

Appendix H | Big Data Performance Analysis

H.1 | Reliability Analysis

The Reliability Segments which are defined for all freeways in Alameda County as described in Chapter 7 of the main report. Table H-1 lists the Reliability Segments by their ID (N1 to N38). This table also gives their results.

Additionally the following collections of graphs are presented.

- Figure H-1 gives the travel time distributions of all Reliability Segments.
- Figures H-2 and H-3 show the reliability on the entire freeway network, for the morning and afternoon peak periods respectively.

Summaries of the performance measures used in these tables are provided below:

- 95% Travel Time: 95th Percentile Travel time
- Free Flow Travel Time: Equal to the travel time at 65 mph.
- PTI – Planning Time Index: 95th percentile travel time divided by the free flow travel time
- Mean Travel Time: Mean of travel times.
- BTI – Buffer Time Index – (95th Percentile Travel Time – Mean Travel Time) / Mean Travel time

Table H-1: Reliability Segment Results

Reliability Segment ID	Description	Peak Period	Direction	New ID	Segment Length (mi)	95% Travel Time (min)	Free Flow Travel Time (min)	PTI	Mean Travel Time (min)	BTI	Note
N1	I-80 - EB from SF County Line to Toll Plaza	AM	EB	1	5.3	6.7	4.9	1.4	5.7	0.2	
N1	I-80 - EB from SF County Line to Toll Plaza	PM	EB	1	5.3	9.7	4.9	2.0	7.4	0.3	
N4	I-80 - WB from Toll Plaza to SF County Line	AM	WB	1	5.3	15.3	4.9	3.1	10.5	0.4	
N4	I-80 - WB from Toll Plaza to SF County Line	PM	WB	1	5.3	21.0	4.9	4.3	11.4	0.8	
N2	I-80 - EB from Toll Plaza to Contra Costa County Line	AM	EB	2	6.1	6.0	5.6	1.1	5.0	0.2	
N2	I-80 - EB from Toll Plaza to Contra Costa County Line	PM	EB	2	6.1	24.9	5.6	4.5	17.9	0.4	
N3	I-80 - WB from Contra Costa County Line to Toll Plaza	AM	WB	2	6.0	32.1	5.5	5.8	19.7	0.6	
N3	I-80 - WB from Contra Costa County Line to Toll Plaza	PM	WB	2	6.0	25.4	5.5	4.6	12.0	1.1	
N6	I-238 - WB from I-580 to I-880	AM	NB	3	2.5	12.6	2.3	5.5	6.9	0.8	
N6	I-238 - WB from I-580 to I-880	PM	NB	3	2.5	4.6	2.3	2.0	3.0	0.5	
N5	I-238 - EB from I-880 to I-580	AM	SB	3	2.6	5.9	2.4	2.5	3.3	0.8	
N5	I-238 - EB from I-880 to I-580	PM	SB	3	2.6	6.6	2.4	2.8	4.7	0.4	

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Table H-1: Reliability Segment Results

