Generation Interconnection Feasibility Study Report

For

PJM Generation Interconnection Request Queue Position Y2-089

Lackawanna 230kV

March 2013

Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the feasibility study, but the actual allocation will be deferred until the impact study is performed.

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

The Interconnection Customer (IC), has proposed a natural gas generating facility located in Lackawanna County, Pennsylvania. The installed facilities will have a capability of 370 MW with 370 MW of this output being recognized by PJM as capacity. This means that the remaining 0 MW will be curtailable should a system reliability constraint occur. Note that this project is an increase a prior project, which will share the same property and connection point. The Y2-089 project will have a capability of 370 MW with 370MW being recognized as capacity. The total capability of the combined the prior project and Y2-089 projects will be 1370 MW with 1370 MW being recognized by PJM as capacity and the remaining 0 MW will be curtailable should a system reliability constraint occur. The proposed in-service date for the Y2-089 project is June 1, 2015. **This study does not imply a PPL Electric Utilities (PPL EU) commitment to this in-service date.**

Point of Interconnection

Y2-089 will interconnect with the PPL EU transmission system at the Lackawanna 230kV substation.

For this study, it is assumed that the facilities required for the prior project are in place.

Cost Summary

The Y2-089 project will be responsible for the following costs:

Description	Total Cost
Attachment Facilities	$ 0
Direct Connection Network Upgrades	$ 6,718,410
Non Direct Connection Network Upgrades	$ 4,723,840
Total Costs	**$ 11,442,250**

In addition, the Y2-089 project may be responsible for a contribution to the following costs:

Description	Total Cost
New System Upgrades	$ 9,876,400
Previously Identified Upgrades	$ 170,258,900
Total Costs	**$ 180,135,300**

Cost allocations for these upgrades will be provided in the System Impact Study Report.

Attachment Facilities

No Attachment Facilities will be required for this interconnection.

Direct Connection Cost Estimate

There are no new Direct Connection Facilities required beyond the facilities for the prior project.

The Y2-089 will be responsible for an allocation of the facilities required for the prior project. For the full 1370 MW output, Y2-089 will be responsible for 27% of the Direct Connection Facility costs. If the prior project withdraws, Y2-089 may be responsible for the entire cost of the new facilities.

The total preliminary cost estimate for Direct Connection work is given in the following tables below:

Description	Total Cost	Y2-089 Allocation
Transmission work (includes siting and certification)	$ 24,883,000	$ 6,718,410
Total Direct Connection Facilities		**$ 6,718,410**

The costs given exclude any applicable state or federal taxes. If at a future date Federal CIAC taxes are deemed necessary by the IRS for this project, both PJM and PPL EU shall be reimbursed by the Interconnection Customer for such taxes.

Non-Direct Connection Cost Estimate

There are no new Direct Connection Facilities required beyond the facilities for the prior project.

The Y2-089 will be responsible for an allocation of the facilities required for the prior project. For the full 1370 MW output, Y2-089 will be responsible for 27% of the Direct Connection Facility costs. If the prior project withdraws, Y2-089 may be responsible for the entire cost of the new facilities.

The total preliminary cost estimate for Direct Connection work is given in the following tables below:

Description	Total Cost	Y2-089 Allocation
Substation Work at the PPL EU Lackawanna 230-69 kV Substation	$ 3,792,000	$ 1,023,840
Substation Work at the PPL EU Lackawanna 230-69 kV Substation	$ 3,700,000	$ 3,700,000
Total Non Direct Connection Facilities		**$ 4,723,840**

The costs given exclude any applicable state or federal taxes. If at a future date Federal CIAC taxes are deemed necessary by the IRS for this project, both PJM and PPL EU shall be reimbursed by the Interconnection Customer for such taxes.

Substation Work at the Lackawanna 230-69 kV Substation for Y2-089

$3,700,000 - Substation work at PPL EU Lackawanna 230-69 kV substation

This estimate is based on the prior project work having been completed prior to this work.

At Lackawanna 230 kV Yard - Bay 4 Direct Connection Work

- Upgrade 4E. 4W, 4T 230 kV circuit breakers, 4000 amp rating.
- Replace (2) bus disconnect switches (currently 3000 amp) with a 4000 amp rated switches.
- Replace (2) tandem disconnect switches (currently 3000 amp) with a 4000 amp rated switches.
- Replace (3) 3000 amp tubing with 5" AL 4000 amp tubing.
- Replace all 1590 conductor with 5" AL 4000 amp tubing.
- Remove the diagonal insulator support and replace with new insulator.

At Lackawanna 230 kV Yard - Bay 3 Direct Connection Work. (Note: This work may or may not be required, depending on the fault duty and continuous current calculations. This will be determined in the Impact Study.)

- Rebuild Bay 3 to 3000 amp capability. This would require replacing all of the 230 kV circuit breakers, all of the disconnect switches (2 bus disconnects, 2 tandem disconnects), and all of the bus conductor and tubing.
- No cost was added to the estimate to account for this work

At Lackawanna 230 kV Yard - East/West Bus Direct Connection Work (Note: This work may or may not be required, depending on the fault duty and continuous current calculations. This will be determined in the Impact Study.)

- Install two new bus structures between bays 2 and 3 to increase the bus fault duty.
- Upgrade the 230 kV yard grounding
- No cost was added to the estimate to account for this work

Interconnection Customer Requirements

Protection Equipment

At 230 and 500 kV levels, the protection equipment necessary are based on PJM, NERC, FERC, etc, requirements and PPL EU does not use POC or IPR relaying, as this is more like a base load

plant. The protection must be suitable for the proposed system and the surrounding or connected lines. This relaying is determined on a case by case basis.

The Interconnection Customer will need to install suitable protection and control equipment based on PPL EU Parallel generation requirements. The new 230 kV customer substation protection must meet all applicable PPL EU, NERC and FERC requirements. The protection equipment and schemes will be identified during the Facilities Study. Relaying requirements for 230 kV and above are not posted, however Intertie Protective Relaying (IPR) and Point of Contact (POC) relaying documents for voltages below 230 kV can be referred to on the PPL EU website. The website addresses are shown below:

IPR Requirements:
http://www.pplelectric.com/Business+Partners/Tools+and+Reference+Center/Customer-Owned+Generation/

POC Requirements:
http://www.pplelectric.com/NR/rdonlyres/B0937C7E-B6E9-40AD-AE8C-ED3C9558E528/0/point_of_contact.pdf

Alternate Outlet for Generation Operation During PPL EU Maintenance

An alternate outlet for the generation was not requested by Queue Y2-089. The Queue Y2-089 facility will not be able to generate into the PPL EU network during maintenance on the existing 230 kV supply line (for the prior project). PPL EU on-going annual and long-term planned maintenance of this circuit will require PPL EU to remove the circuit from operation one (1) time every two (2) years, for an outage period of up to two (2) weeks. The actual duration may be shorter. During maintenance periods, the circuit may or may not be returned to service during the evening hours. That decision depends on the type of work being performed. Unexpected and unplanned maintenance outages are not included in the one-in-two number and duration time. Annual inspections that uncover damaged poles, conductors, or hardware, which require immediate repair, are scheduled as soon as practicable. These types of unplanned outages may last up to 24 hours.

Telephone Circuit Requirements

PPL EU will require a communication path for SCADA and voice circuits. PPL EU anticipates that telephone circuits will be required to establish these paths. The Interconnection Customer will be responsible to procure the following:

1. A 4-wire dedicated FDDA-type phone line for SCADA.
2. A normal dialup telephone line for voice communication.

Phone lines tend to be long lead-time items and must be in place and operational for equipment testing. The Interconnection Customer should investigate with the local phone company the possibility of obtaining this type of service at their facility.

All installation, maintenance, and monthly lease or billing charges for communications facilities are the responsibility of the Interconnection Customer.

Y2-089 Generator Harmonic and Flicker Requirements

On the PPL EU 230 kV system, the total harmonic distortion to the fundamental voltage wave from a single customer is limited to 1.0% of nominal. In addition, no individual harmonic component can exceed 0.7% of the fundamental system voltage.

If PPL EU discovers that objectionable harmonics in excess of the stated limits are being injected into the system from Y2-089's (and/or the prior project) equipment, the Queue Y2-089 (and the prior project) Interconnection Customer will be responsible for taking corrective measures to mitigate harmonic currents.

Concerning voltage flicker, the Y2-089 Project must limit the severity of their voltage variation to within a level which will not cause objectionable flickers to other customers. A voltage drop greater than 5% at the point of interconnection is generally not acceptable. The frequency and severity of the voltage variation will be considered when determining whether a customer's equipment is violating PPL EU flicker guidelines. PPL EU uses the General Electric flicker-irritation curves as a guideline to determine if the system is operating within acceptable limits. PPL EU will require corrective actions by the Y2-089 (and the prior project) customer if their operation causes flickers that exceed PPL EU guidelines. One such correction could be the installation of static var compensators (SVC) to hold a constant voltage.

Y2-089 Generator Regulation or Reactive Support Requirements

The PPL EU preliminary load flow studies have indicated that the Y2-089 generator will maintain the required voltage regulation on the new substation 230 kV bus within its required range. A voltage schedule will be specified on the new substation 230 kV bus. This will be determined in a later study stage.

As specified in Interconnection Service Agreement, Appendix 2, Section 4.7.1.1 of the PJM OATT (Open Access Transmission Tariff), the Y2-089 generator shall design its facility to meet the following power factor requirement:

"For all new generating facilities to be interconnected pursuant to the Tariff, other than wind-powered and other non-synchronous generation facilities, the Generation Interconnection Customer shall design its Customer Facility to maintain a composite power delivery at continuous rated power output at a power factor of at least 0.95 leading to 0.90 lagging."

Revenue Metering and SCADA Requirements

PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Sections 24.1 and 24.2.

PPL Electric Utilities Requirements

Installation of revenue grade Bi-directional Metering Equipment will be required at the Queue Y2-089 Point of Interconnection (POI) to measure KWh and KVARh to accommodate output equal to that of the prior project & Y2-089 combined as proposed (single Point of Interconnect).

PPL EU will review the design of the high voltage metering equipment. PPL EU will supply the required metering equipment but the installation would be borne by the developer including CT/PTs. All metering equipment must meet applicable PPL EU tariff requirements as well as being compliant with all applicable requirements of the PJM agreements. The revenue meters should be housed in a control cabinet or similar enclosure (per PPL EU specification) and must be accessible to PPL EU metering personnel.

PPL SCADA Requirements

PPL EU will require the installation of PPL EU approved SCADA equipment that will connect to its existing SCADA system. PPL EU will provide detailed specifications and design drawings for this equipment.

Preliminary Schedule

After the PJM Interconnection Service Agreement and Interconnection Construction Service Agreement are signed, the typical time needed to complete the direct connection work is about 42 months for the transmission work (not applicable due to the prior project), and 33 months for the substation work. Therefore, the overall elapsed time to complete the direct connection work is about 33 months.

Estimate Assumptions

- This magnitude estimate has been prepared without extensive research or field review.
- The 230 kV Tap for the prior project to Lackawanna, is assumed to be in place.
- No environmental, real estate, or permitting issues were reviewed for the estimate of this project.

Network Impacts

The Queue Project #Y2-089 was studied as a 370.0MW (Capacity 370.0MW) injection at the LACK 230 kV substation in the PPL area. Project #Y2-089 was evaluated for compliance with reliability criteria for summer peak conditions in 2016. Potential network impacts were as follows:

Contingency Descriptions

The following contingencies resulted in overloads:

Contingency Name	Description
01YUKON _01SOBEND _083	CONTINGENCY '01YUKON _01SOBEND _083' DISCONNECT BRANCH FROM BUS 235116 TO BUS 235118 CKT 1 /* 500/500KV, AREA 201/201. END
AP_C5_19	CONTINGENCY 'AP_C5_19' /BRIGHTON LOOP OPEN BRANCH FROM BUS 200003 TO BUS 235105 CKT 1 OPEN BRANCH FROM BUS 200003 TO BUS 200004 CKT 1 END
B_PN230-SX-#11	CONTINGENCY 'B_PN230-SX-#11' /* EAST TOWANDA - N MESHOPPEN (ETP) 230 KV & N MESHOPPEN BK 4 DISCONNECT BRANCH FROM BUS 200675 TO BUS 200924 CKT 1F DISCONNECT BRANCH FROM BUS 200924 TO BUS 200706 CKT 1F DISCONNECT BRANCH FROM BUS 200706 TO BUS 200677 CKT 4 END
B_PN230-SX-#8	CONTINGENCY 'B_PN230-SX-#8' /* EAST TOWANDA - HILLSIDE (ETH) 230 KV DISCONNECT BRANCH FROM BUS 200675 TO BUS 130763 CKT 1 END
C1_PN230-BS-#5A	CONTINGENCY 'C1_PN230-BS-#5A' /* EAST TOWANDA #1 230 KV BUS FAULT DISCONNECT BRANCH FROM BUS 200701 TO BUS 200675 CKT 1 DISCONNECT BRANCH FROM BUS 200675 TO BUS 130763 CKT 1 DISCONNECT BRANCH FROM BUS 200674 TO BUS 200675 CKT 3 END
C1_PN230-BS-#5C	CONTINGENCY 'C1_PN230-BS-#5C' /* EAST TOWANDA #2 230 KV BUS FAULT DISCONNECT BRANCH FROM BUS 200674 TO BUS 200675 CKT 4 DISCONNECT BRANCH FROM BUS 200675 TO BUS 200924 CKT 1F DISCONNECT BRANCH FROM BUS 200924 TO BUS 200706 CKT 1F END

Contingency Name	Description
C2_PN115-SB-46A	CONTINGENCY 'C2_PN115-SB-46A' /* NORTH MESHOPPEN 115 KV STUCK CB - (N MESHOPPEN - BUS TIE CB) DISCONNECT BRANCH FROM BUS 200677 TO BUS 200699 CKT 1 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200678 CKT 1 REDUCE BUS 200677 SHUNT BY 100 PERCENT DISCONNECT BRANCH FROM BUS 200677 TO BUS 200684 CKT 1 DISCONNECT BRANCH FROM BUS 200825 TO BUS 200706 CKT 3 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200825 CKT 3 DISCONNECT BUS 200825 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200698 CKT 2 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200674 CKT 1 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200687 CKT 2 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200706 CKT 4 END
C2_PN115-SB-46G	CONTINGENCY 'C2_PN115-SB-46G' /* NORTH MESHOPPEN 115 KV STUCK CB20 - (N MESHOPPEN XFMR 4) DISCONNECT BRANCH FROM BUS 200677 TO BUS 200698 CKT 2 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200674 CKT 1 DISCONNECT BRANCH FROM BUS 200677 TO BUS 200687 CKT 2 DISCONNECT BRANCH FROM BUS 200706 TO BUS 200677 CKT 4 DISCONNECT BRANCH FROM BUS 200675 TO BUS 200924 CKT 1F DISCONNECT BRANCH FROM BUS 200706 TO BUS 200924 CKT 1F END
C2_PN230-SB-#3A	CONTINGENCY 'C2_PN230-SB-#3A' /* EAST TOWANDA 230 KV STUCK CB - (BUS SECTION) DISCONNECT BRANCH FROM BUS 200675 TO BUS 130763 CKT 1 DISCONNECT BRANCH FROM BUS 200701 TO BUS 200675 CKT 1 DISCONNECT BUS 200675 DISCONNECT BRANCH FROM BUS 200675 TO BUS 200924 CKT 1F DISCONNECT BRANCH FROM BUS 200706 TO BUS 200924 CKT 1F DISCONNECT BRANCH FROM BUS 200674 TO BUS 200675 CKT 4 DISCONNECT BRANCH FROM BUS 200674 TO BUS 200675 CKT 3 END
C2_PN230-SB-#3C	CONTINGENCY 'C2_PN230-SB-#3C' /* EAST TOWANDA 230 KV STUCK CB - (N.MESHOPPEN) DISCONNECT BRANCH FROM BUS 200706 TO BUS 200677 CKT 4 DISCONNECT BRANCH FROM BUS 200675 TO BUS 200924 CKT 1F DISCONNECT BRANCH FROM BUS 200706 TO BUS 200924 CKT 1F DISCONNECT BRANCH FROM BUS 200674 TO BUS 200675 CKT 4 END
C2_PN230-SB-#3D	CONTINGENCY 'C2_PN230-SB-#3D' /* EAST TOWANDA 230 KV STUCK CB - (GROVER) DISCONNECT BRANCH FROM BUS 200675 TO BUS 130763 CKT 1 DISCONNECT BRANCH FROM BUS 200857 TO BUS 200701 CKT 1 DISCONNECT BRANCH FROM BUS 200701 TO BUS 200675 CKT 1 DISCONNECT BRANCH FROM BUS 200701 TO BUS 200702 CKT 1 DISCONNECT BUS 200701 DISCONNECT BRANCH FROM BUS 200674 TO BUS 200675 CKT 3 END

Contingency Name	Description
C2_PN230-SB-#3F	CONTINGENCY 'C2_PN230-SB-#3F' /* EAST TOWANDA 230 KV STUCK CB - (#3 XF) DISCONNECT BRANCH FROM BUS 200675 TO BUS 130763 CKT 1 DISCONNECT BRANCH FROM BUS 200701 TO BUS 200675 CKT 1 DISCONNECT BRANCH FROM BUS 200674 TO BUS 200675 CKT 3 END
CNSTN_J_NOEMORY GROVE	CONTINGENCY 'CNSTN_J_NOEMORYGROVE' /* CONASTONE J (5011/S-BUS) BREAKER DISCONNECT BRANCH FROM BUS 200004 TO BUS 200003 CKT 1 /* CKT #5011 CONASTONE TO BRIGHTON DISCONNECT BUS 200100 /* CONASTONE 500KV CAP END
PJM17	CONTINGENCY 'PJM17' DISCONNECT BRANCH FROM BUS 200004 TO BUS 200013 CKT 1 /* CNASTONE PEACHBTM 500 500 END
PJM69	CONTINGENCY 'PJM69' DISCONNECT BRANCH FROM BUS 200021 TO BUS 200009 CKT 1 /* SUNBURY JUNIATA 500 500 DISCONNECT BRANCH FROM BUS 200021 TO BUS 200022 CKT 2 /* SUNBURY SUSQHANA 500 500 / CKT 1 -> 2 DISCONNECT BRANCH FROM BUS 200021 TO BUS 208109 CKT 24 /* SUNBURY SUNBURY 500 230 END
PL100571	CONTINGENCY 'PL100571' /*AT JUNIATA 500SUB SUNBURY 500KV N.CB FAILED DISCONNECT BRANCH FROM BUS 200009 TO BUS 208005 CKT 2 DISCONNECT BRANCH FROM BUS 200009 TO BUS 200021 CKT 1 END
PL100576	CONTINGENCY 'PL100576' /*AT JUNIATA 500SUB SUNBURY 500KV S.CB FAILED DISCONNECT BRANCH FROM BUS 200009 TO BUS 200021 CKT 1 DISCONNECT BRANCH FROM BUS 200009 TO BUS 200183 CKT 1 DISCONNECT BRANCH FROM BUS 200009 TO BUS 208004 CKT 1 END
PL100872	CONTINGENCY 'PL100872' /* SUSQ-LACK 500KV - STUCK CB AT LACK500 1W DISCONNECT BRANCH FROM BUS 200022 TO BUS 200074 CKT 1 DISCONNECT BRANCH FROM BUS 200074 TO BUS 208009 CKT 3 END
PL100873	CONTINGENCY 'PL100873' /* SUSQ-LACK 500KV - STUCK CB AT LACK500 1E DISCONNECT BRANCH FROM BUS 200022 TO BUS 200074 CKT 1 DISCONNECT BRANCH FROM BUS 200074 TO BUS 208009 CKT 4 END

Contingency Name	Description
PP1E_NO EMORYGROVE	CONTINGENCY 'PP1E_NO EMORYGROVE' / NO PATH OPEN BRANCH FROM BUS 200003 TO BUS 200004 CKT 1 / 200003 BRIGHTON 500 200004 CNASTONE 500 1 END

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

None

Light Load Analysis

Light Load Studies to be conducted during later study phases (applicable to wind, coal, nuclear, and pumped storage projects).

