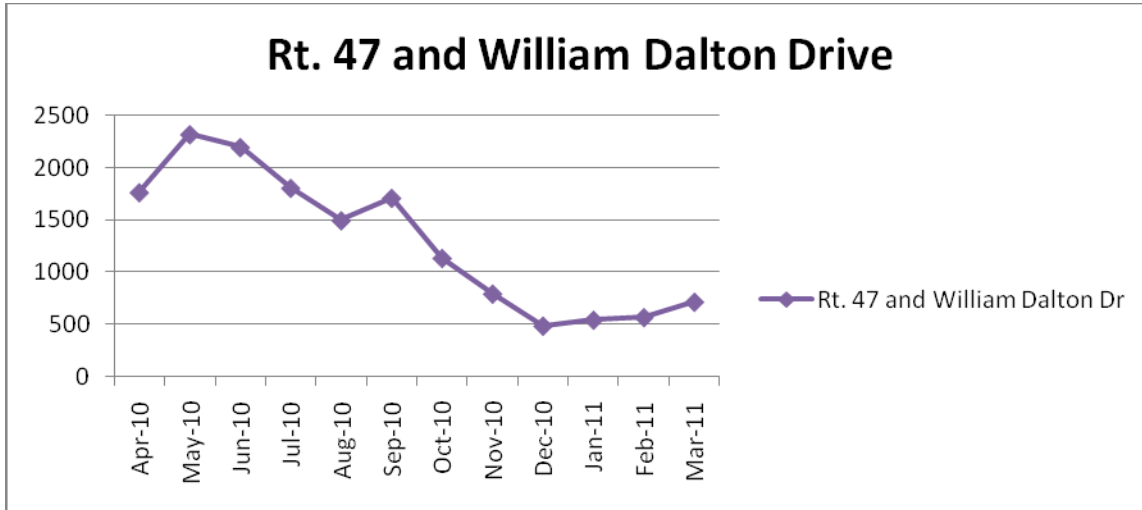
**Citation Data Analysis: Deptford Township – Year 1**

Citations (39:4-81)	Municipality	County	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	Total for Year 1
Route 41 and Deptford Center Dr.	Deptford	Gloucester	2184	2294	1535	993	1161	1061	1099	1671	794	592	597	659	14640



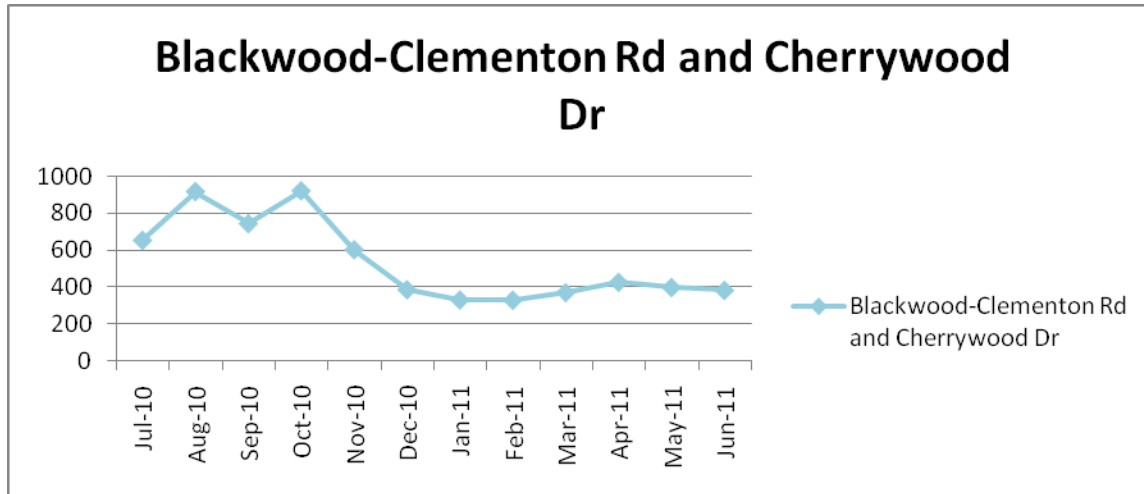
**Citation Data Analysis: Glassboro Township – Year 1**

Citations (39:4-81)	Municipality	County	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Total for Year 1
Route 47 and William Dalton	Glassboro	Gloucester	1762	2320	2196	1804	1492	1708	1130	787	479	536	561	709	15484

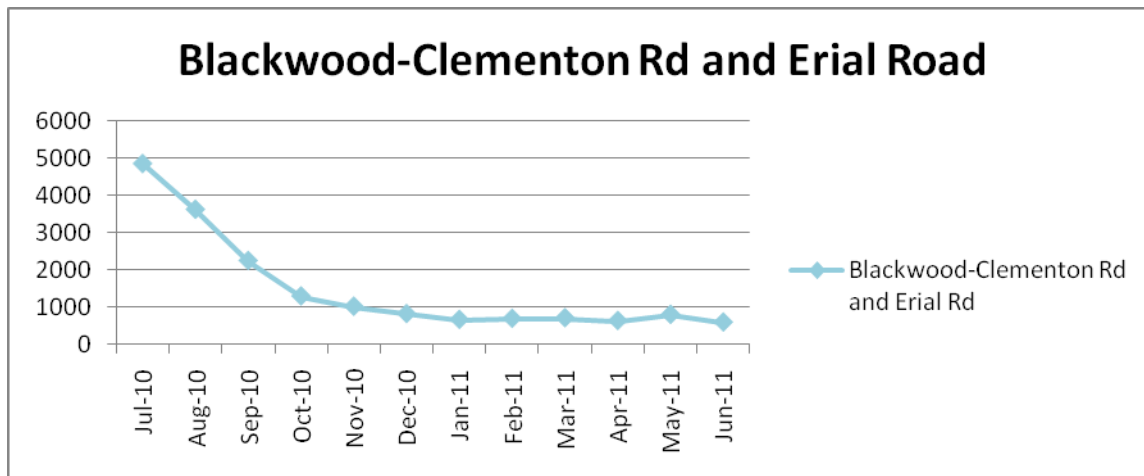


**Citation Data Analysis: Gloucester Township – Year 1**

Citations (39:4-81)	Municipality	County	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Total for Year 1
Blackwood-Clementon Rd and Cherrywood Dr	Gloucester	Camden	654	919	745	923	603	386	330	329	370	426	398	382	6465

