APPENDIX C NOISE CALCULATIONS

TABLE Existing-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 62nd Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2000 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.76

DISTANCE	(FEET) FROM	ROADWAY CENTER	LINE	TO Ldn
70 Ldn	65 Ldn	60 Ldn	55	Ldn
0.0	0.0	0.0		73.2

TABLE Existing-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Horton Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.37

DISTANCE	(FEET) FROM	ROADWAY CENTERI	JINE	TO Ldn
70 Ldn	65 Ldn	60 Ldn	55	Ldn
0.0	0.0	0.0		80.3

TABLE Existing-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Hollis Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8700 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.14

DISTANCE	(FEET) FROM	ROADWAY CENTER	LINE TO Ldn
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	90.4	194.3

TABLE Existing-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 59th Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 50.4 108.0

TABLE Ex PP Op1-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 62nd Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Ex PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 0.0 87.1

TABLE Ex PP Op1-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Horton Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Ex PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2900 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT ___ ____ AUTOS 88.08 9.34 M-TRUCKS 1.65 0.19 H-TRUCKS

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.37

DISTANCE	(FEET) FROM	ROADWAY CENTER	LINE TO Ldn
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	93.6

TABLE Ex PP Op1-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Hollis Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Ex PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9700 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

_ ____

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.62

DISTANCE	(FEET) FROM	ROADWAY CENTER	LINE	TO Ldn
70 Ldn	65 Ldn	60 Ldn	55	Ldn
0.0	0.0	97.2	2	209.0

TABLE Ex PP Op1-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 59th Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Ex PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 59.3 127.2

TABLE Ex PP Op2-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 62nd Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Ex PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2600 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

NIGHT DAY AUTOS 9.34 88.08 M-TRUCKS 1.65 0.19 H-TRUCKS

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.90

DISTANCE	(FEET) FROM	ROADWAY CENTERI	JINE	TO Ldn
70 Ldn	65 Ldn	60 Ldn	55	Ldn
0.0	0.0	0.0		87.1

TABLE Ex PP Op2-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Horton Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Ex PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT AUTOS 88.08 9.34 M-TRUCKS 1.65 0.19 H-TRUCKS 0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.22

DISTANCE	(FEET) FROM	ROADWAY CENTER	LINE TO Ldn
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	91.4

TABLE Ex PP Op2-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Hollis Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Ex PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.83

DISTANCE	(FEET) FROM	ROADWAY CENTER	LINE TO Ldn
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	100.4	216.1

TABLE Ex PP Op2-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 59th Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Ex PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT
--- -----AUTOS
88.08 9.34
M-TRUCKS
1.65 0.19

H-TRUCKS 0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.08

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 56.7 121.6

TABLE Cumulative NP-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 62nd Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Cumulative NP

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2700 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT _ _ _ ____ AUTOS 88.08 9.34 M-TRUCKS 0.19 1.65 H-TRUCKS

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.06

DISTANCE	(FEET) FROM	ROADWAY CENTER	LINE	TO Ldn
70 Ldn	65 Ldn	60 Ldn	55	Ldn
0.0	0.0	0.0		89.3

TABLE Cumulative NP-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Horton Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Cumulative NP

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT
--- -----AUTOS
88.08 9.34
M-TRUCKS
1.65 0.19

H-TRUCKS 0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 0.0 99.9

TABLE Cumulative NP-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Hollis Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Cumulative NP

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12700 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 54.2 116.2 250.0

TABLE Cumulative NP-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 59th Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Cumulative NP

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT
--- -----AUTOS
88.08 9.34
M-TRUCKS
1.65 0.19

H-TRUCKS 0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 64.3 138.0

TABLE Cum PP Op1-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 62nd Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Cum PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.93

DISTANCE	(FEET) FROM	ROADWAY CENTERI	INE	TO Ldn
70 Ldn	65 Ldn	60 Ldn	55	Ldn
0.0	0.0	0.0	1	.02.0

TABLE Cum PP Op1-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Horton Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Cum PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT
--- -----AUTOS
88.08 9.34
M-TRUCKS
1.65 0.19

H-TRUCKS

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 52.3 112.0

TABLE Cum PP Op1-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Hollis Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Cum PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT

AUTOS

88.08 9.34

M-TRUCKS

1.65 0.19

H-TRUCKS

0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 57.2 122.8 264.2

TABLE Cum PP Op1-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 59th Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Cum PP Op1

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT
--- ----AUTOS
88.08 9.34
M-TRUCKS

1.65 0.19

H-TRUCKS 0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 72.2 155.1

TABLE Cum PP Op2-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 62nd Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Cum PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY NIGHT
--- ----AUTOS
88.08 9.34
M-TRUCKS

1.65 0.19

H-TRUCKS 0.66 0.08

0.00

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn
70 Ldn 65 Ldn 60 Ldn 55 Ldn
----- 0.0 0.0 0.0 102.0

TABLE Cum PP Op2-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Horton Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Cum PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

0.66 0.08

H-TRUCKS

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.55

DISTANCE	(FEET) FROM	ROADWAY CENTERL	INE	TO Ldn
70 Ldn	65 Ldn	60 Ldn		Ldn
0.0	0.0	52.3	1	L12.0

TABLE Cum PP Op2-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: Hollis Street - 62nd Street to 59th Street

NOTES: Emeryville Transit Center - Cum PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14300 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

NIGHT DAY ____ ___ AUTOS 9.34 88.08 M-TRUCKS 0.19 1.65 H-TRUCKS 0.66 0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn 70 Ldn 65 Ldn 60 Ldn 55 Ldn _____ _____ _____ _____ 58.6 0.0 125.7 270.6

TABLE Cum PP Op2-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/29/2009

ROADWAY SEGMENT: 59th Street - Horton Street to Hollis Street

NOTES: Emeryville Transit Center - Cum PP Op2

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5900 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.46

DISTANCE	(FEET) FROM	ROADWAY CENTERI	INE	TO Ldn
70 Ldn	65 Ldn	60 Ldn	55	Ldn
0.0	0.0	69.9	1	L50.1