Will be confirmed during the System Impact Study phase.

Multiple Facility Contingency

(Double Circuit Tower Line contingencies were studied for the full energy output. The contingencies of Line with Failed Breaker and Bus Fault will be performed for the Impact Study.)

	Contingency		Affected		Bus			Power	Loading %		Rating		MW	
#	Type	Name	Area	Facility Description	From	To	Circuit	Flow	Initial	Final	Type	MVA	Contribution	Ref
1	LFFB	PL100571	PENELEC	CNYO&G-E.TWANDA 230 kV line	200924	200675	1F	DC	93.82	101.60	ER	549	42.72	2
2	LFFB	PL100576	PENELEC	CNYO&G-E.TWANDA 230 kV line	200924	200675	1F	DC	93.82	101.60	ER	549	42.72	3
3	BUS	C1_PN230-BS-#5C	PENELEC	NO MESHO-TOWANDA 115 kV line	200677	200674	1	DC	99.68	101.25	ER	158	15.37	4

Note: Please see Attachment 3 for projects providing impacts to flowgate violations. The values in the Reference column correspond to the proper table in the Attachment.

Short Circuit

(Summary of impacted circuit breakers)

Contributions to previously identified circuit breakers found to be over-duty:

#	Area	Bus No.	Bus	Breaker	Rating Type	Duty Percent Without Y2-089	Duty Percent With Y2-089	Duty Percent Difference
4	PPL	208052	PECK TR4 230 kV	BLOOMING GROVE	S	111.30	118.10	6.80

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

	Contingency		Affected		Bus			Power	Loading %		Rating		MW	
#	Type	Name	Area	Facility Description	From	To	Circuit	Flow	Initial	Final	Type	MVA	Contribution	Ref
5	N-1	01YUKON _01SOBEND _083	APS	KEYSTONE-CABOT 500 kV line	200011	235104	1	DC	107.33	107.35	ER	2,598	71.76	5
6	N-1	01YUKON _01SOBEND _083	APS	KEYSTONE-CABOT 500 kV line	200011	235104	1	DC	107.33	107.35	ER	2,598	71.76	6
7	LFFB	C2_PN115-SB-46G	PENELEC	LAUREL L-WESTOVER115 115 kV line	200680	130807	1	DC	105.85	106.99	ER	150	10.56	7
8	N-1	B_PN230-SX-#11	PENELEC	N.MESHPN 230/115 kV transformer	200706	200825	3	DC	106.80	108.36	ER	188	18.09	8
9	N-1	B_PN230-SX-#11	PENELEC	MESH2REA-NO MESHO 115 kV line	200825	200677	3	DC	106.80	108.36	ER	188	18.09	9
10	LFFB	C2_PN230-SB-#3C	PENELEC	MESH2REA-NO MESHO 115 kV line	200825	200677	3	DC	107.58	109.13	ER	188	17.95	10
11	LFFB	C2_PN230-SB-#3C	PENELEC	N.MESHPN 230/115 kV transformer	200706	200825	3	DC	107.58	109.13	ER	188	17.95	11
12	LFFB	C2_PN115-SB-46A	PENELEC	N.MESHPN-CNYO&G 230 kV line	200706	200924	1F	DC	103.97	111.04	ER	617	43.61	12
13	LFFB	C2_PN115-SB-46G	PENELEC	TIFFANY-LAUREL L 115 kV line	200679	200680	1	DC	109.57	110.71	ER	149	10.56	13

#	Contingency Type	Contingency Name	Affected Area	Facility Description	Bus From	Bus To	Circuit	Power Flow	Loading % Initial	Loading % Final	Rating Type	Rating MVA	MW Contribution	Ref
14	LFFB	PL100873	PPL	LACKAW 500/230 kV transformer	208009	200074	3	DC	107.16	117.22	ER	1,165	117.19	14
15	LFFB	PL100872	PPL	LACKAW 500/230 kV transformer	208009	200074	4	DC	107.16	117.22	ER	1,165	117.19	15
16	LFFB	C2_PN115-SB-46A	PENELEC	CNYO&G-E.TWANDA 230 kV line	200924	200675	1F	DC	113.83	121.78	ER	549	43.61	16
17	N-1	PJM69	PENELEC	OXBOW-N.MESHPN 230 kV line	200708	200706	1	DC	123.89	132.74	ER	608	53.82	17
18	N-1	PJM69	PENELEC/ PPL	LACK-OXBOW 230 kV line	208009	200708	1	DC	128.79	137.66	ER	617	54.73	18
19	LFFB	C2_PN230-SB-#3A	PENELEC	NO MESHO-TOWANDA 115 kV line	200677	200674	1	DC	139.70	140.95	ER	158	12.22	19
20	N-1	PJM17	PECO/BGE	COOPER-GRACETON 230 kV line	214084	220964	1	DC	148.91	149.02	ER	578	20.28	20
21	N-1	PJM17	PECO	PCHBTMTP-COOPER 230 kV line	213869	214084	1	DC	151.94	152.06	ER	578	20.28	21
22	N-1	PJM17	PECO	NOTTREAC-PCHBTMTP 230 kV line	213846	213869	1	DC	151.94	152.06	ER	578	20.28	22
23	N-1	PJM17	PPL/BGE	SAHA34TP-GRACETON 230 kV line	208071	220964	1	DC	153.91	153.94	ER	485	18.90	23
24	N-1	B_PN230-SX-#8	PENELEC/ NYISO	E.SAYRE-N.WAV115 115 kV line	200676	130836	1	DC	152.89	154.29	ER	128	11.06	24
25	N-1	PJM17	PECO	NOTTNGHM-NOTTREAC 230 kV line	213844	213846	1	DC	154.90	155.02	ER	567	20.28	25
26	Non	Non	PENELEC	OXBOW-N.MESHPN 230 kV line	200708	200706	1	DC	149.87	159.78	NR	478	47.40	26
27	N-1	PP1E_NO EMORYGROVE	METED	LINCOLN-STRABAN 115 kV line	204544	204538	1	DC	159.83	160.64	ER	153	7.74	27
28	N-1	B_PN230-SX-#8	PENELEC	TOWANDA-E.SAYRE 115 kV line	200674	200676	1	DC	159.12	160.28	ER	155	11.06	28
29	Non	Non	PENELEC/ PPL	LACK-OXBOW 230 kV line	208009	200708	1	DC	153.08	162.96	NR	488	48.21	29
30	BUS	C1_PN230-BS-#5A	PENELEC	E.TWANDA 230/115 kV transformer	200675	200674	4	DC	168.63	169.78	ER	241	17.08	30
31	LFFB	C2_PN230-SB-#3D	PENELEC	E.TWANDA 230/115 kV transformer	200675	200674	4	DC	168.66	169.79	ER	241	16.82	31
32	BUS	C1_PN230-BS-#5A	PENELEC	TOWANDA-E.SAYRE 115 kV line	200674	200676	1	DC	176.33	177.67	ER	155	12.94	32

#	Contingency Type	Contingency Name	Affected Area	Facility Description	Bus From	Bus To	Circuit	Power Flow	Loading % Initial	Loading % Final	Rating Type	Rating MVA	MW Contribution	Ref
33	LFFB	C2_PN230-SB-#3F	PENELEC	TOWANDA-E.SAYRE 115 kV line	200674	200676	1	DC	176.32	177.67	ER	155	12.94	33
34	N-1	PP1E_NO EMORYGROVE	METED	STRABAN-GERMANTN 115 kV line	204538	204529	1	DC	178.59	179.21	ER	139	7.74	34
35	BUS	C1_PN230-BS-#5A	PENELEC/ NYISO	E.SAYRE-N.WAV115 115 kV line	200676	130836	1	DC	181.25	182.89	ER	128	12.94	35
36	LFFB	C2_PN230-SB-#3F	PENELEC/ NYISO	E.SAYRE-N.WAV115 115 kV line	200676	130836	1	DC	181.25	182.89	ER	128	12.94	36
37	LFFB	CNSTN_J_NO EMORYGROVE	METED	STRABAN-GERMANTN 115 kV line	204538	204529	1	DC	194.67	195.99	ER	139	7.74	37
38	N-1	PP1E_NO EMORYGROVE	METED	GERMANTN 138/115 kV transformer	204529	204530	1	DC	214.41	215.11	ER	104	7.74	38

Note: Please see Attachment 3 for projects providing impacts to flowgate violations. The values in the Reference column correspond to the proper table in the Attachment.

Steady-State Voltage Requirements

(Summary of the VAR requirements based upon the results of the steady-state voltage studies)

Will be confirmed during the System Impact Study phase.

Stability and Reactive Power Requirement for Low Voltage Ride Through

(Summary of the VAR requirements based upon the results of the dynamic studies)

Will be confirmed during the System Impact Study phase.

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost
1	CNYO&G-E.TWANDA 230 kV line	Penelec proposes to replace a wave trap at the East Towanda substation.	Pending	**$ 116,900**
2	CNYO&G-E.TWANDA 230 kV line	This overload will be mitigated by the upgrade in #1 above.	N/A	**$ 0**
3	NO MESHO-TOWANDA 115 kV line	Penelec is converting the East Towanda substation to a double-breaker configuration to support the interconnection of the X1-109 project. This conversion will mitigate this overload.	N3362	**$ 9,759,500**
			Total New Network Upgrades	**$ 9,876,400**

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost
4	PECK TR4 BLOOMING GROVE 230 kV circuit breaker	The Peckville substation will be decommissioned as part of the PPL Supplemental Project S0333. This circuit breaker will not be in service when Y2-089 goes in service.	N/A	**$ 0**
5	KEYSTONE-CABOT 500 kV line	APS proposes to replace a wave trap and meter at the Keystone substation.	Pending	**$ 170,900**
6	KEYSTONE-CABOT 500 kV line	This overload will be mitigated by the upgrade in #5 above.	N/A	**$ 0**

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost
7	LAUREL L-WESTOVER115 115 kV line	Penelec proposes to replace the #4 transformer 230kV circuit switcher at North Meshoppen with a circuit breaker.	Pending	**$ 1,129,400**
8	N.MESHPN 230/115 kV transformer	Penelec proposes to replace the #3 transformer with a larger unit and remove the existing reactor.	Pending	**$ 7,114,100**
9	MESH2REA-NO MESHO 115 kV line	This overload will be mitigated by the upgrade in #8 above.	N/A	**$ 0**
10	MESH2REA-NO MESHO 115 kV line	This overload will be mitigated by the upgrade in #3 above.	N/A	**$ 0**
11	N.MESHPN 230/115 kV transformer	This overload will be mitigated by the upgrade in #3 above.	N/A	**$ 0**
12	N.MESHPN-CNYO&G 230 kV line	Penelec proposes to reconductor this line with a high temperature conductor.	Pending	**$ 5,217,800**
13	TIFFANY-LAUREL L 115 kV line	This overload will be mitigated by the upgrade in #7 above.	N/A	**$ 0**
14	LACKAW 500/230 kV transformer	No mitigation is required for this overload. The automatic isolation of the failed breaker and automatic restoration will be installed at the future Lackawanna 500 kV switchyard. The automatic restoration scheme is expected to take approximately 20 seconds to re-energize the second transformer.	N/A	**$ 0**
15	LACKAW 500/230 kV transformer	This overload will be mitigated by the upgrade in #14 above.	N/A	**$ 0**
16	CNYO&G-E.TWANDA 230 kV line	Penelec proposes to reconductor the line and upgrade terminal equipment at East Towanda substation.	Pending	**$ 6,872,300**
17	OXBOW-N.MESHPN 230 kV line	Penelec proposes the following: Transmission Line: Reconductor the existing 1033 ACSR conductor with 1033 ACSS high temperature conductor. (10.58 miles) North Meshoppen Substation: Replace the existing 1033 ACSS substation conductor on the Oxbow line terminal with 1033 AAC conductor.	Pending	**$ 5,988,200**
18	LACK-OXBOW 230 kV line	This overload will be mitigated by a PPL-funded project to convert the Sunbury 500kV substation to a breaker-and-a-half configuration.	S0148	**$ 0**

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost
19	NO MESHO-TOWANDA 115 kV line	This overload will be mitigated by the upgrade in #3 above.	N/A	**$ 0**
20	COOPER-GRACETON 230 kV line	PECO has proposed to reconductor the PECO-owned section of the line (4 miles). This work will take 24 months to complete. ($2,900,000) PECO has proposed to reconductor the BEGO-owned section of the line (1.85 miles). This work will take 54 months to complete. ($9,000,000)	Pending	**$ 11,900,000**
21	PCHBTMTP-COOPER 230 kV line	PECO has proposed to reconductor the the line (1.4 miles). This work will take 24 months to complete.	Pending	**$ 1,000,000**
22	NOTTREAC-PCHBTMTP 230 kV line	PECO proposes the following: Rebuild the transmission line for a higher rating. This work will take 4 years to complete. ($40,000,000) Build a second, parallel transmission line on new right of way. This work will take 10 years to complete. ($40,000,000). Install a new 230kV substation at Peach Bottom. This work will take 4 years to complete. ($10,000,000)	Pending	**$ 90,000,000**
23	SAHA34TP-GRACETON 230 kV line	PPL EU proposes to rebuild the Manor-Graceton line to increase the rating of the line. This work is expected to be completed by November 2013. ($22,700,000) BGE will remove sag limitations at Graceton. This work is expected to take 3 years to complete. ($500,000).	Pending	**$ 23,200,000**
24	E.SAYRE-N.WAV115 115 kV line	This overload is expected to be mitigated through a bilateral operating agreement between PJM and NYISO.	N/A	**$ 0**
25	NOTTNGHM-NOTTREAC 230 kV line	PECO proposes to replace the reactor and bypass circuit switcher at Nottingham to increase the line rating. This work will take 24 months to complete.	Pending	**$ 1,900,000**
26	OXBOW-N.MESHPN 230 kV line	This overload will be mitigated by the upgrade in #17above.	N/A	**$ 0**
27	LINCOLN-STRABAN 115 kV line	A preexisting operating procedure requires that the Carroll-Germantown 138kV line be opened to alleviate the overload on this facility. This action will cause an overload on the Carlisle-Gardenrs 115kV line. MetEd is reviewing this overload and will provide any necessary reinforcements in the System Impact Study phase.	N/A	**$ 0**

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost
28	TOWANDA-E.SAYRE 115 kV line	This overload will be mitigated through an existing operating procedure to open the N. Waverly-E. Sayer 115kV line.	N/A	**$ 0**
29	LACK-OXBOW 230 kV line	Penelec proposes to conductor the Penelec-owned portion of the line and upgrade terminal equipment at Oxbow. ($8,816,200) PPL proposes to rebuild the Lackawanna 230kV bay and rebuild the PPL-owned portion of the line. ($4,700,000)	Pending	**$ 13,516,200**
30	E.TWANDA 230/115 kV transformer	This overload will be mitigated by the upgrade in #3 above.	N/A	**$ 0**
31	E.TWANDA 230/115 kV transformer	This overload will be mitigated by the upgrade in #3 above.	N/A	**$ 0**
32	TOWANDA-E.SAYRE 115 kV line	This overload will be mitigated by the upgrade in #3 above.	N/A	**$ 0**
33	TOWANDA-E.SAYRE 115 kV line	This overload will be mitigated by the upgrade in #3 above.	N/A	**$ 0**
34	STRABAN-GERMANTN 115 kV line	This overload will be mitigated through an existing operating procedure to open toe Carroll-Germantown 138kV line.	N/A	**$ 0**
35	E.SAYRE-N.WAV115 115 kV line	This overload is expected to be mitigated through a bilateral operating agreement between PJM and NYISO.	N/A	**$ 0**
36	E.SAYRE-N.WAV115 115 kV line	This overload is expected to be mitigated through a bilateral operating agreement between PJM and NYISO.	N/A	**$ 0**
37	STRABAN-GERMANTN 115 kV line	This overload will be mitigate through an existing operating procedure to open toe Carroll-Germantown 138kV line.	N/A	**$ 0**
38	GERMANTN 138/115 kV transformer	A preexisting operating procedure requires that the Carroll-Germantown 138kV line be opened to alleviate the overload on this facility. This action will cause an overload on the Roxbury-Greene 138kV line. MetEd proposes to mitigate the Roxbury-Greene 138kV overload by replacing the Roxbury 138/115kV transformer and associated terminal equipment. This work will take 2 years to complete.	Pending	**$ 2,250,000**
			Total New Network Upgrades	**$ 180,135,300**

Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

None.