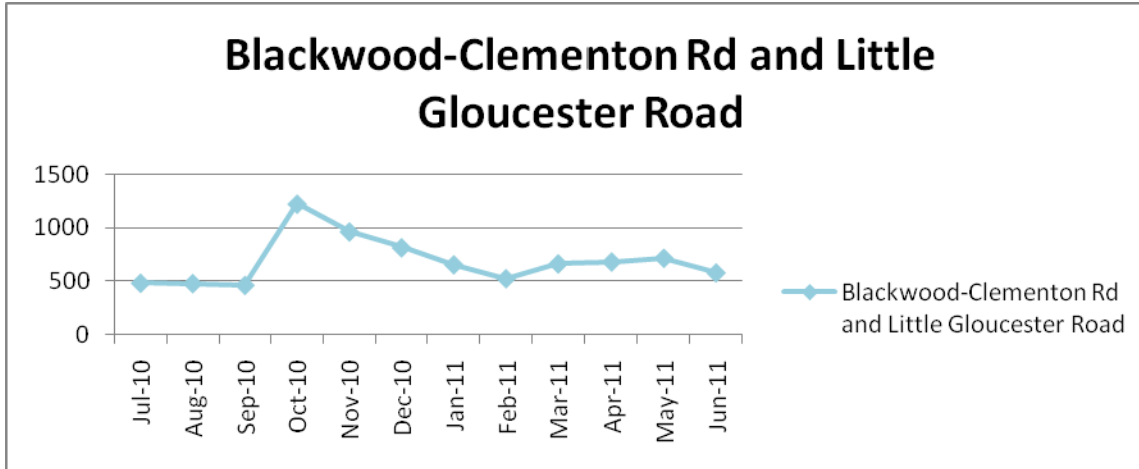


Citations (39:4-81)	Municipality	County	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Total for Year 1
Blackwood-Clementon Rd and Erial Road	Gloucester	Camden	4867	3631	2251	1295	1017	819	662	691	708	633	798	590	17962

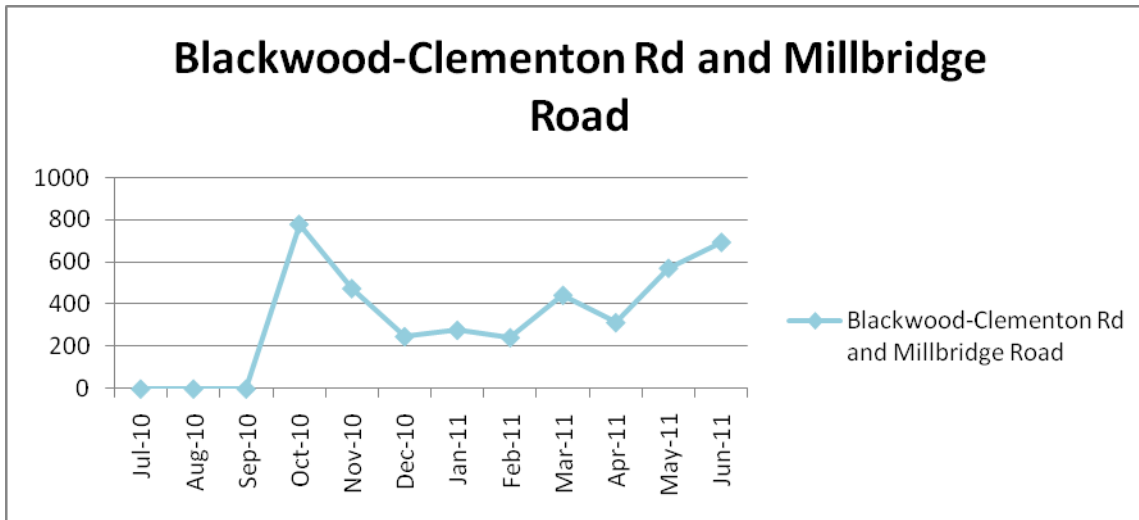


**Citation Data Analysis: Gloucester Township – Year 1 (CONTINUED)**

<u>Citations (39:4-81)</u>	Municipality	County	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Total for Year 1
Blackwood-Clementon Rd and Little Gloucester Road	Gloucester	Camden	485	482	465	1225	965	817	658	528	666	684	719	582	8276

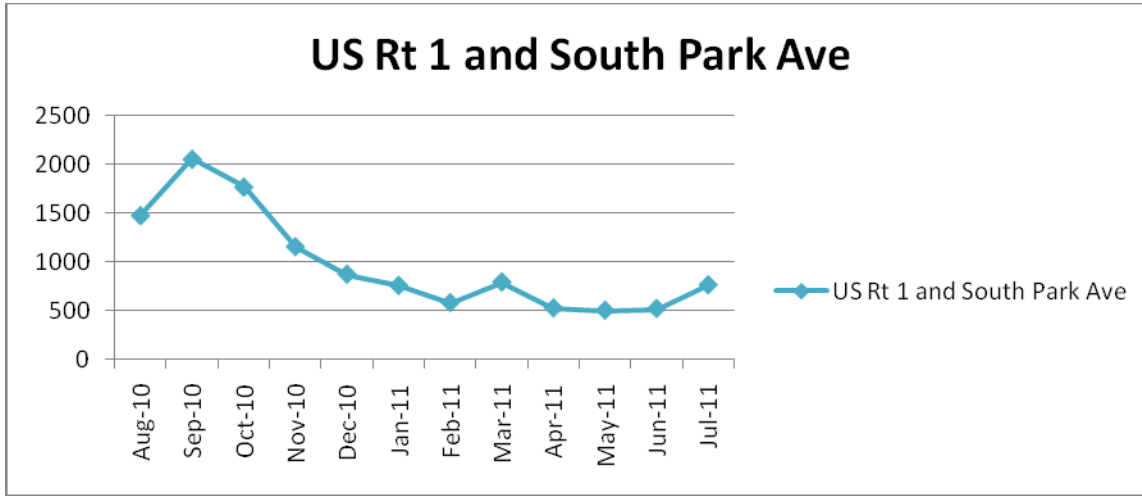


<u>Citations (39:4-81)</u>	Municipality	County	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11
Blackwood-Clementon Rd and Millbridge Road	Gloucester	Camden	0	0	0	777	474	247	277	242

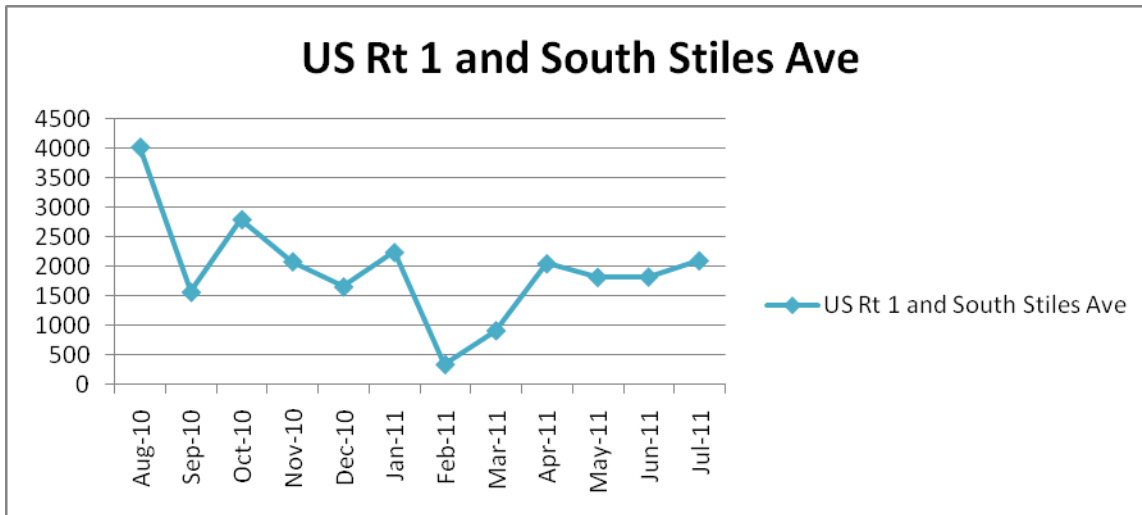


Citation Data Analysis: Linden City – Year 1

Citations (39:4-81)	Municipality	County	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Total for Year 1
Route 1 and South Park Ave	Linden	Union	1474	2056	1769	1154	870	754	576	790	522	498	516	760	11739

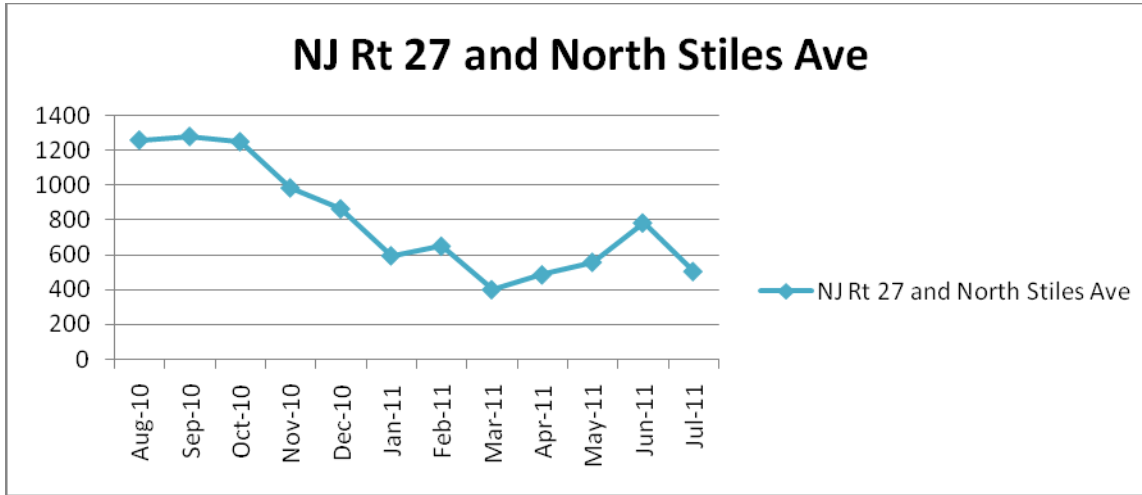


Citations (39:4-81)	Municipality	County	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Total for Year 1
Route 1 and South Stiles Ave	Linden	Union	4026	1567	2799	2085	1658	2242	342	916	2050	1820	1826	2101	23432



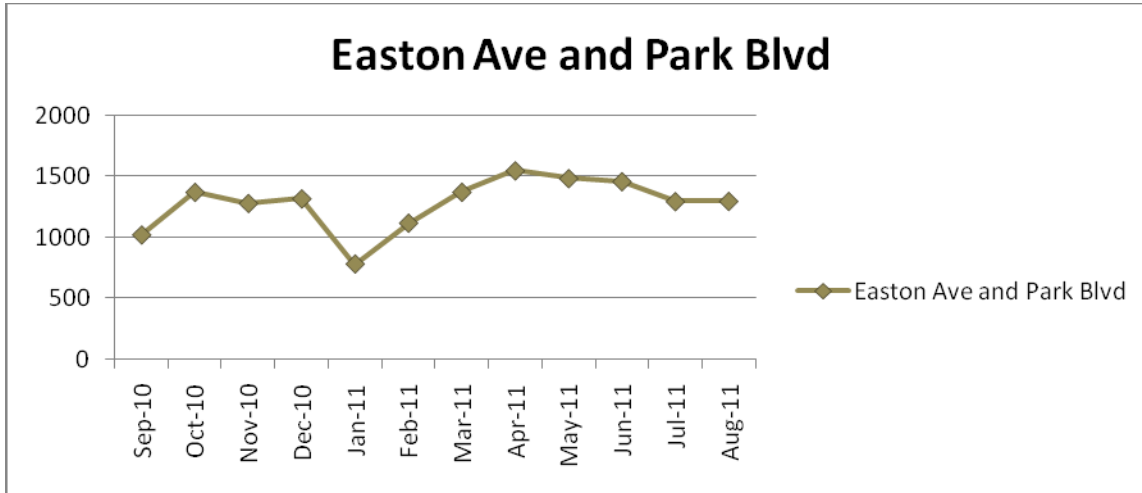
Citation Data Analysis: Linden City – Year 1 (CONTINUED)