Attachment 1. Single Line Diagram

Attachment 2. Substation Layout

Attachment 3. Flowgate Details

Table 2

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.2
217006	BERGN26A	1.1
217078	ESSEX 12	9.62
206617	EXXON	.36
206331	GG A1&2	2.07
206332	GG A3&4	2.07
206333	GG B5&6	2.07
206334	GG B7&8	2.07
217081	HUDSON 1	18.76
217083	KEARNY11	6.81
217086	KRNY9&10	1.1
209003	KSTN IPP	.01
292590	L-018 E	2.03
212266	LOR1_N14_E	1.6
209027	LOR2_Q27 E	5.94
206679	M&M S721	.57
210888	MACRTR10	.29
294573	P-028 E	6.17
206638	PEAPACK	.21
204652	PORT1GEN	8.89
204653	PORT2GEN	14.07
295230	Q-028 E	10.2
290092	Q-041 E	1.61
212384	R-043	.3
212386	R-043	1.19
290673	S-042 C	.27
290674	S-042 E	1.08
889011	U2-015 C	1.02
889012	U2-015 E	6.84
293093	U2-077	31.55
299906	U3-032 E	.68
291937	U4-014 E	.38
292111	V1-030 E9	.05
292191	V1-030 EC	.24
292092	V1-030 ED	.14
297033	V2-010 E	.33
297069	V2-025 E	.16
293340	V3-005 E	.34
293413	V3-040 E	.38
293444	V3-065 E	.02
293440	V3-066 E	.01
293434	V3-067 E	.03
293429	V3-068 E	.01
904002	V4-001 E	.1
LTF	V4-050	5.53
209019	VIKI IPP	1.27
900801	W1-001	.75
901262	W1-082 E	.66
901342	W1-101 E	.05
901602	W1-111 E	1.59
901432	W1-114 E	.14
901442	W1-115 E	.14
901512	W1-122 E	.18
901541	W1-127 C	.06
901542	W1-127 E	.1
902251	W2-023	30.99
902532	W2-084 E	.35
902572	W2-091 E	.54
903271	W3-022 C OP1	1.46
903272	W3-022 E OP1	9.74
903332	W3-032 E	.27
903391	W3-039 C	.14
903392	W3-039 E	.91
903412	W3-044 E	.67
903562	W3-076 E	.67
903572	W3-077 E	.5
903632	W3-095 E	.5
903672	W3-106 E	.34
903682	W3-110 E	.26
903742	W3-126 E	.6
903822	W3-139 E	.54
903832	W3-140 E	.28
903842	W3-145 E	.6
903852	W3-146 E	.36
903872	W3-154 E	.05
905091	W4-009 OP1	34.39
905122	W4-014 E	.57
905181	W4-021	34.28
905242	W4-031 E	.13
905291	W4-038 OP1	1.25
905342	W4-046 E	.34
905372	W4-059 E	.02
905402	W4-064 E	.11
905412	W4-065 E	.11
905422	W4-068 E	.27
905442	W4-073 E	.57
905532	W4-093 E	.22
905542	W4-097 E	.1
209029	WAYM IPP	.02
209031	WAYMART E	6.69
907002	X1-005 E	.33
907012	X1-012 E	.35
907072	X1-034 E	.04
907152	X1-046 E	.28
907272	X1-072 E	.03
907281	X1-073 C OP1	.24
907282	X1-073 E OP1	.39
907332	X1-082 E	.41
907381	X1-094 C	.35
907382	X1-094 E	.58
907451	X1-108	1.88
907482	X1-114 E	.07
907492	X1-116 E	.25
909021	X2-012 C	60.21
909081	X2-025	30.45
909171	X2-050	34.5
909302	X2-087 E	.03
909332	X2-099 E	.34
910522	X3-003 E	1.03
910531	X3-004	1.83
910582	X3-011 E	.17

Bus Number	Bus Name	Full Contribution
910612	X3-029 E	.61
910762	X3-052 E	.16
910782	X3-056 E	4.15
910792	X3-057 E	3.71
910922	X3-083 E	.36
910931	X3-085 C	.16
910932	X3-085 E	.27
912062	X4-007 E	3.33
912091	X4-012 C OP1	.13
912092	X4-012 E OP1	.21
912111	X4-016	.52
912131	X4-019	16.62
912261	X4-044 C	.5
912262	X4-044 E	.91
912291	X4-048 OP1	115.45
913131	Y1-020 C	.21
913132	Y1-020 E	.47
913171	Y1-025 C OP1	34.39
913172	Y1-025 E OP1	2.85
913181	Y1-026	8.
913221	Y1-031 C OP1	.69
913222	Y1-031 E OP1	5.3
913311	Y1-047 OP1	.79
913481	Y1-072 C	.04
913482	Y1-072 E	.06
913561	Y1-084 C OP1	.04
913562	Y1-084 E OP1	.07
914311	Y2-083 C OP1	10.35
914312	Y2-083 E OP1	1.05
914371	Y2-089	42.72

Table 3

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.2
217006	BERGN26A	1.1
217078	ESSEX 12	9.62
206617	EXXON	.36
206331	GG A1&2	2.07
206332	GG A3&4	2.07
206333	GG B5&6	2.07
206334	GG B7&8	2.07

Bus Number	Bus Name	Full Contribution
217081	HUDSON 1	18.76
217083	KEARNY11	6.81
217086	KRNY9&10	1.1
209003	KSTN IPP	.01
292590	L-018 E	2.03
212266	LOR1_N14_E	1.6
209027	LOR2_Q27 E	5.94
206679	M&M S721	.57
210888	MACRTR10	.29
294573	P-028 E	6.17
206638	PEAPACK	.21
204652	PORT1GEN	8.89
204653	PORT2GEN	14.07
295230	Q-028 E	10.2
290092	Q-041 E	1.61
212384	R-043	.3
212386	R-043	1.19
290673	S-042 C	.27
290674	S-042 E	1.08
889011	U2-015 C	1.02
889012	U2-015 E	6.84
293093	U2-077	31.55
299906	U3-032 E	.68
291937	U4-014 E	.38
292111	V1-030 E9	.05
292191	V1-030 EC	.24
292092	V1-030 ED	.14
297033	V2-010 E	.33
297069	V2-025 E	.16
293340	V3-005 E	.34
293413	V3-040 E	.38
293444	V3-065 E	.02
293440	V3-066 E	.01
293434	V3-067 E	.03
293429	V3-068 E	.01
904002	V4-001 E	.1
LTF	V4-050	5.52
209019	VIKI IPP	1.27
900801	W1-001	.75
901262	W1-082 E	.66
901342	W1-101 E	.05
901602	W1-111 E	1.59
901432	W1-114 E	.14

Bus Number	Bus Name	Full Contribution
901442	W1-115 E	.14
901512	W1-122 E	.18
901541	W1-127 C	.06
901542	W1-127 E	.1
902251	W2-023	30.99
902532	W2-084 E	.35
902572	W2-091 E	.54
903271	W3-022 C OP1	1.45
903272	W3-022 E OP1	9.74
903332	W3-032 E	.27
903391	W3-039 C	.14
903392	W3-039 E	.91
903412	W3-044 E	.67
903562	W3-076 E	.67
903572	W3-077 E	.5
903632	W3-095 E	.5
903672	W3-106 E	.34
903682	W3-110 E	.26
903742	W3-126 E	.6
903822	W3-139 E	.54
903832	W3-140 E	.28
903842	W3-145 E	.6
903852	W3-146 E	.36
903872	W3-154 E	.05
905091	W4-009 OP1	34.39
905122	W4-014 E	.57
905181	W4-021	34.28
905242	W4-031 E	.13
905291	W4-038 OP1	1.25
905342	W4-046 E	.34
905372	W4-059 E	.02
905402	W4-064 E	.11
905412	W4-065 E	.11
905422	W4-068 E	.27
905442	W4-073 E	.57
905532	W4-093 E	.22
905542	W4-097 E	.1
209029	WAYM IPP	.02
209031	WAYMART E	6.69
907002	X1-005 E	.33
907012	X1-012 E	.35
907072	X1-034 E	.04
907152	X1-046 E	.28

Bus Number	Bus Name	Full Contribution
907272	X1-072 E	.03
907281	X1-073 C OP1	.24
907282	X1-073 E OP1	.39
907332	X1-082 E	.4
907381	X1-094 C	.35
907382	X1-094 E	.58
907451	X1-108	1.88
907482	X1-114 E	.07
907492	X1-116 E	.25
909021	X2-012 C	60.21
909081	X2-025	30.45
909171	X2-050	34.5
909302	X2-087 E	.03
909332	X2-099 E	.34
910522	X3-003 E	1.03
910531	X3-004	1.83
910582	X3-011 E	.17
910612	X3-029 E	.61
910762	X3-052 E	.16
910782	X3-056 E	4.15
910792	X3-057 E	3.71
910922	X3-083 E	.36
910931	X3-085 C	.16
910932	X3-085 E	.27
912062	X4-007 E	3.33
912091	X4-012 C OP1	.13
912092	X4-012 E OP1	.21
912111	X4-016	.52
912131	X4-019	16.62
912261	X4-044 C	.5
912262	X4-044 E	.91
912291	X4-048 OP1	115.45
913131	Y1-020 C	.21
913132	Y1-020 E	.47
913171	Y1-025 C OP1	34.39
913172	Y1-025 E OP1	2.85
913181	Y1-026	8.
913221	Y1-031 C OP1	.69
913222	Y1-031 E OP1	5.3
913311	Y1-047 OP1	.79
913481	Y1-072 C	.04
913482	Y1-072 E	.06
913561	Y1-084 C OP1	.04
913562	Y1-084 E OP1	.07
914311	Y2-083 C OP1	10.35
914312	Y2-083 E OP1	1.05
914371	Y2-089	42.72

Table 4

Bus Number	Bus Name	Full Contribution
200851	MEHOOP3	.41
203125	OAKLAND	.15
294572	P-028 C	.21
294573	P-028 E	36.62
293093	U2-077	11.19
894731	V3-042 C	.94
894732	V3-042 E	6.34
LTF	V4-050	2.05
902251	W2-023	11.01
LTF	W2-033	1.27
905091	W4-009 OP1	12.27
905181	W4-021	12.25
907091	X1-013 OP1	9.48
909021	X2-012 C	17.99
909171	X2-050	12.18
910522	X3-003 E	6.1
912291	X4-048 OP1	41.53
913171	Y1-025 C OP1	12.27
913172	Y1-025 E OP1	1.02
913311	Y1-047 OP1	4.7
913401	Y1-065 C	8.24
913402	Y1-065 E	.48
914371	Y2-089	15.37

Table 5

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	8.14
217006	BERGN26A	4.07
212099	BRMO IPP	.03
219103	BURLNGT8	3.91
219124	BURLNGT9	34.25
228251	CARLLS#4	.89
228000	CEDR#1CT	8.59
228001	CEDR#2CT	4.14
200030	CONE G1	6.66
200031	CONE G2	6.75
228301	D/W 1 ST	14.44
228302	D/W 6 ST	14.81
213585	EDDYSTN2	57.02
217078	ESSEX 12	35.64
208981	FOWH IPP	.2
298464	G-030	.88
206331	GG A1&2	7.76
206332	GG A3&4	7.76
206333	GG B5&6	7.76
206334	GG B7&8	7.76
217081	HUDSON 1	69.54
212174	INGE	.04
217083	KEARNY11	25.24
200032	KEYS G1	8.19
200033	KEYS G2	8.09
209004	KOPP IPP	.04
217086	KRNY9&10	4.07
292590	L-018 E	4.14
208945	LOHA CT	.07
209027	LOR2_Q27 E	16.6
219134	MERCER 3	21.57
227807	MO AV B	3.72
219137	NAT PARK	3.9
204652	PORT1GEN	30.92
204653	PORT2GEN	47.6
295223	Q-028 C	.7
228343	QUINTN#1	.37
295952	R-011	84.43
212384	R-043	.83
212386	R-043	3.32
290673	S-042 C	.75
291017	S-107 1CT	24.05
291019	S-107 1ST	48.1
291018	S-107 2CT	24.05
213941	SCHYLABC	.42
213945	SCHYLKL1	30.58
218360	SEWAREN1	20.05
218361	SEWAREN2	22.74
218362	SEWAREN3	20.62
218363	SEWAREN4	23.89

Bus Number	Bus Name	Full Contribution
218364	SEWAREN6	21.37
200833	SEWRDB34	2.73
235619	SOUTH BEND 1	1.47
235620	SOUTH BEND 2	1.47
235621	SOUTH BEND 3	1.49
235622	SOUTH BEND 4	1.48
212449	SUNB CT	.03
209018	SUNBIPCT	.17
209014	SUNBIPP1	.38
209015	SUNBIPP2	.38
209016	SUNBIPP3	.45
209017	SUNBIPP4	.62
292339	T-109	.19
292344	T-110	.19
292512	T-146 C	12.84
885600	T20SOLAR E	.41
204656	TITUS 1G	14.73
204657	TITUS 2G	14.73
204658	TITUS 3G	14.73
292815	U1-056 C	8.45
889011	U2-015 C	2.64
292966	U2-045 C	.48
293062	U2-076	1.86
293093	U2-077	121.62
297005	V2-003 C	.28
893121	V2-027	.01
297082	V2-035 C	.14
900111	V4-020	121.63
904221	V4-023 C1	1.26
904223	V4-023 C2	.15
904231	V4-024 C1	.7
904233	V4-024 C2	.7
904241	V4-025 C1	.7
904243	V4-025 C2	.43
904245	V4-025 C3	.11
904247	V4-025 C4	.17
904281	V4-029 C	1.41
904361	V4-037 C1	.7
904363	V4-037 C3	.7
904401	V4-041 C	1.41
904411	V4-042 C1	.7
904413	V4-042 C2	.7
LTF	V4-050	32.43

Bus Number	Bus Name	Full Contribution
904611	V4-062 C	.21
209019	VIKI IPP	3.47
228700	VNLD 10	4.25
900801	W1-001	2.9
901051	W1-021 C	1.41
901061	W1-022 C	1.41
901071	W1-023 C	1.41
901141	W1-048 C	.35
901191	W1-068 C	1.41
901241	W1-076 C	.73
901281	W1-085 C	1.41
901291	W1-086 C	1.41
901301	W1-087 C	1.41
901311	W1-088 C	1.41
901321	W1-089 C	1.26
901331	W1-090 C OP1	1.26
901391	W1-108	2.39
901461	W1-117 C	1.41
901471	W1-118 C	1.41
901541	W1-127 C	.22
901561	W1-130 C	.7
902161	W2-010	.16
902171	W2-011	.16
902211	W2-019 C	.43
902251	W2-023	120.54
902271	W2-028	.94
902281	W2-029	.94
902301	W2-035 C	1.11
902321	W2-039	11.65
902341	W2-047 C	.67
902621	W2-101 C	1.41
903251	W3-009 C	.7
903271	W3-022 C OP1	4.06
903311	W3-028 C	8.47
903381	W3-033	1.39
903391	W3-039 C	.5
903471	W3-048	9.12
903501	W3-058 C	.7
903891	W3-157 C	.12
903951	W3-174	35.71
903961	W3-175	68.48
905091	W4-009 OP1	139.24
905131	W4-015 C	25.16

Bus Number	Bus Name	Full Contribution
905141	W4-016	62.9
905161	W4-018 C	.7
905181	W4-021	141.37
905211	W4-025 C	.49
905221	W4-027 C	.56
905291	W4-038 OP1	4.65
905301	W4-040 C	.68
905331	W4-045 C	.64
905391	W4-063 C	.12
209021	WEST IPP	.15
208948	WILL CT	.13
907091	X1-013 OP1	175.11
907241	X1-068	1.92
907281	X1-073 C OP1	.89
907291	X1-074	50.45
907351	X1-085 C	.36
907381	X1-094 C	1.25
907451	X1-108	6.49
909021	X2-012 C	159.82
909081	X2-025	92.53
909091	X2-027 C OP1	.14
909101	X2-028 C OP1	.21
909171	X2-050	127.85
910531	X3-004	6.78
910551	X3-006 C	20.58
910701	X3-044	2.73
910931	X3-085 C	.58
912071	X4-009 C	1.45
912091	X4-012 C OP1	.44
912101	X4-015 C	.36
912111	X4-016	1.94
912131	X4-019	50.49
912141	X4-020	143.53
912151	X4-021	57.41
912171	X4-027-CT1	2.12
912172	X4-027-CT2	2.12
912173	X4-027-CT3	2.12
912191	X4-032 C	.75
912261	X4-044 C	1.91
912291	X4-048 OP1	193.95
913131	Y1-020 C	.72
913171	Y1-025 C OP1	139.24
913181	Y1-026	30.89

Bus Number	Bus Name	Full Contribution
913221	Y1-031 C OP1	2.55
913351	Y1-056	3.45
913361	Y1-057 C	.02
913481	Y1-072 C	.15
913511	Y1-077	13.54
913561	Y1-084 C OP1	.15
914271	Y2-078	3.8
914281	Y2-079	37.97
914301	Y2-081 C	.3
914311	Y2-083 C OP1	38.35
914371	Y2-089	71.76

Table 6

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	8.14
217006	BERGN26A	4.07
212099	BRMO IPP	.03
219103	BURLNGT8	3.91
219124	BURLNGT9	34.25
228251	CARLLS#4	.89
228000	CEDR#1CT	8.59
228001	CEDR#2CT	4.14
200030	CONE G1	6.66
200031	CONE G2	6.75
228301	D/W 1 ST	14.44
228302	D/W 6 ST	14.81
213585	EDDYSTN2	57.02
217078	ESSEX 12	35.64
208981	FOWH IPP	.2
298464	G-030	.88
206331	GG A1&2	7.76
206332	GG A3&4	7.76
206333	GG B5&6	7.76
206334	GG B7&8	7.76
217081	HUDSON 1	69.54
212174	INGE	.04
217083	KEARNY11	25.24
200032	KEYS G1	8.19
200033	KEYS G2	8.09
209004	KOPP IPP	.04
217086	KRNY9&10	4.07