Citations (39:4-81)	Municipality	County	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Total for Year 1
Route 27 and North Stiles Ave	Linden	Union	1257	1278	1248	983	863	594	649	400	485	557	782	504	9600



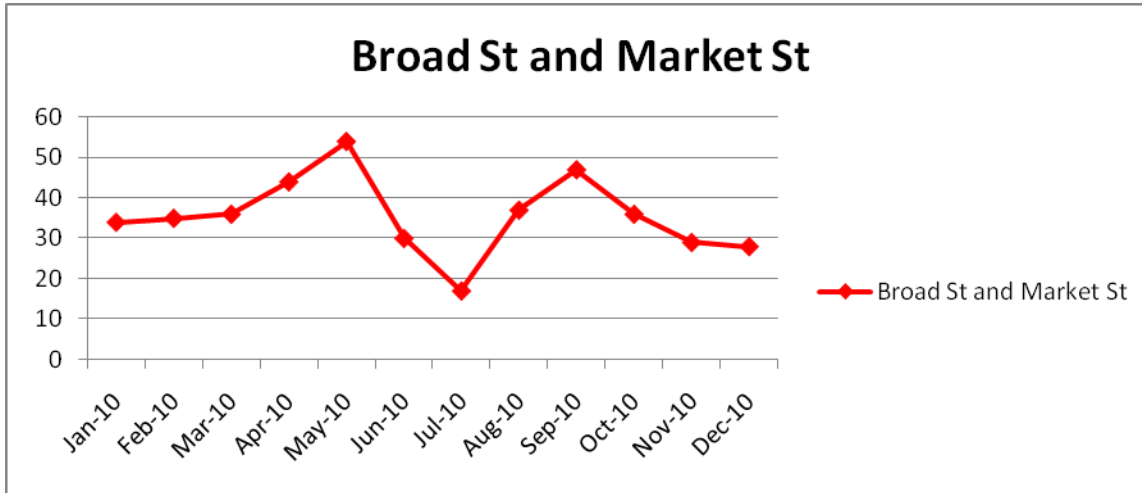
**Citation Data Analysis: New Brunswick City – Year 1**

Citations (39:4-81)	Municipality	County	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Total for Year 1
Easton Ave and Park Blvd	New Brunswick City	Middlesex	1018	1371	1279	1317	778	1116	1372	1549	1485	1459	1294	1296	15334

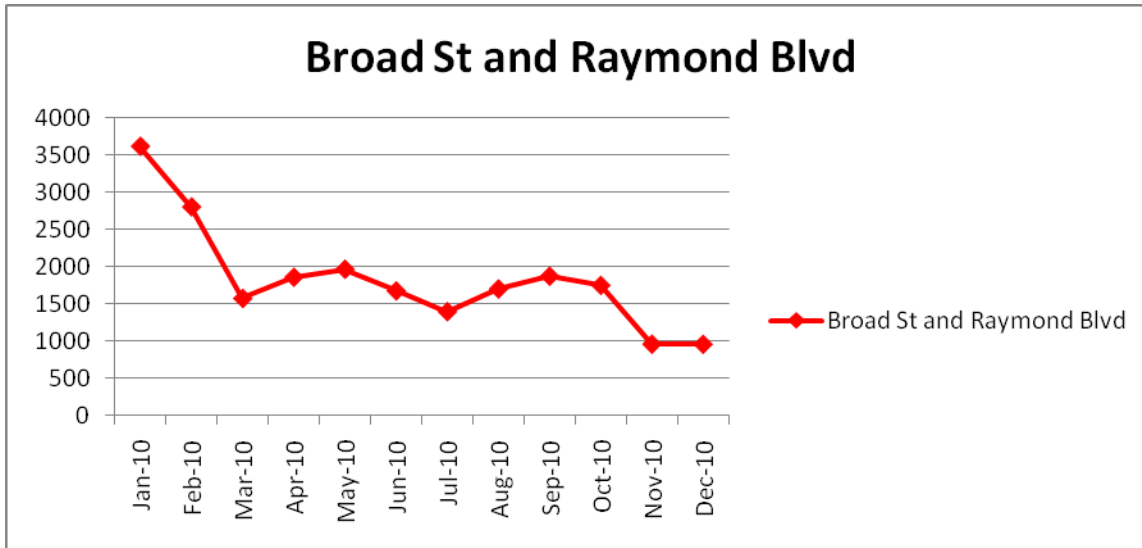


**Citation Data Analysis: Newark City – Year 1**

Citations (39:4-81)	Municipality	County	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Broad and Market	Newark	Essex	34	35	36	44	54	30	17	37	47	36	29	28



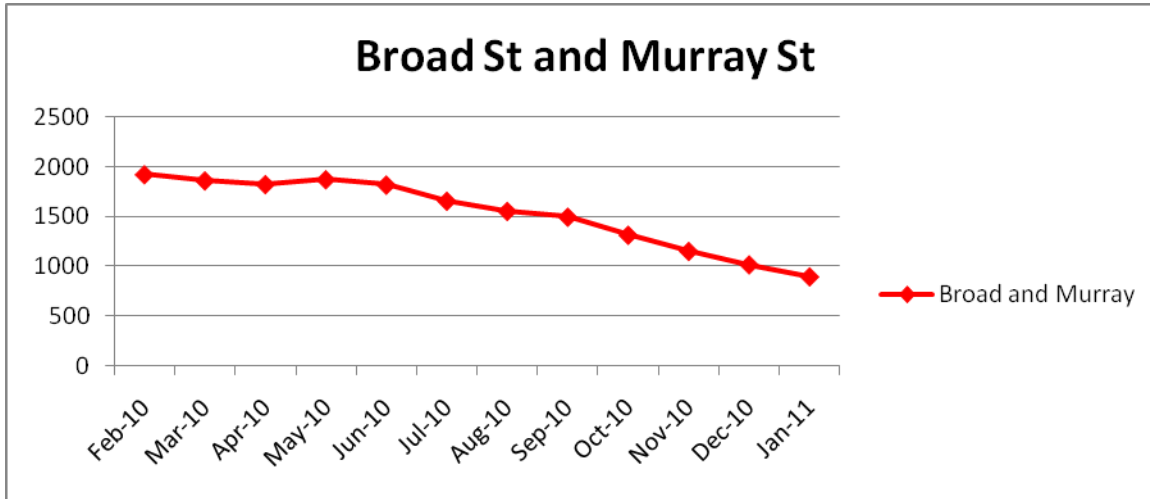
Citations (39:4-81)	Municipality	County	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Broad and Raymond	Newark	Essex	3618	2804	1574	1859	1966	1675	1396	1701	1872	1749	959	957



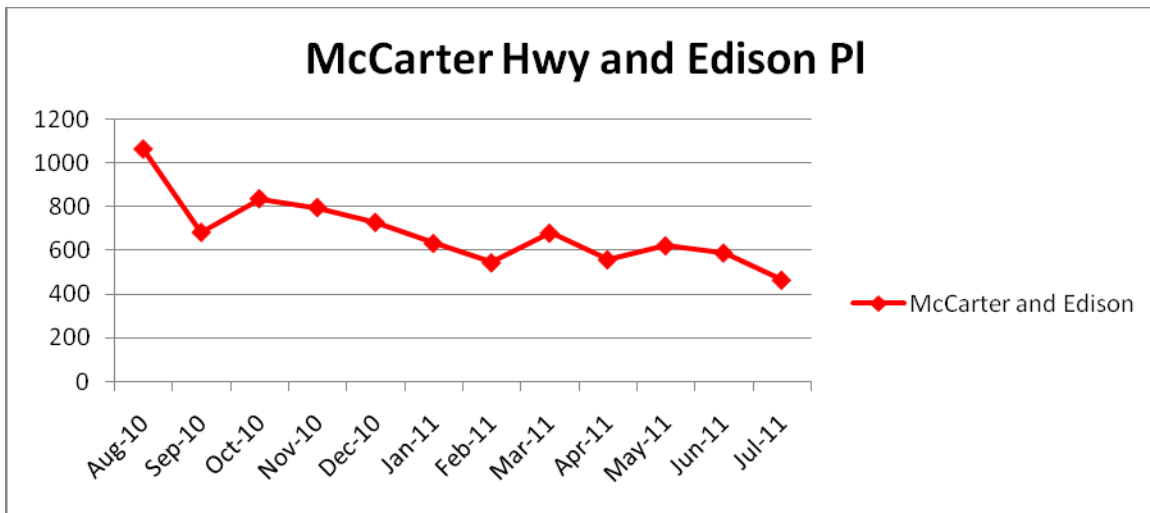


**Citation Data Analysis: Newark City – Year 1 (CONTINUED)**

Citations (39:4-81)	Municipality	County	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11
Broad and Murray	Newark	Essex	1923	1861	1824	1873	1819	1656	1553	1494	1312	1148	1012	891

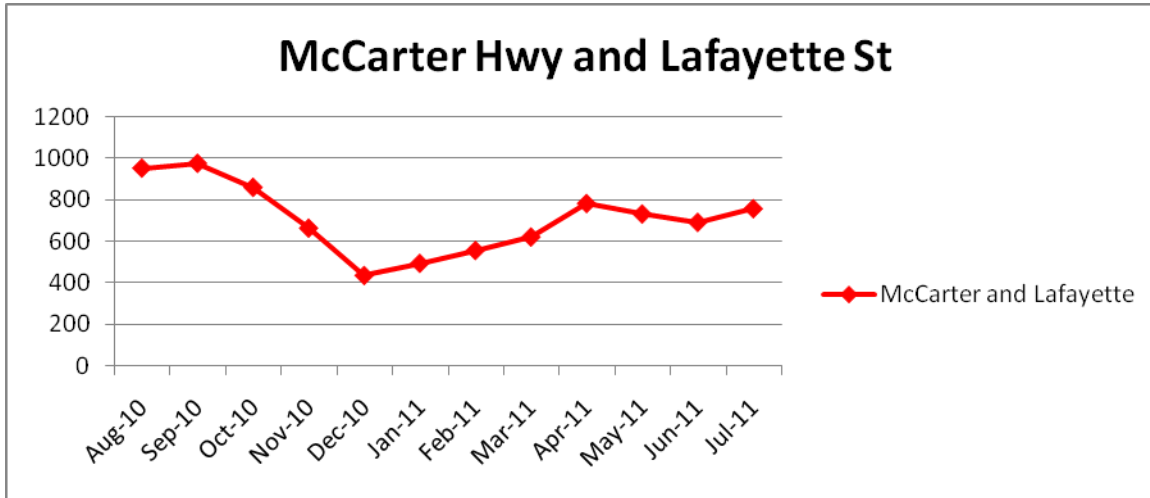


Citations (39:4-81)	Municipality	County	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11
McCarter and Edison	Newark	Essex	1066	683	838	797	729	632	543	679	557	621	588	463