Bus Number	Bus Name	Full Contribution
292590	L-018 E	4.14
208945	LOHA CT	.07
209027	LOR2_Q27 E	16.6
219134	MERCER 3	21.57
227807	MO AV B	3.72
219137	NAT PARK	3.9
204652	PORT1GEN	30.92
204653	PORT2GEN	47.6
295223	Q-028 C	.7
228343	QUINTN#1	.37
295952	R-011	84.43
212384	R-043	.83
212386	R-043	3.32
290673	S-042 C	.75
291017	S-107 1CT	24.05
291019	S-107 1ST	48.1
291018	S-107 2CT	24.05
213941	SCHYLABC	.42
213945	SCHYLKL1	30.58
218360	SEWAREN1	20.05
218361	SEWAREN2	22.74
218362	SEWAREN3	20.62
218363	SEWAREN4	23.89
218364	SEWAREN6	21.37
200833	SEWRDB34	2.73
235619	SOUTH BEND 1	1.47
235620	SOUTH BEND 2	1.47
235621	SOUTH BEND 3	1.49
235622	SOUTH BEND 4	1.48
212449	SUNB CT	.03
209018	SUNBIPCT	.17
209014	SUNBIPP1	.38
209015	SUNBIPP2	.38
209016	SUNBIPP3	.45
209017	SUNBIPP4	.62
292339	T-109	.19
292344	T-110	.19
292512	T-146 C	12.84
885600	T20SOLAR E	.41
204656	TITUS 1G	14.73
204657	TITUS 2G	14.73
204658	TITUS 3G	14.73
292815	U1-056 C	8.45

Bus Number	Bus Name	Full Contribution
889011	U2-015 C	2.64
292966	U2-045 C	.48
293062	U2-076	1.86
293093	U2-077	121.62
297005	V2-003 C	.28
893121	V2-027	.01
297082	V2-035 C	.14
900111	V4-020	121.63
904221	V4-023 C1	1.26
904223	V4-023 C2	.15
904231	V4-024 C1	.7
904233	V4-024 C2	.7
904241	V4-025 C1	.7
904243	V4-025 C2	.43
904245	V4-025 C3	.11
904247	V4-025 C4	.17
904281	V4-029 C	1.41
904361	V4-037 C1	.7
904363	V4-037 C3	.7
904401	V4-041 C	1.41
904411	V4-042 C1	.7
904413	V4-042 C2	.7
LTF	V4-050	32.43
904611	V4-062 C	.21
209019	VIKI IPP	3.47
228700	VNLD 10	4.25
900801	W1-001	2.9
901051	W1-021 C	1.41
901061	W1-022 C	1.41
901071	W1-023 C	1.41
901141	W1-048 C	.35
901191	W1-068 C	1.41
901241	W1-076 C	.73
901281	W1-085 C	1.41
901291	W1-086 C	1.41
901301	W1-087 C	1.41
901311	W1-088 C	1.41
901321	W1-089 C	1.26
901331	W1-090 C OP1	1.26
901391	W1-108	2.39
901461	W1-117 C	1.41
901471	W1-118 C	1.41
901541	W1-127 C	.22

Bus Number	Bus Name	Full Contribution
901561	W1-130 C	.7
902161	W2-010	.16
902171	W2-011	.16
902211	W2-019 C	.43
902251	W2-023	120.54
902271	W2-028	.94
902281	W2-029	.94
902301	W2-035 C	1.11
902321	W2-039	11.65
902341	W2-047 C	.67
902621	W2-101 C	1.41
903251	W3-009 C	.7
903271	W3-022 C OP1	4.06
903311	W3-028 C	8.47
903381	W3-033	1.39
903391	W3-039 C	.5
903471	W3-048	9.12
903501	W3-058 C	.7
903891	W3-157 C	.12
903951	W3-174	35.71
903961	W3-175	68.48
905091	W4-009 OP1	139.24
905131	W4-015 C	25.16
905141	W4-016	62.9
905161	W4-018 C	.7
905181	W4-021	141.37
905211	W4-025 C	.49
905221	W4-027 C	.56
905291	W4-038 OP1	4.65
905301	W4-040 C	.68
905331	W4-045 C	.64
905391	W4-063 C	.12
209021	WEST IPP	.15
208948	WILL CT	.13
907091	X1-013 OP1	175.11
907241	X1-068	1.92
907281	X1-073 C OP1	.89
907291	X1-074	50.45
907351	X1-085 C	.36
907381	X1-094 C	1.25
907451	X1-108	6.49
909021	X2-012 C	159.82
909081	X2-025	92.53
909091	X2-027 C OP1	.14
909101	X2-028 C OP1	.21
909171	X2-050	127.85
910531	X3-004	6.78
910551	X3-006 C	20.58
910701	X3-044	2.73
910931	X3-085 C	.58
912071	X4-009 C	1.45
912091	X4-012 C OP1	.44
912101	X4-015 C	.36
912111	X4-016	1.94
912131	X4-019	50.49
912141	X4-020	143.53
912151	X4-021	57.41
912171	X4-027-CT1	2.12
912172	X4-027-CT2	2.12
912173	X4-027-CT3	2.12
912191	X4-032 C	.75
912261	X4-044 C	1.91
912291	X4-048 OP1	193.95
913131	Y1-020 C	.72
913171	Y1-025 C OP1	139.24
913181	Y1-026	30.89
913221	Y1-031 C OP1	2.55
913351	Y1-056	3.45
913361	Y1-057 C	.02
913481	Y1-072 C	.15
913511	Y1-077	13.54
913561	Y1-084 C OP1	.15
914271	Y2-078	3.8
914281	Y2-079	37.97
914301	Y2-081 C	.3
914311	Y2-083 C OP1	38.35
914371	Y2-089	71.76

Table 7

Bus Number	Bus Name	Full Contribution
200851	MEHOOP3	.44
203125	OAKLAND	.97
294572	P-028 C	.22
294573	P-028 E	39.01
293093	U2-077	7.94
894731	V3-042 C	7.28
894732	V3-042 E	48.8
LTF	V4-050	1.57
902251	W2-023	7.81
LTF	W2-033	1.2
905091	W4-009 OP1	8.73
905181	W4-021	8.73
909021	X2-012 C	12.62
909171	X2-050	8.63
910522	X3-003 E	6.5
912291	X4-048 OP1	28.53
913171	Y1-025 C OP1	8.73
913172	Y1-025 E OP1	.72
913311	Y1-047 OP1	5.01
914371	Y2-089	10.56

Table 8

Bus Number	Bus Name	Full Contribution
293093	U2-077	13.53
900111	V4-020	9.76
LTF	V4-050	2.41
902251	W2-023	13.31
LTF	W2-033	1.75
905091	W4-009 OP1	14.86
905181	W4-021	14.86
907091	X1-013 OP1	11.98
909021	X2-012 C	21.53
909171	X2-050	14.7
912141	X4-020	9.7
912291	X4-048 OP1	48.89
913171	Y1-025 C OP1	14.86
913401	Y1-065 C	10.25
914371	Y2-089	18.09

Table 9

Bus Number	Bus Name	Full Contribution
293093	U2-077	13.53
900111	V4-020	9.76
LTF	V4-050	2.41

Bus Number	Bus Name	Full Contribution
902251	W2-023	13.31
LTF	W2-033	1.75
905091	W4-009 OP1	14.86
905181	W4-021	14.86
907091	X1-013 OP1	11.98
909021	X2-012 C	21.53
909171	X2-050	14.7
912141	X4-020	9.7
912291	X4-048 OP1	48.89
913171	Y1-025 C OP1	14.86
913401	Y1-065 C	10.25
914371	Y2-089	18.09

Table 10

Bus Number	Bus Name	Full Contribution
293093	U2-077	13.43
900111	V4-020	9.7
LTF	V4-050	2.39
902251	W2-023	13.21
LTF	W2-033	1.74
905091	W4-009 OP1	14.75
905181	W4-021	14.75
907091	X1-013 OP1	11.93
909021	X2-012 C	21.37
909171	X2-050	14.6
912141	X4-020	9.64
912291	X4-048 OP1	48.51
913171	Y1-025 C OP1	14.75
913172	Y1-025 E OP1	1.22
913401	Y1-065 C	10.18
913402	Y1-065 E	.59
914371	Y2-089	17.95

Table 11

Bus Number	Bus Name	Full Contribution
293093	U2-077	13.43
900111	V4-020	9.7
LTF	V4-050	2.39
902251	W2-023	13.21
LTF	W2-033	1.74
905091	W4-009 OP1	14.75
905181	W4-021	14.75
907091	X1-013 OP1	11.93
909021	X2-012 C	21.37
909171	X2-050	14.6
912141	X4-020	9.64
912291	X4-048 OP1	48.51
913171	Y1-025 C OP1	14.75
913172	Y1-025 E OP1	1.22
913401	Y1-065 C	10.18
913402	Y1-065 E	.59
914371	Y2-089	17.95

Table 12

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.22
217006	BERGN26A	1.11
217078	ESSEX 12	9.72
206617	EXXON	.36
206331	GG A1&2	2.09
206332	GG A3&4	2.09
206333	GG B5&6	2.09
206334	GG B7&8	2.09
217081	HUDSON 1	18.97
217083	KEARNY11	6.89
217086	KRNY9&10	1.11
209003	KSTN IPP	.01
292590	L-018 E	1.98
212266	LOR1_N14_E	1.38
209027	LOR2_Q27 E	5.12
206679	M&M S721	.57
210888	MACRTR10	.28
200851	MEHOOP3	.48
294572	P-028 C	.24
294573	P-028 E	42.73
206638	PEAPACK	.21
204652	PORT1GEN	8.88
204653	PORT2GEN	14.04
295230	Q-028 E	8.57
290092	Q-041 E	1.63
212384	R-043	.26
212386	R-043	1.02
290673	S-042 C	.23
290674	S-042 E	.91
218360	SEWAREN1	5.23
218361	SEWAREN2	5.92
218362	SEWAREN3	5.37
218363	SEWAREN4	6.2
218364	SEWAREN6	5.55
889011	U2-015 C	.95
889012	U2-015 E	6.33
293093	U2-077	32.05
299906	U3-032 E	.69
291937	U4-014 E	.37
292095	V1-030 E1	.07
292111	V1-030 E9	.05
292191	V1-030 EC	.24
292092	V1-030 ED	.14
297033	V2-010 E	.34
297069	V2-025 E	.16
293340	V3-005 E	.34
293413	V3-040 E	.37
293444	V3-065 E	.02
293440	V3-066 E	.01
293434	V3-067 E	.03
293429	V3-068 E	.01
904002	V4-001 E	.1
LTF	V4-050	5.86
209019	VIKI IPP	1.04
900801	W1-001	.76
901262	W1-082 E	.66
901342	W1-101 E	.05
901602	W1-111 E	1.47
901432	W1-114 E	.12
901442	W1-115 E	.12
901512	W1-122 E	.18
901541	W1-127 C	.06
901542	W1-127 E	.1
902251	W2-023	31.52
LTF	W2-033	3.9
902382	W2-052 E	.02
902532	W2-084 E	.35
902572	W2-091 E	.54
903271	W3-022 C OP1	1.24

Bus Number	Bus Name	Full Contribution
903272	W3-022 E OP1	8.29
903332	W3-032 E	.27
903391	W3-039 C	.14
903392	W3-039 E	.92
903412	W3-044 E	.67
903562	W3-076 E	.67
903572	W3-077 E	.5
903632	W3-095 E	.5
903672	W3-106 E	.34
903682	W3-110 E	.26
903742	W3-126 E	.6
903822	W3-139 E	.54
903832	W3-140 E	.28
903842	W3-145 E	.6
903852	W3-146 E	.37
903872	W3-154 E	.05
905091	W4-009 OP1	35.16
905122	W4-014 E	.57
905181	W4-021	35.14
905242	W4-031 E	.13
905291	W4-038 OP1	1.27
905342	W4-046 E	.34
905372	W4-059 E	.02
905402	W4-064 E	.11
905412	W4-065 E	.11
905422	W4-068 E	.27
905442	W4-073 E	.57
905452	W4-080 E	.63
905532	W4-093 E	.23
905542	W4-097 E	.1
209029	WAYM IPP	.02
209031	WAYMART E	6.77
907002	X1-005 E	.33
907012	X1-012 E	.35
907072	X1-034 E	.04
907152	X1-046 E	.28
907272	X1-072 E	.04
907281	X1-073 C OP1	.24
907282	X1-073 E OP1	.39
907332	X1-082 E	.41
907372	X1-088 E	.4
907381	X1-094 C	.35
907382	X1-094 E	.58

Bus Number	Bus Name	Full Contribution
907451	X1-108	1.87
907482	X1-114 E	.07
907492	X1-116 E	.25
909021	X2-012 C	51.37
909171	X2-050	34.88
909302	X2-087 E	.03
909322	X2-089 E	.09
909332	X2-099 E	.34
910522	X3-003 E	7.12
910531	X3-004	1.85
910582	X3-011 E	.17
910612	X3-029 E	.61
910762	X3-052 E	.16
910782	X3-056 E	3.81
910792	X3-057 E	3.23
910922	X3-083 E	.37
910931	X3-085 C	.16
910932	X3-085 E	.27
912062	X4-007 E	3.35
912091	X4-012 C OP1	.13
912092	X4-012 E OP1	.21
912111	X4-016	.53
912261	X4-044 C	.51
912262	X4-044 E	.92
912291	X4-048 OP1	117.87
913131	Y1-020 C	.21
913132	Y1-020 E	.47
913171	Y1-025 C OP1	35.16
913172	Y1-025 E OP1	2.91
913181	Y1-026	8.13
913221	Y1-031 C OP1	.7
913222	Y1-031 E OP1	5.36
913311	Y1-047 OP1	5.48
913481	Y1-072 C	.04
913482	Y1-072 E	.06
913561	Y1-084 C OP1	.04
913562	Y1-084 E OP1	.07
914311	Y2-083 C OP1	10.46
914312	Y2-083 E OP1	1.06
914371	Y2-089	43.61

Table 13

Bus Number	Bus Name	Full Contribution
200851	MEHOOP3	.44
203125	OAKLAND	.97
294572	P-028 C	.22
294573	P-028 E	39.01
293093	U2-077	7.94
894731	V3-042 C	7.28
894732	V3-042 E	48.8
LTF	V4-050	1.57
902251	W2-023	7.81
LTF	W2-033	1.2
905091	W4-009 OP1	8.73
905181	W4-021	8.73
909021	X2-012 C	12.62
909171	X2-050	8.63
910522	X3-003 E	6.5
912291	X4-048 OP1	28.53
913171	Y1-025 C OP1	8.73
913172	Y1-025 E OP1	.72
913311	Y1-047 OP1	5.01
914371	Y2-089	10.56

Table 14

Bus Number	Bus Name	Full Contribution
200887	ARMNA MT P47	.05
208972	BECR K09	.02
203261	BLOSSBCT	.04
234304	HUN GEN3	.11
234305	HUN GEN4	.17
234311	HUN GEN5	.2
234312	HUN GEN6	.2
208944	JENK CT	.13
209003	KSTN IPP	.03
292590	L-018 E	4.28
203283	MANOR	.01
200851	MEHOOP3	.24
203125	OAKLAND	.21
294572	P-028 C	.12
294573	P-028 E	21.73
200888	P-047 E	8.36

Bus Number	Bus Name	Full Contribution
209010	PEIP 1	.14
209009	PEIP 2	.25
208918	SUSQ 1	3.18
297050	V2-019 E	.
894731	V3-042 C	1.47
894732	V3-042 E	9.88
209029	WAYM IPP	.06
209031	WAYMART E	17.2
208920	WLPK	.16
907461	X1-109 C	120.07
909021	X2-012 C	62.49
LTF	X2-042	7.71
910522	X3-003 E	3.62
LTF	X3-021	11.96
LTF	X3-050	10.71
910782	X3-056 E	5.56
LTF	X3-097	7.27
LTF	X3-098	6.9
912291	X4-048 OP1	316.73
LTF	Y1-002	7.43
LTF	Y1-004	7.92
913311	Y1-047 OP1	2.79
LTF	Y2-007	6.92
LTF	Y2-008	6.99
LTF	Y2-040	11.96
LTF	Y2-044	17.34
LTF	Y2-049	9.82
LTF	Y2-068	36.5
LTF	Y2-082	17.33
914371	Y2-089	117.19

Table 15

Bus Number	Bus Name	Full Contribution
200887	ARMNA MT P47	.05
208972	BECR K09	.02
203261	BLOSSBCT	.04
234304	HUN GEN3	.11
234305	HUN GEN4	.17
234311	HUN GEN5	.2
234312	HUN GEN6	.2
208944	JENK CT	.13

Bus Number	Bus Name	Full Contribution
209003	KSTN IPP	.03
292590	L-018 E	4.28
203283	MANOR	.01
200851	MEHOOP3	.24
203125	OAKLAND	.21
294572	P-028 C	.12
294573	P-028 E	21.73
200888	P-047 E	8.36
209010	PEIP 1	.14
209009	PEIP 2	.25
208918	SUSQ 1	3.18
297050	V2-019 E	.
894731	V3-042 C	1.47
894732	V3-042 E	9.88
209029	WAYM IPP	.06
209031	WAYMART E	17.2
208920	WLPK	.16
907461	X1-109 C	120.07
909021	X2-012 C	62.49
LTF	X2-042	7.71
910522	X3-003 E	3.62
LTF	X3-021	11.96
LTF	X3-050	10.71
910782	X3-056 E	5.56
LTF	X3-097	7.27
LTF	X3-098	6.9
912291	X4-048 OP1	316.73
LTF	Y1-002	7.43
LTF	Y1-004	7.92
913311	Y1-047 OP1	2.79
LTF	Y2-007	6.92
LTF	Y2-008	6.99
LTF	Y2-040	11.96
LTF	Y2-044	17.34
LTF	Y2-049	9.82
LTF	Y2-068	36.5
LTF	Y2-082	17.33
914371	Y2-089	117.19