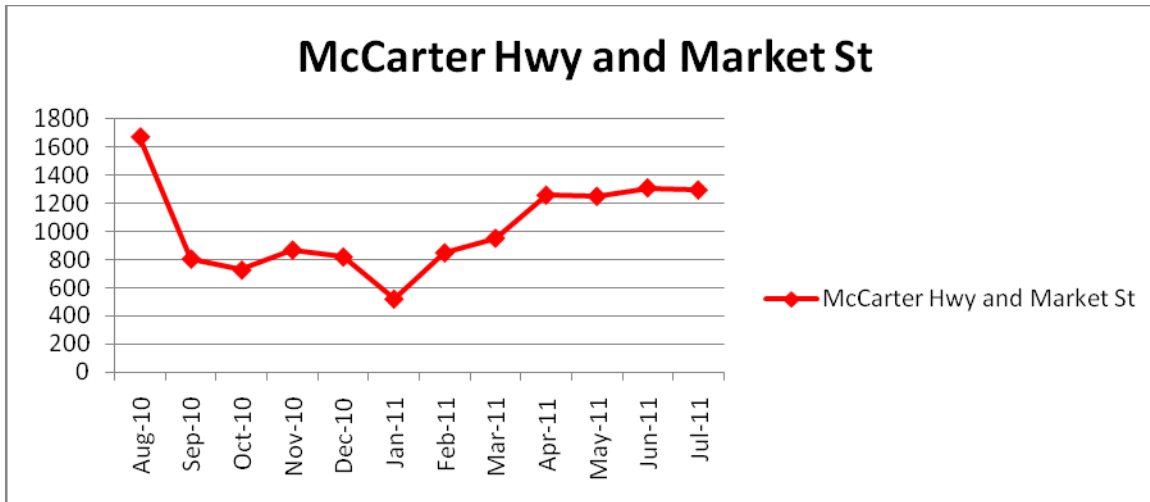


**Citation Data Analysis: Newark City – Year 1 (CONTINUED)**

Citations (39:4-81)	Municipality	County	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11
McCarter and Lafayette	Newark	Essex	955	978	862	665	436	495	557	622	784	733	693	759

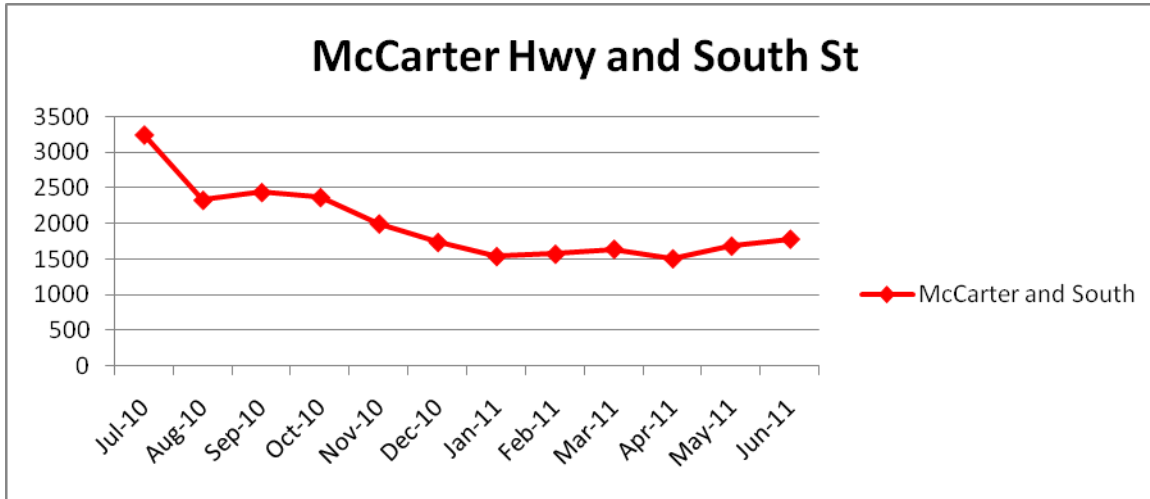


Citations (39:4-81)	Municipality	County	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11
McCarter and Market	Newark	Essex	1673	803	724	867	817	517	847	951	1258	1250	1310	1295

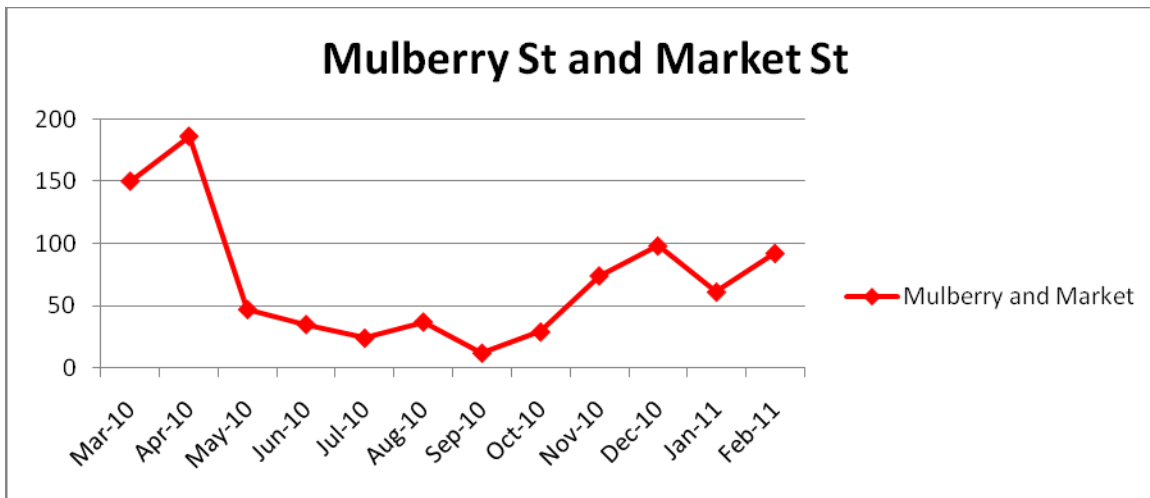


**Citation Data Analysis: Newark City – Year 1 (CONTINUED)**

Citations (39:4-81)	Municipality	County	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
McCarter and South	Newark	Essex	3251	2334	2444	2373	2003	1742	1544	1577	1647	1513	1691	1788

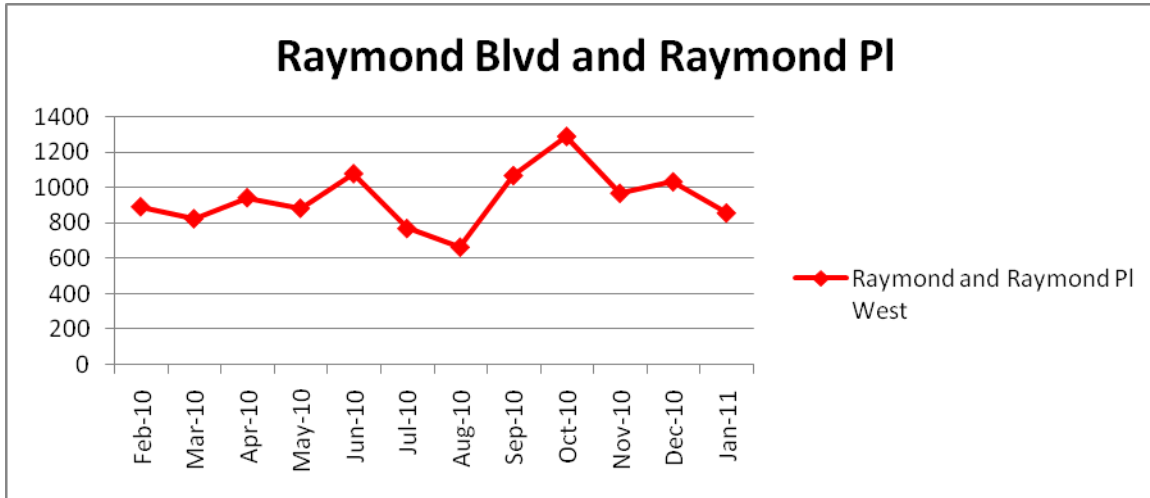


Citations (39:4-81)	Municipality	County	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11
Mulberry and Market	Newark	Essex	150	186	47	35	24	37	12	29	74	98	61	92

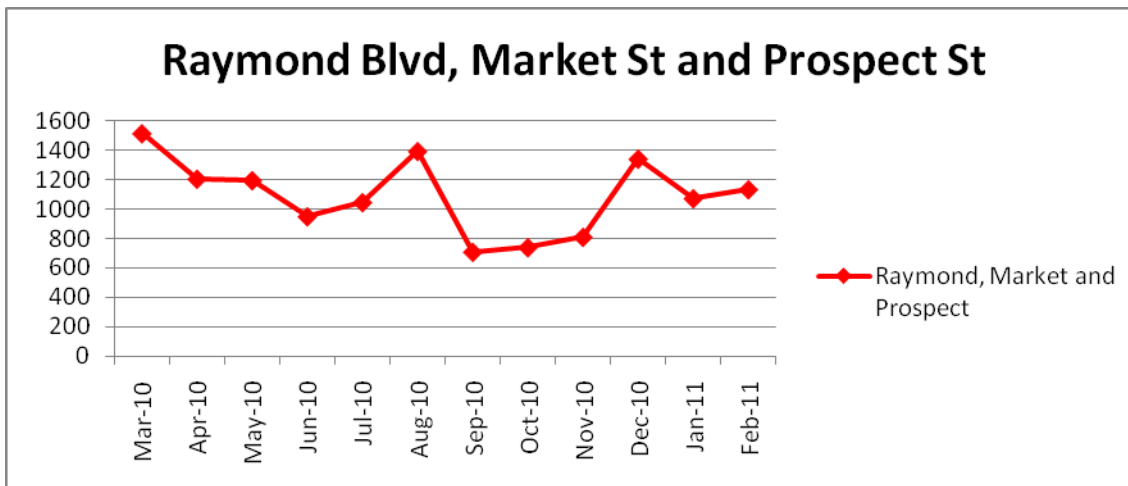


**Citation Data Analysis: Newark City – Year 1 (CONTINUED)**

Citations (39:4-81)	Municipality	County	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11
Raymond and Raymond PI West	Newark	Essex	892	825	943	884	1078	770	665	1067	1287	968	1032	857

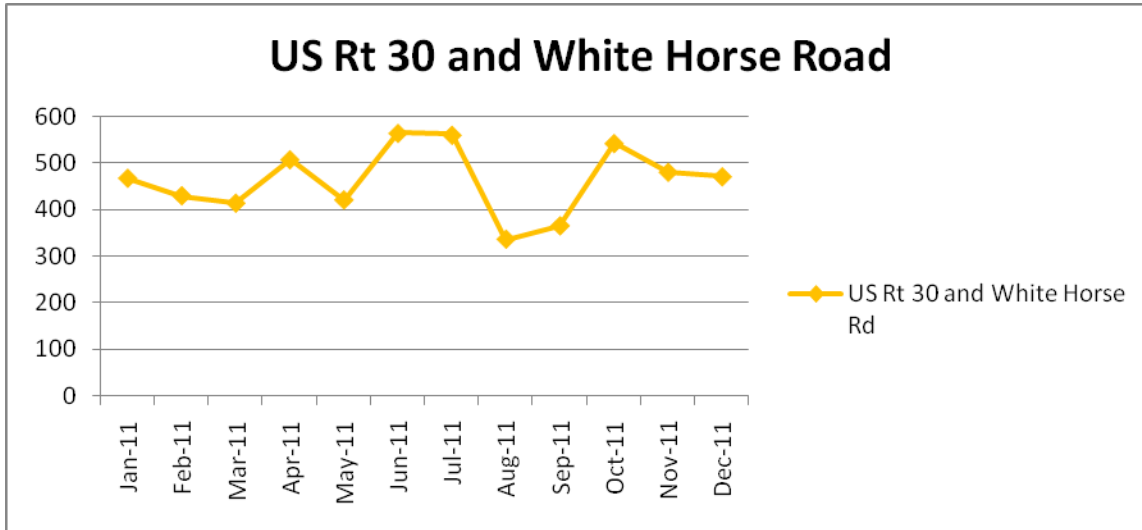


Citations (39:4-81)	Municipality	County	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11
Raymond, Market and Prospect	Newark	Essex	1515	1206	1196	950	1046	1394	708	739	810	1342	1073	1134