Table 16

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.22
217006	BERGN26A	1.11
217078	ESSEX 12	9.72
206617	EXXON	.36
206331	GG A1&2	2.09
206332	GG A3&4	2.09
206333	GG B5&6	2.09
206334	GG B7&8	2.09
217081	HUDSON 1	18.97
217083	KEARNY11	6.89
217086	KRNY9&10	1.11
209003	KSTN IPP	.01
292590	L-018 E	1.98
212266	LOR1_N14_E	1.38
209027	LOR2_Q27 E	5.12
206679	M&M S721	.57
210888	MACRTR10	.28
200851	MEHOOP3	.48
294572	P-028 C	.24
294573	P-028 E	42.73
206638	PEAPACK	.21
204652	PORT1GEN	8.88
204653	PORT2GEN	14.04
295230	Q-028 E	8.57
290092	Q-041 E	1.63
212384	R-043	.26
212386	R-043	1.02
290673	S-042 C	.23
290674	S-042 E	.91
218360	SEWAREN1	5.23
218361	SEWAREN2	5.92
218362	SEWAREN3	5.37
218363	SEWAREN4	6.2
218364	SEWAREN6	5.55
889011	U2-015 C	.95
889012	U2-015 E	6.33
293093	U2-077	32.05
299906	U3-032 E	.69
291937	U4-014 E	.37

Bus Number	Bus Name	Full Contribution
292095	V1-030 E1	.07
292111	V1-030 E9	.05
292191	V1-030 EC	.24
292092	V1-030 ED	.14
297033	V2-010 E	.34
297069	V2-025 E	.16
293340	V3-005 E	.34
293413	V3-040 E	.37
293444	V3-065 E	.02
293440	V3-066 E	.01
293434	V3-067 E	.03
293429	V3-068 E	.01
904002	V4-001 E	.1
LTF	V4-050	5.86
209019	VIKI IPP	1.04
900801	W1-001	.76
901262	W1-082 E	.66
901342	W1-101 E	.05
901602	W1-111 E	1.47
901432	W1-114 E	.12
901442	W1-115 E	.12
901512	W1-122 E	.18
901541	W1-127 C	.06
901542	W1-127 E	.1
902251	W2-023	31.52
LTF	W2-033	3.9
902382	W2-052 E	.02
902532	W2-084 E	.35
902572	W2-091 E	.54
903271	W3-022 C OP1	1.24
903272	W3-022 E OP1	8.29
903332	W3-032 E	.27
903391	W3-039 C	.14
903392	W3-039 E	.92
903412	W3-044 E	.67
903562	W3-076 E	.67
903572	W3-077 E	.5
903632	W3-095 E	.5
903672	W3-106 E	.34
903682	W3-110 E	.26
903742	W3-126 E	.6
903822	W3-139 E	.54
903832	W3-140 E	.28

Bus Number	Bus Name	Full Contribution
903842	W3-145 E	.6
903852	W3-146 E	.37
903872	W3-154 E	.05
905091	W4-009 OP1	35.16
905122	W4-014 E	.57
905181	W4-021	35.14
905242	W4-031 E	.13
905291	W4-038 OP1	1.27
905342	W4-046 E	.34
905372	W4-059 E	.02
905402	W4-064 E	.11
905412	W4-065 E	.11
905422	W4-068 E	.27
905442	W4-073 E	.57
905452	W4-080 E	.63
905532	W4-093 E	.23
905542	W4-097 E	.1
209029	WAYM IPP	.02
209031	WAYMART E	6.77
907002	X1-005 E	.33
907012	X1-012 E	.35
907091	X1-013 OP1	27.57
907072	X1-034 E	.04
907152	X1-046 E	.28
907272	X1-072 E	.04
907281	X1-073 C OP1	.24
907282	X1-073 E OP1	.39
907332	X1-082 E	.41
907372	X1-088 E	.4
907381	X1-094 C	.35
907382	X1-094 E	.58
907451	X1-108	1.87
907482	X1-114 E	.07
907492	X1-116 E	.25
909021	X2-012 C	51.37
909171	X2-050	34.88
909302	X2-087 E	.03
909322	X2-089 E	.09
909332	X2-099 E	.34
910522	X3-003 E	7.12
910531	X3-004	1.85
910582	X3-011 E	.17
910612	X3-029 E	.61

Bus Number	Bus Name	Full Contribution
910762	X3-052 E	.16
910782	X3-056 E	3.81
910792	X3-057 E	3.23
910922	X3-083 E	.37
910931	X3-085 C	.16
910932	X3-085 E	.27
912062	X4-007 E	3.35
912091	X4-012 C OP1	.13
912092	X4-012 E OP1	.21
912111	X4-016	.53
912261	X4-044 C	.51
912262	X4-044 E	.92
912291	X4-048 OP1	117.87
913131	Y1-020 C	.21
913132	Y1-020 E	.47
913171	Y1-025 C OP1	35.16
913172	Y1-025 E OP1	2.91
913181	Y1-026	8.13
913221	Y1-031 C OP1	.7
913222	Y1-031 E OP1	5.36
913311	Y1-047 OP1	5.48
913481	Y1-072 C	.04
913482	Y1-072 E	.06
913561	Y1-084 C OP1	.04
913562	Y1-084 E OP1	.07
914311	Y2-083 C OP1	10.46
914312	Y2-083 E OP1	1.06
914371	Y2-089	43.61

Table 17

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.78
208972	BECR K09	.01
217006	BERGN26A	1.39
228000	CEDR#1CT	2.41
228001	CEDR#2CT	1.16
217078	ESSEX 12	12.19
206331	GG A1&2	2.63
206332	GG A3&4	2.63
206333	GG B5&6	2.63
206334	GG B7&8	2.63

Bus Number	Bus Name	Full Contribution
208943	HARW CT	.06
217081	HUDSON 1	23.78
234304	HUN GEN3	.08
234305	HUN GEN4	.12
234311	HUN GEN5	.13
234312	HUN GEN6	.13
208944	JENK CT	.08
217083	KEARNY11	8.63
209004	KOPP IPP	.02
217086	KRNY9&10	1.39
209003	KSTN IPP	.02
292590	L-018 E	2.57
208945	LOHA CT	.03
209027	LOR2_Q27 E	7.69
208911	MONT G1	1.76
208912	MONT G2	1.79
209006	NEPC IPP	.12
209010	PEIP 1	.08
209009	PEIP 2	.14
204652	PORT1GEN	11.29
204653	PORT2GEN	17.87
295952	R-011	26.32
212384	R-043	.38
212386	R-043	1.54
290673	S-042 C	.35
218360	SEWAREN1	6.52
218361	SEWAREN2	7.37
218362	SEWAREN3	6.68
218363	SEWAREN4	7.72
218364	SEWAREN6	6.9
212449	SUNB CT	.01
209018	SUNBIPCT	.08
209014	SUNBIPP1	.18
209015	SUNBIPP2	.18
209016	SUNBIPP3	.22
208918	SUSQ 1	3.02
889011	U2-015 C	1.3
293093	U2-077	39.99
893121	V2-027	.
LTF	V4-050	7.
209019	VIKI IPP	1.66
900801	W1-001	.95
901241	W1-076 C	.23
901541	W1-127 C	.08
902211	W2-019 C	.12
902251	W2-023	39.29
LTF	W2-033	4.29
903271	W3-022 C OP1	1.89
903311	W3-028 C	2.39
903391	W3-039 C	.17
905091	W4-009 OP1	43.61
905181	W4-021	43.48
905211	W4-025 C	.14
905291	W4-038 OP1	1.59
905331	W4-045 C	.18
209029	WAYM IPP	.03
209023	WIENIPP1	.14
209025	WIENIPP3	.14
209026	WIENIPP4	.07
208948	WILL CT	.06
208920	WLPK	.11
907091	X1-013 OP1	30.87
907241	X1-068	.6
907281	X1-073 C OP1	.3
907351	X1-085 C	.1
907381	X1-094 C	.44
907451	X1-108	2.4
909021	X2-012 C	77.98
909081	X2-025	41.31
909171	X2-050	43.72
910531	X3-004	2.32
910931	X3-085 C	.21
912091	X4-012 C OP1	.16
912101	X4-015 C	.1
912111	X4-016	.66
912131	X4-019	22.54
912261	X4-044 C	.64
912291	X4-048 OP1	145.46
913131	Y1-020 C	.26
913171	Y1-025 C OP1	43.61
913181	Y1-026	10.15
913221	Y1-031 C OP1	.87
913481	Y1-072 C	.05
913561	Y1-084 C OP1	.06
914271	Y2-078	1.11
914281	Y2-079	11.14
914311	Y2-083 C OP1	13.12
914371	Y2-089	53.82

Table 18

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.83
208972	BECR K09	.01
217006	BERGN26A	1.41
219103	BURLNGT8	1.05
219124	BURLNGT9	9.21
228000	CEDR#1CT	2.45
228001	CEDR#2CT	1.18
217078	ESSEX 12	12.4
206331	GG A1&2	2.67
206332	GG A3&4	2.67
206333	GG B5&6	2.67
206334	GG B7&8	2.67
208943	HARW CT	.07
217081	HUDSON 1	24.19
234304	HUN GEN3	.08
234305	HUN GEN4	.12
234311	HUN GEN5	.13
234312	HUN GEN6	.13
208944	JENK CT	.08
217083	KEARNY11	8.78
209004	KOPP IPP	.02
217086	KRNY9&10	1.41
209003	KSTN IPP	.02
292590	L-018 E	2.61
208945	LOHA CT	.03
209027	LOR2_Q27 E	7.82
227807	MO AV B	1.01
208911	MONT G1	1.79
208912	MONT G2	1.82
209006	NEPC IPP	.12
209010	PEIP 1	.08
209009	PEIP 2	.14
204652	PORT1GEN	11.48
204653	PORT2GEN	18.18
295952	R-011	26.77
212384	R-043	.39

Bus Number	Bus Name	Full Contribution
212386	R-043	1.56
290673	S-042 C	.36
218360	SEWAREN1	6.63
218361	SEWAREN2	7.5
218362	SEWAREN3	6.8
218363	SEWAREN4	7.85
218364	SEWAREN6	7.02
212449	SUNB CT	.01
209018	SUNBIPCT	.08
209014	SUNBIPP1	.19
209015	SUNBIPP2	.19
209016	SUNBIPP3	.22
208918	SUSQ 1	3.07
292815	U1-056 C	2.29
889011	U2-015 C	1.32
292966	U2-045 C	.13
293093	U2-077	40.69
893121	V2-027	.
LTF	V4-050	7.12
209019	VIKI IPP	1.68
900801	W1-001	.97
901241	W1-076 C	.23
901541	W1-127 C	.08
902211	W2-019 C	.13
902251	W2-023	39.97
LTF	W2-033	4.37
903271	W3-022 C OP1	1.92
903311	W3-028 C	2.43
903381	W3-033	.38
903391	W3-039 C	.18
905091	W4-009 OP1	44.36
905181	W4-021	44.23
905211	W4-025 C	.14
905291	W4-038 OP1	1.62
905331	W4-045 C	.19
905391	W4-063 C	.03
209029	WAYM IPP	.03
209023	WIENIPP1	.14
209025	WIENIPP3	.14
209026	WIENIPP4	.07
208948	WILL CT	.07
208920	WLPK	.11
907091	X1-013 OP1	31.41
907241	X1-068	.61
907281	X1-073 C OP1	.31
907351	X1-085 C	.11
907381	X1-094 C	.45
907451	X1-108	2.44
909021	X2-012 C	79.31
909081	X2-025	42.01
909171	X2-050	44.47
910531	X3-004	2.36
910931	X3-085 C	.21
912091	X4-012 C OP1	.17
912101	X4-015 C	.1
912111	X4-016	.67
912131	X4-019	22.92
912261	X4-044 C	.65
912291	X4-048 OP1	147.93
913131	Y1-020 C	.27
913171	Y1-025 C OP1	44.36
913181	Y1-026	10.32
913221	Y1-031 C OP1	.89
913481	Y1-072 C	.05
913561	Y1-084 C OP1	.06
914271	Y2-078	1.13
914281	Y2-079	11.33
914311	Y2-083 C OP1	13.34
914371	Y2-089	54.73

Table 19

Bus Number	Bus Name	Full Contribution
200851	MEHOOP3	.32
203125	OAKLAND	.11
294572	P-028 C	.17
294573	P-028 E	29.11
218360	SEWAREN1	1.49
218361	SEWAREN2	1.68
218362	SEWAREN3	1.52
218363	SEWAREN4	1.76
218364	SEWAREN6	1.58
293093	U2-077	9.1
894731	V3-042 C	.65
894732	V3-042 E	4.39
LTF	V4-050	1.7
902251	W2-023	8.96
LTF	W2-033	1.15
905091	W4-009 OP1	10.
905181	W4-021	10.
907091	X1-013 OP1	8.12
907461	X1-109 C	73.75
909021	X2-012 C	14.52
909171	X2-050	9.9
910522	X3-003 E	4.85
912291	X4-048 OP1	33.02
913171	Y1-025 C OP1	10.
913172	Y1-025 E OP1	.83
913311	Y1-047 OP1	3.74
914371	Y2-089	12.22

Table 20

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	3.01
232905	BAYVIEW1	.03
217006	BERGN26A	1.51
219103	BURLNGT8	1.99
219124	BURLNGT9	17.4
228251	CARLLS#4	.45
228000	CEDR#1CT	3.95
228001	CEDR#2CT	1.9
231919	CHRIST1	.07
231920	CHRIST2	.07
213497	CHSTR7-9	.1
213508	CON10-11	.86
213514	CONOW1-2	.56
213515	CONOW3-4	.64
213516	CONOW5-6	.56
213517	CONOW7	.32
213518	CONOW8-9	.86
232926	CRISFLD1	.02
228301	D/W 1 ST	7.36
228302	D/W 6 ST	7.55
213554	DALEVLLE	.02
231915	DC CT6	.14
231902	DC CT7	.22

Bus Number	Bus Name	Full Contribution
231904	DC1 NUG	3.14
231905	DC2 NUG	3.14
232851	DUP-SFR1	.02
232902	EASTMUNI	.17
213575	EDDYST10	.03
213577	EDDYST20	.03
213585	EDDYSTN2	35.16
213587	EDDYSTN3	.99
213589	EDDYSTN4	.99
213590	EDY30-40	.09
231917	EM10	.05
231916	EM3	.23
231901	EM4	.46
231900	EM5	1.17
217078	ESSEX 12	13.21
213962	FPL MH50	.13
231903	GEN4	8.94
213632	GFCP	.37
206331	GG A1&2	2.67
206332	GG A3&4	2.67
206333	GG B5&6	2.67
206334	GG B7&8	2.67
231908	HR1	.33
231909	HR2	.33
231910	HR3	.33
231505	HR4	.49
217081	HUDSON 1	25.77
232906	IR3	18.44
217083	KEARNY11	9.35
213685	KIMCLARK	.09
217086	KRNY9&10	1.51
292590	L-018 E	1.15
213738	LIBE_CT1	.41
213739	LIBE_CT2	.41
213740	LIBE_ST1	.58
219134	MERCER 3	10.97
227807	MO AV B	1.82
219137	NAT PARK	2.03
232910	NRG_G1	.11
232911	NRG_G2	.11
293670	O-025 C	.01
232912	OH NUG1	.11
232913	OH NUG2	.11

Bus Number	Bus Name	Full Contribution
232914	OH NUG3	.11
232915	OH NUG4	.11
232916	OH NUG5	.11
232917	OH NUG6	.11
232918	OH NUG7	.11
213888	PHLISCT1	.46
213889	PHLISCT2	.46
213890	PHLISCT3	.46
213893	PHLISST1	.63
204652	PORT1GEN	10.17
204653	PORT2GEN	15.66
228343	QUINTN#1	.19
295952	R-011	33.92
291017	S-107 1CT	12.72
291019	S-107 1ST	25.44
291018	S-107 2CT	12.72
213941	SCHYLABC	.25
213943	SCHYLK10	.03
213944	SCHYLK11	.04
213945	SCHYLKL1	18.01
218360	SEWAREN1	7.75
218361	SEWAREN2	8.83
218362	SEWAREN3	8.01
218363	SEWAREN4	9.31
218364	SEWAREN6	8.32
213957	STHWK3-4	.06
213958	STHWK5-6	.06
292089	T-011	.01
886231	T-144 C	1.06
292512	T-146 C	6.36
885600	T20SOLAR E	.21
232921	TASLEY2G	.08
292815	U1-056 C	4.16
292878	U1-089	.05
889011	U2-015 C	.73
292966	U2-045 C	.24
293062	U2-076	.95
293093	U2-077	46.52
297005	V2-003 C	.14
297076	V2-028 C	.24
297082	V2-035 C	.07
293414	V3-041	.02
900131	V4-022 C	.2

Bus Number	Bus Name	Full Contribution
904221	V4-023 C1	.64
904223	V4-023 C2	.08
904231	V4-024 C1	.36
904233	V4-024 C2	.36
904241	V4-025 C1	.36
904243	V4-025 C2	.22
904245	V4-025 C3	.06
904247	V4-025 C4	.08
904281	V4-029 C	.72
904361	V4-037 C1	.36
904363	V4-037 C3	.36
904401	V4-041 C	.72
904411	V4-042 C1	.36
904413	V4-042 C2	.36
900361	V4-045	25.6
LTF	V4-050	6.85
904611	V4-062 C	.11
904631	V4-064 C	.8
232813	VAUGHN	.01
232919	VN10	.04
232907	VN8	.37
228700	VNLD 10	2.15
900801	W1-001	1.11
901001	W1-003 C	.8
901011	W1-004 C	.8
901021	W1-005 C	.8
901031	W1-006 C	.8
901041	W1-008 C	.8
901051	W1-021 C	.71
901061	W1-022 C	.71
901071	W1-023 C	.71
901141	W1-048 C	.18
901191	W1-068 C	.72
901201	W1-070 C	.81
901241	W1-076 C	.28
901281	W1-085 C	.71
901291	W1-086 C	.71
901301	W1-087 C	.71
901311	W1-088 C	.71
901321	W1-089 C	.64
901331	W1-090 C OP1	.64
901391	W1-108	1.42
901461	W1-117 C	.71

Bus Number	Bus Name	Full Contribution
901471	W1-118 C	.71
901541	W1-127 C	.07
901561	W1-130 C	.35
902211	W2-019 C	.2
902251	W2-023	46.5
902271	W2-028	.45
902281	W2-029	.41
902301	W2-035 C	.57
902321	W2-039	5.88
902341	W2-047 C	.35
902621	W2-101 C	.72
903251	W3-009 C	.36
903311	W3-028 C	3.87
903341	W3-032A 1	16.05
903351	W3-032A 2	16.05
903381	W3-033	.68
903391	W3-039 C	.19
903471	W3-048	4.62
903481	W3-054AC	1.31
903501	W3-058 C	.35
903891	W3-157 C	.06
903921	W3-160 C	.4
903951	W3-174	18.44
903961	W3-175	35.36
905091	W4-009 OP1	55.59
905131	W4-015 C	13.3
905141	W4-016	33.26
905161	W4-018 C	.36
905181	W4-021	57.73
905211	W4-025 C	.22
905221	W4-027 C	.28
905291	W4-038 OP1	1.72
905301	W4-040 C	.35
905331	W4-045 C	.29
905391	W4-063 C	.06
231918	WEST 1	.05
907241	X1-068	.77
907281	X1-073 C OP1	.29
907291	X1-074	29.65
907351	X1-085 C	.16
907381	X1-094 C	.43
907401	X1-096 C	2.07
907411	X1-097	.07

Bus Number	Bus Name	Full Contribution
907451	X1-108	2.08
909091	X2-027 C OP1	.07
909101	X2-028 C OP1	.11
909171	X2-050	47.37
909231	X2-066	32.64
909241	X2-067	32.11
909281	X2-083	.01
910531	X3-004	2.51
910571	X3-008 C	.81
910591	X3-015 C	.79
910671	X3-040 C	.41
910681	X3-041 C	.6
910821	X3-066 C	.26
910841	X3-070	.22
910881	X3-077 C	.01
910931	X3-085 C	.2
912091	X4-012 C OP1	.15
912101	X4-015 C	.16
912111	X4-016	.72
912121	X4-017 C	.81
912141	X4-020	48.53
912151	X4-021	19.41
912171	X4-027-CT1	1.36
912172	X4-027-CT2	1.36
912173	X4-027-CT3	1.36
912191	X4-032 C	.36
912261	X4-044 C	.72
913041	Y1-008 C	.69
913131	Y1-020 C	.25
913141	Y1-022 C	3.1
913171	Y1-025 C OP1	55.59
913181	Y1-026	11.82
913221	Y1-031 C OP1	.95
913361	Y1-057 C	.01
913401	Y1-065 C	66.92
913481	Y1-072 C	.05
913511	Y1-077	6.71
913531	Y1-079 C OP1	.42
913541	Y1-080 C	.14
913561	Y1-084 C OP1	.05
914271	Y2-078	1.64
914281	Y2-079	16.45
914301	Y2-081 C	.15

Bus Number	Bus Name	Full Contribution
914311	Y2-083 C OP1	14.21
914371	Y2-089	12.82

Table 21

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	3.01
232905	BAYVIEW1	.03
217006	BERGN26A	1.51
219103	BURLNGT8	1.99
219124	BURLNGT9	17.4
228251	CARLLS#4	.45
228000	CEDR#1CT	3.95
228001	CEDR#2CT	1.9
231919	CHRIST1	.07
231920	CHRIST2	.07
213497	CHSTR7-9	.1
213508	CON10-11	.86
213514	CONOW1-2	.56
213515	CONOW3-4	.64
213516	CONOW5-6	.56
213517	CONOW7	.32
213518	CONOW8-9	.86
232926	CRISFLD1	.02
228301	D/W 1 ST	7.36
228302	D/W 6 ST	7.55
213554	DALEVLLE	.02
231915	DC CT6	.14
231902	DC CT7	.22
231904	DC1 NUG	3.14
231905	DC2 NUG	3.14
232851	DUP-SFR1	.02
232902	EASTMUNI	.17
213575	EDDYST10	.03
213577	EDDYST20	.03
213585	EDDYSTN2	35.16
213587	EDDYSTN3	.99
213589	EDDYSTN4	.99
213590	EDY30-40	.09
231917	EM10	.05
231916	EM3	.23
231901	EM4	.46

Bus Number	Bus Name	Full Contribution
231900	EM5	1.17
217078	ESSEX 12	13.21
213962	FPL MH50	.13
231903	GEN4	8.94
213632	GFCP	.37
206331	GG A1&2	2.67
206332	GG A3&4	2.67
206333	GG B5&6	2.67
206334	GG B7&8	2.67
231908	HR1	.33
231909	HR2	.33
231910	HR3	.33
231505	HR4	.49
217081	HUDSON 1	25.77
232906	IR3	18.44
217083	KEARNY11	9.35
213685	KIMCLARK	.09
217086	KRNY9&10	1.51
292590	L-018 E	1.15
213738	LIBE_CT1	.41
213739	LIBE_CT2	.41
213740	LIBE_ST1	.58
219134	MERCER 3	10.97
227807	MO AV B	1.82
219137	NAT PARK	2.03
232910	NRG_G1	.11
232911	NRG_G2	.11
293670	O-025 C	.01
232912	OH NUG1	.11
232913	OH NUG2	.11
232914	OH NUG3	.11
232915	OH NUG4	.11
232916	OH NUG5	.11
232917	OH NUG6	.11
232918	OH NUG7	.11
213888	PHLISCT1	.46
213889	PHLISCT2	.46
213890	PHLISCT3	.46
213893	PHLISST1	.63
204652	PORT1GEN	10.17
204653	PORT2GEN	15.66
228343	QUINTN#1	.19
295952	R-011	33.92

Bus Number	Bus Name	Full Contribution
291017	S-107 1CT	12.72
291019	S-107 1ST	25.44
291018	S-107 2CT	12.72
213941	SCHYLABC	.25
213943	SCHYLK10	.03
213944	SCHYLK11	.04
213945	SCHYLKL1	18.01
218360	SEWAREN1	7.75
218361	SEWAREN2	8.83
218362	SEWAREN3	8.01
218363	SEWAREN4	9.31
218364	SEWAREN6	8.32
213957	STHWK3-4	.06
213958	STHWK5-6	.06
292089	T-011	.01
886231	T-144 C	1.06
292512	T-146 C	6.36
885600	T20SOLAR E	.21
232921	TASLEY2G	.08
292815	U1-056 C	4.16
292878	U1-089	.05
889011	U2-015 C	.73
292966	U2-045 C	.24
293062	U2-076	.95
293093	U2-077	46.52
297005	V2-003 C	.14
297076	V2-028 C	.24
297082	V2-035 C	.07
293414	V3-041	.02
900131	V4-022 C	.2
904221	V4-023 C1	.64
904223	V4-023 C2	.08
904231	V4-024 C1	.36
904233	V4-024 C2	.36
904241	V4-025 C1	.36
904243	V4-025 C2	.22
904245	V4-025 C3	.06
904247	V4-025 C4	.08
904281	V4-029 C	.72
904361	V4-037 C1	.36
904363	V4-037 C3	.36
904401	V4-041 C	.72
904411	V4-042 C1	.36

Bus Number	Bus Name	Full Contribution
904413	V4-042 C2	.36
900361	V4-045	25.6
LTF	V4-050	6.85
904611	V4-062 C	.11
904631	V4-064 C	.8
232813	VAUGHN	.01
232919	VN10	.04
232907	VN8	.37
228700	VNLD 10	2.15
900801	W1-001	1.11
901001	W1-003 C	.8
901011	W1-004 C	.8
901021	W1-005 C	.8
901031	W1-006 C	.8
901041	W1-008 C	.8
901051	W1-021 C	.71
901061	W1-022 C	.71
901071	W1-023 C	.71
901141	W1-048 C	.18
901191	W1-068 C	.72
901201	W1-070 C	.81
901241	W1-076 C	.28
901281	W1-085 C	.71
901291	W1-086 C	.71
901301	W1-087 C	.71
901311	W1-088 C	.71
901321	W1-089 C	.64
901331	W1-090 C OP1	.64
901391	W1-108	1.42
901461	W1-117 C	.71
901471	W1-118 C	.71
901541	W1-127 C	.07
901561	W1-130 C	.35
902211	W2-019 C	.2
902251	W2-023	46.5
902271	W2-028	.45
902281	W2-029	.41
902301	W2-035 C	.57
902321	W2-039	5.88
902341	W2-047 C	.35
902621	W2-101 C	.72
903251	W3-009 C	.36
903311	W3-028 C	3.87

Bus Number	Bus Name	Full Contribution
903341	W3-032A 1	16.05
903351	W3-032A 2	16.05
903381	W3-033	.68
903391	W3-039 C	.19
903471	W3-048	4.62
903481	W3-054AC	1.31
903501	W3-058 C	.35
903891	W3-157 C	.06
903921	W3-160 C	.4
903951	W3-174	18.44
903961	W3-175	35.36
905091	W4-009 OP1	55.59
905131	W4-015 C	13.3
905141	W4-016	33.26
905161	W4-018 C	.36
905181	W4-021	57.73
905211	W4-025 C	.22
905221	W4-027 C	.28
905291	W4-038 OP1	1.72
905301	W4-040 C	.35
905331	W4-045 C	.29
905391	W4-063 C	.06
231918	WEST 1	.05
907241	X1-068	.77
907281	X1-073 C OP1	.29
907291	X1-074	29.65
907351	X1-085 C	.16
907381	X1-094 C	.43
907401	X1-096 C	2.07
907411	X1-097	.07
907451	X1-108	2.08
909091	X2-027 C OP1	.07
909101	X2-028 C OP1	.11
909171	X2-050	47.37
909231	X2-066	32.64
909241	X2-067	32.11
909281	X2-083	.01
910531	X3-004	2.51
910571	X3-008 C	.81
910591	X3-015 C	.79
910671	X3-040 C	.41
910681	X3-041 C	.6
910821	X3-066 C	.26

Bus Number	Bus Name	Full Contribution
910841	X3-070	.22
910881	X3-077 C	.01
910931	X3-085 C	.2
912091	X4-012 C OP1	.15
912101	X4-015 C	.16
912111	X4-016	.72
912121	X4-017 C	.81
912141	X4-020	48.53
912151	X4-021	19.41
912171	X4-027-CT1	1.36
912172	X4-027-CT2	1.36
912173	X4-027-CT3	1.36
912191	X4-032 C	.36
912261	X4-044 C	.72
913041	Y1-008 C	.69
913131	Y1-020 C	.25
913171	Y1-025 C OP1	55.59
913181	Y1-026	11.82
913221	Y1-031 C OP1	.95
913361	Y1-057 C	.01
913401	Y1-065 C	66.92
913481	Y1-072 C	.05
913511	Y1-077	6.71
913531	Y1-079 C OP1	.42
913541	Y1-080 C	.14
913561	Y1-084 C OP1	.05
914271	Y2-078	1.64
914281	Y2-079	16.45
914301	Y2-081 C	.15
914311	Y2-083 C OP1	14.21
914371	Y2-089	15.05

Table 22

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	3.01
232905	BAYVIEW1	.03
217006	BERGN26A	1.51
219103	BURLNGT8	1.99
219124	BURLNGT9	17.4
228251	CARLLS#4	.45
228000	CEDR#1CT	3.95

Bus Number	Bus Name	Full Contribution
228001	CEDR#2CT	1.9
231919	CHRIST1	.07
231920	CHRIST2	.07
213497	CHSTR7-9	.1
213508	CON10-11	.86
213514	CONOW1-2	.56
213515	CONOW3-4	.64
213516	CONOW5-6	.56
213517	CONOW7	.32
213518	CONOW8-9	.86
232926	CRISFLD1	.02
228301	D/W 1 ST	7.36
228302	D/W 6 ST	7.55
213554	DALEVLLE	.02
231915	DC CT6	.14
231902	DC CT7	.22
231904	DC1 NUG	3.14
231905	DC2 NUG	3.14
232851	DUP-SFR1	.02
232902	EASTMUNI	.17
213575	EDDYST10	.03
213577	EDDYST20	.03
213585	EDDYSTN2	35.16
213587	EDDYSTN3	.99
213589	EDDYSTN4	.99
213590	EDY30-40	.09
231917	EM10	.05
231916	EM3	.23
231901	EM4	.46
231900	EM5	1.17
217078	ESSEX 12	13.21
213962	FPL MH50	.13
231903	GEN4	8.94
213632	GFCP	.37
206331	GG A1&2	2.67
206332	GG A3&4	2.67
206333	GG B5&6	2.67
206334	GG B7&8	2.67
231908	HR1	.33
231909	HR2	.33
231910	HR3	.33
231505	HR4	.49
217081	HUDSON 1	25.77

Bus Number	Bus Name	Full Contribution
232906	IR3	18.44
217083	KEARNY11	9.35
213685	KIMCLARK	.09
217086	KRNY9&10	1.51
292590	L-018 E	1.15
213738	LIBE_CT1	.41
213739	LIBE_CT2	.41
213740	LIBE_ST1	.58
219134	MERCER 3	10.97
227807	MO AV B	1.82
219137	NAT PARK	2.03
232910	NRG_G1	.11
232911	NRG_G2	.11
293670	O-025 C	.01
232912	OH NUG1	.11
232913	OH NUG2	.11
232914	OH NUG3	.11
232915	OH NUG4	.11
232916	OH NUG5	.11
232917	OH NUG6	.11
232918	OH NUG7	.11
213888	PHLISCT1	.46
213889	PHLISCT2	.46
213890	PHLISCT3	.46
213893	PHLISST1	.63
204652	PORT1GEN	10.17
204653	PORT2GEN	15.66
228343	QUINTN#1	.19
295952	R-011	33.92
291017	S-107 1CT	12.72
291019	S-107 1ST	25.44
291018	S-107 2CT	12.72
213941	SCHYLABC	.25
213943	SCHYLK10	.03
213944	SCHYLK11	.04
213945	SCHYLKL1	18.01
218360	SEWAREN1	7.75
218361	SEWAREN2	8.83
218362	SEWAREN3	8.01
218363	SEWAREN4	9.31
218364	SEWAREN6	8.32
213957	STHWK3-4	.06
213958	STHWK5-6	.06

Bus Number	Bus Name	Full Contribution
292089	T-011	.01
886231	T-144 C	1.06
292512	T-146 C	6.36
885600	T20SOLAR E	.21
232921	TASLEY2G	.08
292815	U1-056 C	4.16
292878	U1-089	.05
889011	U2-015 C	.73
292966	U2-045 C	.24
293062	U2-076	.95
293093	U2-077	46.52
297005	V2-003 C	.14
297076	V2-028 C	.24
297082	V2-035 C	.07
293414	V3-041	.02
900131	V4-022 C	.2
904221	V4-023 C1	.64
904223	V4-023 C2	.08
904231	V4-024 C1	.36
904233	V4-024 C2	.36
904241	V4-025 C1	.36
904243	V4-025 C2	.22
904245	V4-025 C3	.06
904247	V4-025 C4	.08
904281	V4-029 C	.72
904361	V4-037 C1	.36
904363	V4-037 C3	.36
904401	V4-041 C	.72
904411	V4-042 C1	.36
904413	V4-042 C2	.36
900361	V4-045	25.6
LTF	V4-050	6.85
904611	V4-062 C	.11
904631	V4-064 C	.8
232813	VAUGHN	.01
232919	VN10	.04
232907	VN8	.37
228700	VNLD 10	2.15
900801	W1-001	1.11
901001	W1-003 C	.8
901011	W1-004 C	.8
901021	W1-005 C	.8
901031	W1-006 C	.8

Bus Number	Bus Name	Full Contribution
901041	W1-008 C	.8
901051	W1-021 C	.71
901061	W1-022 C	.71
901071	W1-023 C	.71
901141	W1-048 C	.18
901191	W1-068 C	.72
901201	W1-070 C	.81
901241	W1-076 C	.28
901281	W1-085 C	.71
901291	W1-086 C	.71
901301	W1-087 C	.71
901311	W1-088 C	.71
901321	W1-089 C	.64
901331	W1-090 C OP1	.64
901391	W1-108	1.42
901461	W1-117 C	.71
901471	W1-118 C	.71
901541	W1-127 C	.07
901561	W1-130 C	.35
902211	W2-019 C	.2
902251	W2-023	46.5
902271	W2-028	.45
902281	W2-029	.41
902301	W2-035 C	.57
902321	W2-039	5.88
902341	W2-047 C	.35
902621	W2-101 C	.72
903251	W3-009 C	.36
903311	W3-028 C	3.87
903341	W3-032A 1	16.05
903351	W3-032A 2	16.05
903381	W3-033	.68
903391	W3-039 C	.19
903471	W3-048	4.62
903481	W3-054AC	1.31
903501	W3-058 C	.35
903891	W3-157 C	.06
903921	W3-160 C	.4
903951	W3-174	18.44
903961	W3-175	35.36
905091	W4-009 OP1	55.59
905131	W4-015 C	13.3
905141	W4-016	33.26

Bus Number	Bus Name	Full Contribution
905161	W4-018 C	.36
905181	W4-021	57.73
905211	W4-025 C	.22
905221	W4-027 C	.28
905291	W4-038 OP1	1.72
905301	W4-040 C	.35
905331	W4-045 C	.29
905391	W4-063 C	.06
231918	WEST 1	.05
907241	X1-068	.77
907281	X1-073 C OP1	.29
907291	X1-074	29.65
907351	X1-085 C	.16
907381	X1-094 C	.43
907401	X1-096 C	2.07
907411	X1-097	.07
907451	X1-108	2.08
909091	X2-027 C OP1	.07
909101	X2-028 C OP1	.11
909171	X2-050	47.37
909231	X2-066	32.64
909241	X2-067	32.11
909281	X2-083	.01
910531	X3-004	2.51
910571	X3-008 C	.81
910591	X3-015 C	.79
910671	X3-040 C	.41
910681	X3-041 C	.6
910821	X3-066 C	.26
910841	X3-070	.22
910881	X3-077 C	.01
910931	X3-085 C	.2
912091	X4-012 C OP1	.15
912101	X4-015 C	.16
912111	X4-016	.72
912121	X4-017 C	.81
912141	X4-020	48.53
912151	X4-021	19.41
912171	X4-027-CT1	1.36
912172	X4-027-CT2	1.36
912173	X4-027-CT3	1.36
912191	X4-032 C	.36
912261	X4-044 C	.72

Bus Number	Bus Name	Full Contribution
913041	Y1-008 C	.69
913131	Y1-020 C	.25
913171	Y1-025 C OP1	55.59
913181	Y1-026	11.82
913221	Y1-031 C OP1	.95
913361	Y1-057 C	.01
913401	Y1-065 C	66.92
913481	Y1-072 C	.05
913511	Y1-077	6.71
913531	Y1-079 C OP1	.42
913541	Y1-080 C	.14
913561	Y1-084 C OP1	.05
914271	Y2-078	1.64
914281	Y2-079	16.45
914301	Y2-081 C	.15
914311	Y2-083 C OP1	14.21
914371	Y2-089	15.05