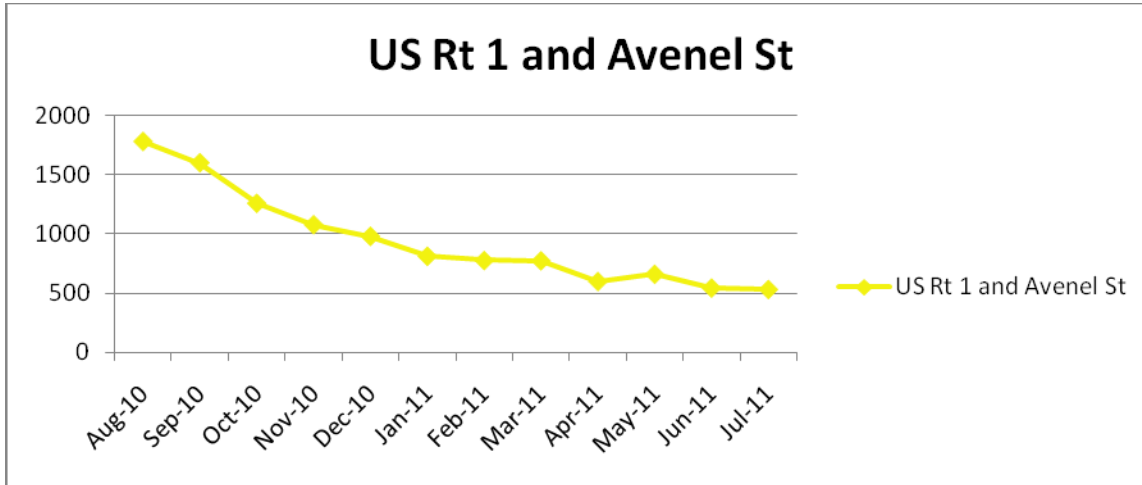
**Citation Data Analysis: Stratford Borough – Year 1**

Citations (39;4-81)	Municipality	County	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11
Route 30 and White Horse Rd	Stratford	Camden	468	430	414	508	421	565	561	336	365	543	481	471



**Citation Data Analysis: Woodbridge Township – Year 1**

Citations (39:4-81)	Municipality	County	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11
Route 1 and Avenel St	Woodbridge	Middlesex	1780	1600	1257	1076	978	809	773	771	596	657	541	528



**YEAR 2 – MUNICIPAL DATA**  
**CRASH DATA & COST/BENEFIT ANALYSIS**  
**CITATION DATA & GRAPHS**  
(for locations with two years of operation)



**Crash Data and Cost/Benefit Analysis: Newark City – Year 2**

LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Year 1	Cost	Year 2	Cost	Difference Benefit (Loss)	Year 1	Cost	Year 2	Cost	Difference Benefit (Loss)	
Broad St. & Market St.	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			C	1	\$44,900	0	\$0	\$44,900	3	\$134,700	1	\$44,900	\$89,800	
			O	1	\$7,400	1	\$7,400	\$0	3	\$22,200	2	\$14,800	\$7,400	
						Total Benefit/(Loss)		\$44,900					Total Benefit/(Loss)	\$97,200

Total Benefit (Loss)	\$142,100
----------------------	-----------

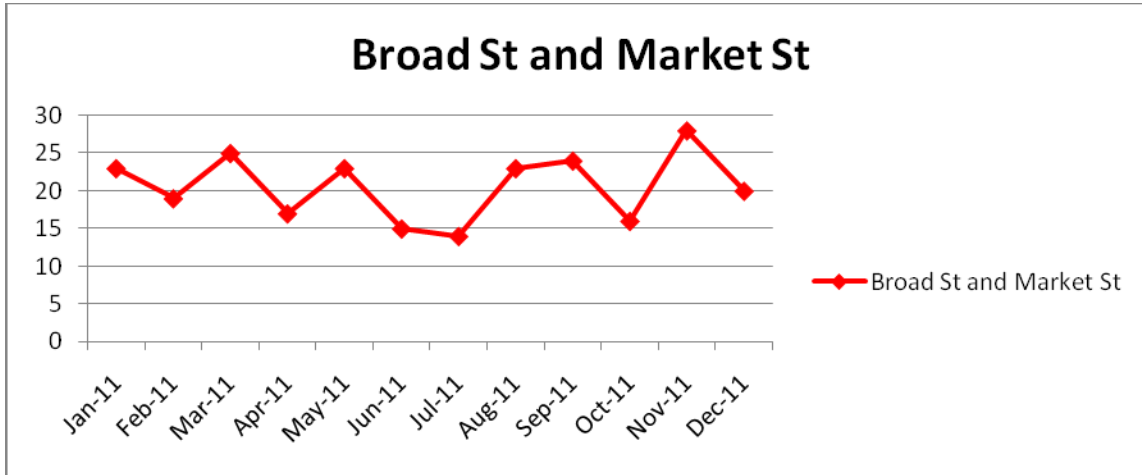
LOCATION	MUNICIPALITY	COUNTY	SEVERITY	Right Angle Crashes					Same Direction Crashes					
				Year 1	Cost	Year 2	Cost	Difference Benefit (Loss)	Year 1	Cost	Year 2	Cost	Difference Benefit (Loss)	
Broad St. & Raymond Blvd.	Newark City	Essex	K	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			A	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			B	0	\$0	0	\$0	\$0	0	\$0	0	\$0	\$0	
			C	1	\$44,900	0	\$0	\$44,900	0	\$0	1	\$44,900	(\$44,900)	
			O	0	\$0	0	\$0	\$0	0	\$0	3	\$22,200	(\$22,200)	
						Total Benefit/(Loss)		\$44,900					Total Benefit/(Loss)	(\$67,100)

Total Benefit (Loss)	(\$22,200)
----------------------	------------



Citation Data Analysis: Newark City – Year 2

Citations (39:4-81)	Municipality	County	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11
Broad and Market	Newark	Essex	23	19	25	17	23	15	14	23	24	16	28	20



Citations (39:4-81)	Municipality	County	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11
Broad and Raymond	Newark	Essex	887	754	801	840	789	816	909	927	842	919	642	538