Table 23

Bus Number	Bus Name	Full Contribution
204662	AES GEN1	.61
204663	AES GEN2	.61
204664	AES GEN3	.6
216908	BAYONNE	2.33
217006	BERGN26A	1.17
207922	BRIS	.02
208900	BRIS G1	.93
208901	BRIS G2	1.09
208902	BRIS G3	2.16
219103	BURLNGT8	.18
219124	BURLNGT9	1.54
204638	CAT TRAC	.08
204670	CAT TRAC	.04
228000	CEDR#1CT	2.37
228001	CEDR#2CT	1.14
217078	ESSEX 12	10.22
209030	FRFA O01	.02
206331	GG A1&2	2.4
206332	GG A3&4	2.4
206333	GG B5&6	2.4
206334	GG B7&8	2.4

Bus Number	Bus Name	Full Contribution
204639	GLATFLTR	.07
204646	HAM CT	.04
208942	HARR CT	.14
208985	HMSW IPP	.06
208903	HOLT 695	.28
208904	HOLT 696	.3
208907	HOLT 697	13.87
217081	HUDSON 1	19.94
204647	HUNTR CT	.09
217083	KEARNY11	7.24
217086	KRNY9&10	1.17
292590	L-018 E	1.09
204640	LARA	.08
209027	LOR2_Q27 E	4.32
219134	MERCER 3	5.81
227807	MO AV B	1.01
204574	MODRN LF	.02
204648	MOUNT CT	.06
204603	N.LEB	.01
204665	ONTELCT1	.42
204666	ONTELCT2	.42
204667	ONTELST1	.3
204649	ORTAN CT	.03
204641	PANTHER	.18
209008	PAXT IPP	.03
204652	PORT1GEN	9.33
204653	PORT2GEN	14.18
295125	Q-020 2	.32
295130	Q-020 3	.
295133	Q-020 4	.
290201	Q-044	.
204679	Q-059	.02
295671	Q-073 C	.04
204555	QUEEN ST	.61
295952	R-011	23.86
212384	R-043	.22
212386	R-043	.86
296509	R-057 C	.02
204610	ROLLHILL	.01
204655	S.RDG CT	.09
290673	S-042 C	.19
290760	S-064	2.01
208914	SAHA 34	.39

Bus Number	Bus Name	Full Contribution
208915	SAHA 567	.64
208917	SAHA1112	.55
208916	SAHA8910	.83
218360	SEWAREN1	5.7
218361	SEWAREN2	6.46
218362	SEWAREN3	5.86
218363	SEWAREN4	6.78
218364	SEWAREN6	6.06
292512	T-146 C	3.5
885600	T20SOLAR E	.11
204656	TITUS 1G	9.84
204657	TITUS 2G	9.84
204658	TITUS 3G	9.84
204659	TMI 1GEN	2.
204650	TOLNA CT	.1
292815	U1-056 C	2.3
208848	U1-067	.01
887721	U1-068	.03
889011	U2-015 C	.7
292966	U2-045 C	.13
293062	U2-076	.5
293093	U2-077	34.63
297005	V2-003 C	.08
293450	V3-051 C	.
900111	V4-020	61.56
904261	V4-027 C	.
900361	V4-045	17.03
LTF	V4-050	4.73
904511	V4-052 C	.02
904741	V4-075 C	.
209019	VIKI IPP	.87
228700	VNLD 10	1.15
900801	W1-001	.82
208850	W1-046 C	.6
901151	W1-054	.04
901241	W1-076 C	.21
901281	W1-085 C	.38
901291	W1-086 C	.38
901301	W1-087 C	.38
901311	W1-088 C	.38
901321	W1-089 C	.34
901331	W1-090 C OP1	.34
901361	W1-105 C	.

Bus Number	Bus Name	Full Contribution
901371	W1-106 C	.
901461	W1-117 C	.38
901471	W1-118 C	.38
901541	W1-127 C	.07
901561	W1-130 C	.19
902211	W2-019 C	.12
902251	W2-023	34.27
902271	W2-028	.26
902281	W2-029	.27
902321	W2-039	3.16
902461	W2-075	.
902601	W2-094 C	.06
903271	W3-022 C OP1	1.05
903311	W3-028 C	2.34
903381	W3-033	.38
903391	W3-039 C	.14
903471	W3-048	2.51
903501	W3-058 C	.19
905091	W4-009 OP1	39.38
905181	W4-021	39.83
905211	W4-025 C	.14
905221	W4-027 C	.15
905291	W4-038 OP1	1.33
905331	W4-045 C	.18
905391	W4-063 C	.03
208947	WSHO CT	.07
907091	X1-013 OP1	100.63
907241	X1-068	.54
907281	X1-073 C OP1	.28
907351	X1-085 C	.1
907381	X1-094 C	.37
907451	X1-108	1.95
909021	X2-012 C	40.61
909081	X2-025	21.43
909171	X2-050	36.66
910531	X3-004	1.94
910551	X3-006 C	10.42
910701	X3-044	1.64
910931	X3-085 C	.17
912071	X4-009 C	.76
912091	X4-012 C OP1	.13
912101	X4-015 C	.1
912111	X4-016	.56

Bus Number	Bus Name	Full Contribution
912131	X4-019	11.69
912141	X4-020	44.55
912151	X4-021	17.82
912191	X4-032 C	.21
912261	X4-044 C	.55
912291	X4-048 OP1	51.09
913131	Y1-020 C	.21
913171	Y1-025 C OP1	39.38
913181	Y1-026	8.79
913221	Y1-031 C OP1	.73
913351	Y1-056	2.08
913401	Y1-065 C	42.21
913481	Y1-072 C	.05
913511	Y1-077	3.69
913561	Y1-084 C OP1	.04
914271	Y2-078	1.06
914281	Y2-079	10.58
914311	Y2-083 C OP1	11.
914371	Y2-089	18.9
204660	YK H STA	.04
204642	YK SOLID	.08

Table 24

Bus Number	Bus Name	Full Contribution
203283	MANOR	.01
200851	MEHOOP3	.12
294572	P-028 C	.06
218360	SEWAREN1	1.48
218361	SEWAREN2	1.67
218362	SEWAREN3	1.52
218363	SEWAREN4	1.75
218364	SEWAREN6	1.57
293093	U2-077	9.03
900111	V4-020	7.14
LTF	V4-050	1.93
902251	W2-023	8.89
LTF	W2-033	1.92
905091	W4-009 OP1	9.98
905181	W4-021	10.01
907091	X1-013 OP1	9.33
907461	X1-109 C	100.26

Bus Number	Bus Name	Full Contribution
909021	X2-012 C	13.94
909171	X2-050	9.77
912141	X4-020	7.11
912291	X4-048 OP1	29.88
913171	Y1-025 C OP1	9.98
913311	Y1-047 OP1	1.41
913401	Y1-065 C	7.37
914371	Y2-089	11.06

Table 25

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	3.01
232905	BAYVIEW1	.03
217006	BERGN26A	1.51
219103	BURLNGT8	1.99
219124	BURLNGT9	17.4
228251	CARLLS#4	.45
228000	CEDR#1CT	3.95
228001	CEDR#2CT	1.9
231919	CHRIST1	.07
231920	CHRIST2	.07
213497	CHSTR7-9	.1
213508	CON10-11	.86
213514	CONOW1-2	.56
213515	CONOW3-4	.64
213516	CONOW5-6	.56
213517	CONOW7	.32
213518	CONOW8-9	.86
232926	CRISFLD1	.02
228301	D/W 1 ST	7.36
228302	D/W 6 ST	7.55
213554	DALEVLLE	.02
231915	DC CT6	.14
231902	DC CT7	.22
231904	DC1 NUG	3.14
231905	DC2 NUG	3.14
232851	DUP-SFR1	.02
232902	EASTMUNI	.17
213575	EDDYST10	.03
213577	EDDYST20	.03
213585	EDDYSTN2	35.16
213587	EDDYSTN3	.99
213589	EDDYSTN4	.99
213590	EDY30-40	.09
231917	EM10	.05
231916	EM3	.23
231901	EM4	.46
231900	EM5	1.17
217078	ESSEX 12	13.21
213962	FPL MH50	.13
231903	GEN4	8.94
213632	GFCP	.37
206331	GG A1&2	2.67
206332	GG A3&4	2.67
206333	GG B5&6	2.67
206334	GG B7&8	2.67
231908	HR1	.33
231909	HR2	.33
231910	HR3	.33
231505	HR4	.49
217081	HUDSON 1	25.77
232906	IR3	18.44
217083	KEARNY11	9.35
213685	KIMCLARK	.09
217086	KRNY9&10	1.51
292590	L-018 E	1.15
213738	LIBE_CT1	.41
213739	LIBE_CT2	.41
213740	LIBE_ST1	.58
219134	MERCER 3	10.97
227807	MO AV B	1.82
219137	NAT PARK	2.03
232910	NRG_G1	.11
232911	NRG_G2	.11
293670	O-025 C	.01
232912	OH NUG1	.11
232913	OH NUG2	.11
232914	OH NUG3	.11
232915	OH NUG4	.11
232916	OH NUG5	.11
232917	OH NUG6	.11
232918	OH NUG7	.11
213888	PHLISCT1	.46
213889	PHLISCT2	.46
213890	PHLISCT3	.46
213893	PHLISST1	.63
204652	PORT1GEN	10.17
204653	PORT2GEN	15.66
228343	QUINTN#1	.19
295952	R-011	33.92
291017	S-107 1CT	12.72
291019	S-107 1ST	25.44
291018	S-107 2CT	12.72
213941	SCHYLABC	.25
213943	SCHYLK10	.03
213944	SCHYLK11	.04
213945	SCHYLKL1	18.01
218360	SEWAREN1	7.75
218361	SEWAREN2	8.83
218362	SEWAREN3	8.01
218363	SEWAREN4	9.31
218364	SEWAREN6	8.32
213957	STHWK3-4	.06
213958	STHWK5-6	.06
292089	T-011	.01
886231	T-144 C	1.06
292512	T-146 C	6.36
885600	T20SOLAR E	.21
232921	TASLEY2G	.08
292815	U1-056 C	4.16
292878	U1-089	.05
889011	U2-015 C	.73
292966	U2-045 C	.24
293062	U2-076	.95
293093	U2-077	46.52
297005	V2-003 C	.14
297076	V2-028 C	.24
297082	V2-035 C	.07
293414	V3-041	.02
900131	V4-022 C	.2
904221	V4-023 C1	.64
904223	V4-023 C2	.08
904231	V4-024 C1	.36
904233	V4-024 C2	.36
904241	V4-025 C1	.36
904243	V4-025 C2	.22
904245	V4-025 C3	.06

Bus Number	Bus Name	Full Contribution
904247	V4-025 C4	.08
904281	V4-029 C	.72
904361	V4-037 C1	.36
904363	V4-037 C3	.36
904401	V4-041 C	.72
904411	V4-042 C1	.36
904413	V4-042 C2	.36
900361	V4-045	25.6
LTF	V4-050	6.85
904611	V4-062 C	.11
904631	V4-064 C	.8
232813	VAUGHN	.01
232919	VN10	.04
232907	VN8	.37
228700	VNLD 10	2.15
900801	W1-001	1.11
901001	W1-003 C	.8
901011	W1-004 C	.8
901021	W1-005 C	.8
901031	W1-006 C	.8
901041	W1-008 C	.8
901051	W1-021 C	.71
901061	W1-022 C	.71
901071	W1-023 C	.71
901141	W1-048 C	.18
901191	W1-068 C	.72
901201	W1-070 C	.81
901241	W1-076 C	.28
901281	W1-085 C	.71
901291	W1-086 C	.71
901301	W1-087 C	.71
901311	W1-088 C	.71
901321	W1-089 C	.64
901331	W1-090 C OP1	.64
901391	W1-108	1.42
901461	W1-117 C	.71
901471	W1-118 C	.71
901541	W1-127 C	.07
901561	W1-130 C	.35
902211	W2-019 C	.2
902251	W2-023	46.5
902271	W2-028	.45
902281	W2-029	.41

Bus Number	Bus Name	Full Contribution
902301	W2-035 C	.57
902321	W2-039	5.88
902341	W2-047 C	.35
902621	W2-101 C	.72
903251	W3-009 C	.36
903311	W3-028 C	3.87
903341	W3-032A 1	16.05
903351	W3-032A 2	16.05
903381	W3-033	.68
903391	W3-039 C	.19
903471	W3-048	4.62
903481	W3-054AC	1.31
903501	W3-058 C	.35
903891	W3-157 C	.06
903921	W3-160 C	.4
903951	W3-174	18.44
903961	W3-175	35.36
905091	W4-009 OP1	55.59
905131	W4-015 C	13.3
905141	W4-016	33.26
905161	W4-018 C	.36
905181	W4-021	57.73
905211	W4-025 C	.22
905221	W4-027 C	.28
905291	W4-038 OP1	1.72
905301	W4-040 C	.35
905331	W4-045 C	.29
905391	W4-063 C	.06
231918	WEST 1	.05
907241	X1-068	.77
907281	X1-073 C OP1	.29
907291	X1-074	29.65
907351	X1-085 C	.16
907381	X1-094 C	.43
907401	X1-096 C	2.07
907411	X1-097	.07
907451	X1-108	2.08
909091	X2-027 C OP1	.07
909101	X2-028 C OP1	.11
909171	X2-050	47.37
909231	X2-066	32.64
909241	X2-067	32.11
909281	X2-083	.01

Bus Number	Bus Name	Full Contribution
910531	X3-004	2.51
910571	X3-008 C	.81
910591	X3-015 C	.79
910671	X3-040 C	.41
910681	X3-041 C	.6
910821	X3-066 C	.26
910841	X3-070	.22
910881	X3-077 C	.01
910931	X3-085 C	.2
912091	X4-012 C OP1	.15
912101	X4-015 C	.16
912111	X4-016	.72
912121	X4-017 C	.81
912141	X4-020	48.53
912151	X4-021	19.41
912171	X4-027-CT1	1.36
912172	X4-027-CT2	1.36
912173	X4-027-CT3	1.36
912191	X4-032 C	.36
912261	X4-044 C	.72
913041	Y1-008 C	.69
913131	Y1-020 C	.25
913171	Y1-025 C OP1	55.59
913181	Y1-026	11.82
913221	Y1-031 C OP1	.95
913361	Y1-057 C	.01
913401	Y1-065 C	66.92
913481	Y1-072 C	.05
913511	Y1-077	6.71
913531	Y1-079 C OP1	.42
913541	Y1-080 C	.14
913561	Y1-084 C OP1	.05
914271	Y2-078	1.64
914281	Y2-079	16.45
914301	Y2-081 C	.15
914311	Y2-083 C OP1	14.21
914371	Y2-089	15.05

Table 26

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.43

Bus Number	Bus Name	Full Contribution
208972	BECR K09	.01
217006	BERGN26A	1.21
212099	BRMO IPP	.01
217078	ESSEX 12	10.64
208941	FISH CT	.04
208981	FOWH IPP	.07
206331	GG A1&2	2.29
206332	GG A3&4	2.29
206333	GG B5&6	2.29
206334	GG B7&8	2.29
208982	GLBT IPP	.13
208943	HARW CT	.05
217081	HUDSON 1	20.76
234304	HUN GEN3	.06
234305	HUN GEN4	.1
234311	HUN GEN5	.11
234312	HUN GEN6	.11
212174	INGE	.01
208944	JENK CT	.07
217083	KEARNY11	7.54
209004	KOPP IPP	.01
217086	KRNY9&10	1.21
209003	KSTN IPP	.01
292590	L-018 E	2.16
208945	LOHA CT	.02
212265	LOR1_N14_C	.01
209027	LOR2_Q27 E	5.6
208911	MONT G1	1.27
208912	MONT G2	1.3
209006	NEPC IPP	.09
209010	PEIP 1	.07
209009	PEIP 2	.12
204652	PORT1GEN	9.72
204653	PORT2GEN	15.35
295223	Q-028 C	.23
295952	R-011	23.26
212384	R-043	.28
212386	R-043	1.12
290673	S-042 C	.25
209013	SCEN IPP	.14
218360	SEWAREN1	5.73
218361	SEWAREN2	6.48
218362	SEWAREN3	5.88

Bus Number	Bus Name	Full Contribution
218363	SEWAREN4	6.79
218364	SEWAREN6	6.07
204654	SHAW CT	.03
212449	SUNB CT	.01
209018	SUNBIPCT	.06
209014	SUNBIPP1	.12
209015	SUNBIPP2	.12
209016	SUNBIPP3	.15
208918	SUSQ 1	2.38
200038	SUSQ 2	2.02
889011	U2-015 C	1.03
293093	U2-077	35.1
893121	V2-027	.
900111	V4-020	25.08
LTF	V4-050	6.28
209019	VIKI IPP	1.13
900801	W1-001	.84
901241	W1-076 C	.2
901431	W1-114 C	.
901441	W1-115 C	.
901541	W1-127 C	.07
902251	W2-023	34.53
LTF	W2-033	4.35
903271	W3-022 C OP1	1.35
903391	W3-039 C	.15
905091	W4-009 OP1	38.53
905181	W4-021	38.51
905291	W4-038 OP1	1.39
209029	WAYM IPP	.02
209021	WEST IPP	.05
209022	WHFR IPP	.07
209023	WIENIPP1	.11
209025	WIENIPP3	.11
209026	WIENIPP4	.05
208948	WILL CT	.05
208920	WLPK	.09
907091	X1-013 OP1	30.56
907241	X1-068	.53
907281	X1-073 C OP1	.26
907381	X1-094 C	.38
907451	X1-108	2.04
909021	X2-012 C	56.08
909081	X2-025	22.12

Bus Number	Bus Name	Full Contribution
909171	X2-050	38.17
910531	X3-004	2.02
910931	X3-085 C	.18
912091	X4-012 C OP1	.14
912111	X4-016	.58
912131	X4-019	12.07
912141	X4-020	24.87
912261	X4-044 C	.56
912291	X4-048 OP1	128.1
913131	Y1-020 C	.23
913171	Y1-025 C OP1	38.53
913181	Y1-026	8.91
913221	Y1-031 C OP1	.76
913401	Y1-065 C	26.32
913481	Y1-072 C	.04
913561	Y1-084 C OP1	.05
914311	Y2-083 C OP1	11.45
914371	Y2-089	47.4

Table 27

Bus Number	Bus Name	Full Contribution
204638	CAT TRAC	.04
204670	CAT TRAC	.02
204639	GLATFLTR	.07
204646	HAM CT	.05
217081	HUDSON 1	8.24
204647	HUNTR CT	.21
204574	MODRN LF	.01
204648	MOUNT CT	.09
204649	ORTAN CT	.08
315446	Q-065	-28.34
204555	QUEEN ST	.28
295952	R-011	10.11
290760	S-064	1.13
291017	S-107 1CT	2.99
291019	S-107 1ST	5.97
291018	S-107 2CT	2.99
218360	SEWAREN1	2.39
218361	SEWAREN2	2.71
218362	SEWAREN3	2.46
218363	SEWAREN4	2.85

Bus Number	Bus Name	Full Contribution
218364	SEWAREN6	2.55
204650	TOLNA CT	.06
887721	U1-068	.01
293093	U2-077	14.46
LTF	U4-022	1.23
LTF	U4-023	1.23
900111	V4-020	19.26
LTF	V4-050	2.43
902251	W2-023	14.34
902461	W2-075	.
903961	W3-175	8.52
905091	W4-009 OP1	16.65
905141	W4-016	7.81
905181	W4-021	16.96
907091	X1-013 OP1	31.89
907461	X1-109 C	9.33
909021	X2-012 C	16.52
909081	X2-025	8.82
909171	X2-050	15.14
910831	X3-068 OP1	10.81
912141	X4-020	18.34
912291	X4-048 OP1	20.91
913171	Y1-025 C OP1	16.65
913401	Y1-065 C	18.53
LTF	Y2-044	1.21
914371	Y2-089	7.74
204660	YK H STA	.03
204642	YK SOLID	.04

Table 28

Bus Number	Bus Name	Full Contribution
203283	MANOR	.01
200851	MEHOOP3	.12
294572	P-028 C	.06
218360	SEWAREN1	1.48
218361	SEWAREN2	1.67
218362	SEWAREN3	1.52
218363	SEWAREN4	1.75
218364	SEWAREN6	1.57
293093	U2-077	9.03
LTF	V4-050	1.93

Bus Number	Bus Name	Full Contribution
902251	W2-023	8.89
LTF	W2-033	1.92
905091	W4-009 OP1	9.98
905181	W4-021	10.01
907091	X1-013 OP1	9.33
907461	X1-109 C	100.26
909021	X2-012 C	13.94
909171	X2-050	9.77
912291	X4-048 OP1	29.88
913171	Y1-025 C OP1	9.98
913311	Y1-047 OP1	1.41
914371	Y2-089	11.06

Table 29

Bus Number	Bus Name	Full Contribution
216908	BAYONNE	2.47
208972	BECR K09	.01
217006	BERGN26A	1.24
212099	BRMO IPP	.01
217078	ESSEX 12	10.83
208941	FISH CT	.05
208981	FOWH IPP	.07
206331	GG A1&2	2.33
206332	GG A3&4	2.33
206333	GG B5&6	2.33
206334	GG B7&8	2.33
208982	GLBT IPP	.13
208943	HARW CT	.05
217081	HUDSON 1	21.12
234304	HUN GEN3	.07
234305	HUN GEN4	.1
234311	HUN GEN5	.11
234312	HUN GEN6	.11
212174	INGE	.01
208944	JENK CT	.07
217083	KEARNY11	7.67
209004	KOPP IPP	.01
217086	KRNY9&10	1.24
209003	KSTN IPP	.01
292590	L-018 E	2.2
208945	LOHA CT	.02

Bus Number	Bus Name	Full Contribution
212265	LOR1_N14_C	.01
209027	LOR2_Q27 E	5.69
208911	MONT G1	1.3
208912	MONT G2	1.32
209006	NEPC IPP	.1
209010	PEIP 1	.07
209009	PEIP 2	.12
204652	PORT1GEN	9.88
204653	PORT2GEN	15.61
295223	Q-028 C	.23
295952	R-011	23.67
212384	R-043	.28
212386	R-043	1.14
290673	S-042 C	.25
209013	SCEN IPP	.14
218360	SEWAREN1	5.83
218361	SEWAREN2	6.59
218362	SEWAREN3	5.98
218363	SEWAREN4	6.91
218364	SEWAREN6	6.18
204654	SHAW CT	.03
212449	SUNB CT	.01
209018	SUNBIPCT	.06
209014	SUNBIPP1	.13
209015	SUNBIPP2	.13
209016	SUNBIPP3	.15
208918	SUSQ 1	2.42
200038	SUSQ 2	2.05
889011	U2-015 C	1.05
293093	U2-077	35.71
893121	V2-027	.
900111	V4-020	25.52
LTF	V4-050	6.39
209019	VIKI IPP	1.15
900801	W1-001	.85
901241	W1-076 C	.21
901431	W1-114 C	.
901441	W1-115 C	.
901541	W1-127 C	.07
902251	W2-023	35.13
LTF	W2-033	4.43
903271	W3-022 C OP1	1.38
903391	W3-039 C	.15

Bus Number	Bus Name	Full Contribution
905091	W4-009 OP1	39.19
905181	W4-021	39.18
905291	W4-038 OP1	1.41
209029	WAYM IPP	.02
209021	WEST IPP	.05
209022	WHFR IPP	.07
209023	WIENIPP1	.11
209025	WIENIPP3	.11
209026	WIENIPP4	.05
208948	WILL CT	.05
208920	WLPK	.1
907091	X1-013 OP1	31.1
907241	X1-068	.54
907281	X1-073 C OP1	.27
907351	X1-085 C	.1
907381	X1-094 C	.39
907451	X1-108	2.08
909021	X2-012 C	57.05
909081	X2-025	22.5
909171	X2-050	38.83
910531	X3-004	2.06
910931	X3-085 C	.18
912091	X4-012 C OP1	.14
912111	X4-016	.59
912131	X4-019	12.28
912141	X4-020	25.3
912261	X4-044 C	.57
912291	X4-048 OP1	130.29
913131	Y1-020 C	.23
913171	Y1-025 C OP1	39.19
913181	Y1-026	9.06
913221	Y1-031 C OP1	.78
913401	Y1-065 C	26.78
913481	Y1-072 C	.04
913561	Y1-084 C OP1	.05
914271	Y2-078	1.01
914281	Y2-079	10.11
914311	Y2-083 C OP1	11.65
914371	Y2-089	48.21

Table 30

Bus Number	Bus Name	Full Contribution
293093	U2-077	12.87
LTF	V4-050	2.36
902251	W2-023	12.66
LTF	W2-033	1.72
905091	W4-009 OP1	14.14
905181	W4-021	14.14
907461	X1-109 C	240.58
909021	X2-012 C	20.43
909171	X2-050	13.99
912291	X4-048 OP1	46.15
913171	Y1-025 C OP1	14.14
913172	Y1-025 E OP1	1.17
914371	Y2-089	17.08

Table 31

Bus Number	Bus Name	Full Contribution
293093	U2-077	12.76
LTF	V4-050	2.35
902251	W2-023	12.55
LTF	W2-033	1.75
905091	W4-009 OP1	14.03
905181	W4-021	14.03
907461	X1-109 C	237.77
909021	X2-012 C	20.2
909171	X2-050	13.86
912291	X4-048 OP1	45.47
913171	Y1-025 C OP1	14.03
913172	Y1-025 E OP1	1.16
914371	Y2-089	16.82

Table 32

Bus Number	Bus Name	Full Contribution
203283	MANOR	.01
200851	MEHOOP3	.17
294572	P-028 C	.09
294573	P-028 E	14.98
218360	SEWAREN1	1.64
218361	SEWAREN2	1.85
218362	SEWAREN3	1.68
218363	SEWAREN4	1.94
218364	SEWAREN6	1.74
293093	U2-077	10.02
LTF	V4-050	2.02
902251	W2-023	9.86
LTF	W2-033	1.75
905091	W4-009 OP1	11.03
905181	W4-021	11.04
907091	X1-013 OP1	9.44
907461	X1-109 C	117.08
909021	X2-012 C	15.75
909171	X2-050	10.86
910522	X3-003 E	2.5
912291	X4-048 OP1	34.98
913171	Y1-025 C OP1	11.03
913172	Y1-025 E OP1	.91
913311	Y1-047 OP1	1.92
913401	Y1-065 C	7.82
913402	Y1-065 E	.46
914371	Y2-089	12.94

Table 33

Bus Number	Bus Name	Full Contribution
203283	MANOR	.01
200851	MEHOOP3	.17
294572	P-028 C	.09
294573	P-028 E	14.98
218360	SEWAREN1	1.64
218361	SEWAREN2	1.85
218362	SEWAREN3	1.68
218363	SEWAREN4	1.94
218364	SEWAREN6	1.74
293093	U2-077	10.02
LTF	V4-050	2.02
902251	W2-023	9.86
LTF	W2-033	1.75
905091	W4-009 OP1	11.03
905181	W4-021	11.04
907091	X1-013 OP1	9.44
907461	X1-109 C	117.08

Bus Number	Bus Name	Full Contribution
909021	X2-012 C	15.75
909171	X2-050	10.86
910522	X3-003 E	2.5
912291	X4-048 OP1	34.98
913171	Y1-025 C OP1	11.03
913172	Y1-025 E OP1	.91
913311	Y1-047 OP1	1.92
913401	Y1-065 C	7.82
913402	Y1-065 E	.46
914371	Y2-089	12.94

Table 34

Bus Number	Bus Name	Full Contribution
204638	CAT TRAC	.04
204670	CAT TRAC	.02
213585	EDDYSTN2	7.12
204639	GLATFLTR	.07
204646	HAM CT	.05
217081	HUDSON 1	8.24
204647	HUNTR CT	.21
204574	MODRN LF	.01
204648	MOUNT CT	.09
204649	ORTAN CT	.08
315446	Q-065	-28.34
204555	QUEEN ST	.28
295952	R-011	10.11
290760	S-064	1.13
291017	S-107 1CT	2.99
291019	S-107 1ST	5.97
291018	S-107 2CT	2.99
218360	SEWAREN1	2.39
218361	SEWAREN2	2.71
218362	SEWAREN3	2.46
218363	SEWAREN4	2.85
218364	SEWAREN6	2.55
204656	TITUS 1G	2.41
204657	TITUS 2G	2.41
204658	TITUS 3G	2.41
204650	TOLNA CT	.06
887721	U1-068	.01
293093	U2-077	14.46

Bus Number	Bus Name	Full Contribution
LTF	U4-022	1.23
LTF	U4-023	1.23
900111	V4-020	19.26
900361	V4-045	7.38
LTF	V4-050	2.43
902251	W2-023	14.34
902461	W2-075	.
902601	W2-094 C	.26
903341	W3-032A 1	3.53
903351	W3-032A 2	3.53
903961	W3-175	8.52
905091	W4-009 OP1	16.65
905141	W4-016	7.81
905181	W4-021	16.96
907091	X1-013 OP1	31.89
907461	X1-109 C	2.04
909021	X2-012 C	16.52
909081	X2-025	8.82
909171	X2-050	15.14
909231	X2-066	7.06
909241	X2-067	7.07
910831	X3-068 OP1	10.81
912141	X4-020	18.34
912151	X4-021	7.34
912291	X4-048 OP1	20.91
913171	Y1-025 C OP1	16.65
913401	Y1-065 C	18.53
LTF	Y2-044	1.21
914371	Y2-089	7.74
204660	YK H STA	.03
204642	YK SOLID	.04

Table 35

Bus Number	Bus Name	Full Contribution
203283	MANOR	.01
200851	MEHOOP3	.17
294572	P-028 C	.09
294573	P-028 E	14.98
295952	R-011	6.66
291017	S-107 1CT	1.64
291019	S-107 1ST	3.29

Bus Number	Bus Name	Full Contribution
291018	S-107 2CT	1.64
218360	SEWAREN1	1.64
218361	SEWAREN2	1.85
218362	SEWAREN3	1.68
218363	SEWAREN4	1.94
218364	SEWAREN6	1.74
293093	U2-077	10.02
LTF	U4-022	.76
LTF	U4-023	.76
900111	V4-020	7.49
LTF	V4-050	2.02
902251	W2-023	9.86
LTF	W2-033	1.75
905091	W4-009 OP1	11.03
905181	W4-021	11.04
907091	X1-013 OP1	9.44
907461	X1-109 C	117.08
909021	X2-012 C	15.75
909171	X2-050	10.86
910522	X3-003 E	2.5
912141	X4-020	7.46
912291	X4-048 OP1	34.98
913171	Y1-025 C OP1	11.03
913172	Y1-025 E OP1	.91
913311	Y1-047 OP1	1.92
913401	Y1-065 C	7.82
913402	Y1-065 E	.46
914371	Y2-089	12.94

Table 36

Bus Number	Bus Name	Full Contribution
203283	MANOR	.01
200851	MEHOOP3	.17
294572	P-028 C	.09
294573	P-028 E	14.98
295952	R-011	6.66
291017	S-107 1CT	1.64
291019	S-107 1ST	3.29
291018	S-107 2CT	1.64
218360	SEWAREN1	1.64
218361	SEWAREN2	1.85

Bus Number	Bus Name	Full Contribution
218362	SEWAREN3	1.68
218363	SEWAREN4	1.94
218364	SEWAREN6	1.74
293093	U2-077	10.02
LTF	U4-022	.76
LTF	U4-023	.76
900111	V4-020	7.49
LTF	V4-050	2.02
902251	W2-023	9.86
LTF	W2-033	1.75
905091	W4-009 OP1	11.03
905181	W4-021	11.04
907091	X1-013 OP1	9.44
907461	X1-109 C	117.08
909021	X2-012 C	15.75
909171	X2-050	10.86
910522	X3-003 E	2.5
912141	X4-020	7.46
912291	X4-048 OP1	34.98
913171	Y1-025 C OP1	11.03
913172	Y1-025 E OP1	.91
913311	Y1-047 OP1	1.92
913401	Y1-065 C	7.82
913402	Y1-065 E	.46
914371	Y2-089	12.94

Table 37

Bus Number	Bus Name	Full Contribution
213585	EDDYSTN2	7.12
204646	HAM CT	.05
217081	HUDSON 1	8.24
204647	HUNTR CT	.21
204649	ORTAN CT	.08
315446	Q-065	-18.27
204555	QUEEN ST	.28
295952	R-011	10.11
290760	S-064	1.13
291017	S-107 1CT	2.99
291019	S-107 1ST	5.97
291018	S-107 2CT	2.99
218360	SEWAREN1	2.39

Bus Number	Bus Name	Full Contribution
218361	SEWAREN2	2.71
218362	SEWAREN3	2.46
218363	SEWAREN4	2.85
218364	SEWAREN6	2.55
292512	T-146 C	1.59
292513	T-146 E	6.36
204656	TITUS 1G	2.41
204657	TITUS 2G	2.41
204658	TITUS 3G	2.41
292815	U1-056 C	1.05
292816	U1-056 E	6.99
293093	U2-077	14.46
LTF	U4-022	1.23
LTF	U4-023	1.23
900111	V4-020	19.26
900361	V4-045	7.38
LTF	V4-050	2.43
902251	W2-023	14.34
902601	W2-094 C	.26
902602	W2-094 E	.45
903311	W3-028 C	1.03
903312	W3-028 E	6.96
903341	W3-032A 1	3.53
903351	W3-032A 2	3.53
903961	W3-175	8.52
905091	W4-009 OP1	16.65
905141	W4-016	7.81
905181	W4-021	16.96
907091	X1-013 OP1	31.89
909021	X2-012 C	16.52
909081	X2-025	8.82
909171	X2-050	15.14
909231	X2-066	7.06
909241	X2-067	7.07
912141	X4-020	18.34
912151	X4-021	7.34
912291	X4-048 OP1	20.91
913171	Y1-025 C OP1	16.65
913172	Y1-025 E OP1	1.38
913401	Y1-065 C	18.53
913402	Y1-065 E	1.08
LTF	Y2-044	1.21
914371	Y2-089	7.74

Table 38

Bus Number	Bus Name	Full Contribution
204638	CAT TRAC	.04
204670	CAT TRAC	.02
213585	EDDYSTN2	7.12
204639	GLATFLTR	.07
204646	HAM CT	.05
217081	HUDSON 1	8.24
204647	HUNTR CT	.21
204574	MODRN LF	.01
204648	MOUNT CT	.09
204649	ORTAN CT	.08
204653	PORT2GEN	5.6
315446	Q-065	-28.34
204555	QUEEN ST	.28
295952	R-011	10.11
290760	S-064	1.13
291017	S-107 1CT	2.99
291019	S-107 1ST	5.97
291018	S-107 2CT	2.99
218360	SEWAREN1	2.39
218361	SEWAREN2	2.71
218362	SEWAREN3	2.46
218363	SEWAREN4	2.85
218364	SEWAREN6	2.55
204656	TITUS 1G	2.41
204657	TITUS 2G	2.41
204658	TITUS 3G	2.41
204650	TOLNA CT	.06
887721	U1-068	.01
293093	U2-077	14.46
LTF	U4-022	1.23
LTF	U4-023	1.23
900111	V4-020	19.26
900361	V4-045	7.38
LTF	V4-050	2.43
902251	W2-023	14.34
902461	W2-075	.
902601	W2-094 C	.26
903341	W3-032A 1	3.53
903351	W3-032A 2	3.53
903961	W3-175	8.52
905091	W4-009 OP1	16.65

Bus Number	Bus Name	Full Contribution
905141	W4-016	7.81
905181	W4-021	16.96
907091	X1-013 OP1	31.89
907291	X1-074	6.66
909021	X2-012 C	16.52
909081	X2-025	8.82
909171	X2-050	15.14

Bus Number	Bus Name	Full Contribution
909231	X2-066	7.06
909241	X2-067	7.07
LTF	X3-050	.75
910831	X3-068 OP1	3.97
912141	X4-020	18.34
912151	X4-021	7.34
912291	X4-048 OP1	20.91

Bus Number	Bus Name	Full Contribution
913171	Y1-025 C OP1	16.65
913401	Y1-065 C	18.53
LTF	Y2-044	1.21
914371	Y2-089	7.74
204660	YK H STA	.03
204642	YK SOLID	.04