Reliability Segment ID	Description	Peak Period	Direction	New ID	Segment Length (mi)	95% Travel Time (min)	Free Flow Travel Time (min)	PTI	Mean Travel Time (min)	BTI	Note
N15	I-580 - EB from Contra Costa County Line to I-80	AM	EB	4	0.7	2.7	0.6	4.1	1.8	0.5	
N15	I-580 - EB from Contra Costa County Line to I-80	PM	EB	4	0.7	1.9	0.6	3.0	0.9	1.2	
N16	I-580 - WB from I-80 to Contra Costa County Line	AM	WB	4	0.9	0.9	0.8	1.1	0.8	0.1	
N16	I-580 - WB from I-80 to Contra Costa County Line	PM	WB	4	0.9	1.0	0.8	1.3	0.9	0.1	
N11	I-580 - EB from I-80 to SR 13	AM	EB	5	7.5	7.4	7.0	1.1	6.8	0.1	
N11	I-580 - EB from I-80 to SR 13	PM	EB	5	7.5	28.7	7.0	4.1	17.8	0.6	
N14	I-580 - WB from SR 13 to I-80	AM	WB	5	7.7	20.8	7.1	2.9	13.9	0.5	
N14	I-580 - WB from SR 13 to I-80	PM	WB	5	7.7	11.9	7.1	1.7	8.7	0.4	
N12	I-580 - EB from SR 13 to I-238	AM	EB	6	7.9	7.4	7.3	1.0	7.0	0.1	
N12	I-580 - EB from SR 13 to I-238	PM	EB	6	7.9	9.0	7.3	1.2	8.2	0.1	
N13	I-580 - WB from I-238 to SR 13	AM	WB	6	7.9	23.8	7.3	3.3	14.1	0.7	
N13	I-580 - WB from I-238 to SR 13	PM	WB	6	7.9	9.7	7.3	1.3	7.4	0.3	
N7	I-580 - EB from I-238 to I-680	AM	EB	7	10.4	18.4	9.6	1.9	12.3	0.5	
N7	I-580 - EB from I-238 to I-680	PM	EB	7	10.4	27.9	9.6	2.9	16.4	0.7	
N10	I-580 - WB from I-680 to I-238	AM	WB	7	10.3	12.4	9.5	1.3	9.8	0.3	
N10	I-580 - WB from I-680 to I-238	PM	WB	7	10.3	12.7	9.5	1.3	10.1	0.3	
N8	I-580 - EB from I-680 to I-205	AM	EB	8	20.0	-	-	-	-	-	[1]
N8	I-580 - EB from I-680 to I-205	PM	EB	8	20.0	-	-	-	-	-	[1]
N9	I-580 - WB from I-205 to I-680	AM	WB	8	19.9	-	-	-	-	-	[1]
N9	I-580 - WB from I-205 to I-680	PM	WB	8	19.9	-	-	-	-	-	[1]
N17	I-680 - NB from Santa Clara County Line to SR 238 (Mission Blvd)	AM	NB	9	6.3	6.2	5.8	1.1	5.7	0.1	
N17	I-680 - NB from Santa Clara County Line to SR 238 (Mission Blvd)	PM	NB	9	6.3	42.6	5.8	7.3	28.3	0.5	
N22	I-680 - SB from SR 238 (Mission Blvd) to Santa Clara County Line	AM	SB	9	6.4	8.8	5.9	1.5	6.8	0.3	
N22	I-680 - SB from SR 238 (Mission Blvd) to Santa Clara County Line	PM	SB	9	6.4	6.1	5.9	1.0	5.5	0.1	
N18	I-680 - NB from SR 238 (Mission Blvd) to I-580	AM	NB	10	13.1	13.5	12.1	1.1	11.5	0.2	
N18	I-680 - NB from SR 238 (Mission Blvd) to I-580	PM	NB	10	13.1	28.2	12.1	2.3	23.3	0.2	
N21	I-680 - SB from I-580 to SR 238 (Mission Blvd)	AM	SB	10	13.1	27.2	12.1	2.2	17.6	0.5	

Table H-1: Reliability Segment Results

Reliability Segment ID	Description	Peak Period	Direction	New ID	Segment Length (mi)	95% Travel Time (min)	Free Flow Travel Time (min)	PTI	Mean Travel Time (min)	BTI	Note
N21	I-680 - SB from I-580 to SR 238 (Mission Blvd)	PM	SB	10	13.1	12.7	12.1	1.1	11.7	0.1	
N19	I-680 - NB from I-580 to Contra Costa County Line	AM	NB	11	1.9	5.5	1.7	3.2	3.0	0.9	
N19	I-680 - NB from I-580 to Contra Costa County Line	PM	NB	11	1.9	1.9	1.7	1.1	1.7	0.1	
N20	I-680 - SB from Contra Costa County Line to I-580	AM	SB	11	1.9	2.3	1.7	1.3	1.8	0.3	
N20	I-680 - SB from Contra Costa County Line to I-580	PM	SB	11	1.9	1.8	1.7	1.0	1.7	0.1	
N23	I-880 - NB from Santa Clara County Line to SR 84 / Decoto Rd	AM	NB	12	10.1	10.0	9.3	1.1	9.3	0.1	
N23	I-880 - NB from Santa Clara County Line to SR 84 / Decoto Rd	PM	NB	12	10.1	35.5	9.3	3.8	24.6	0.4	
N28	I-880 - SB from SR 84 / Decoto Rd to Santa Clara County Line	AM	SB	12	10.1	21.8	9.3	2.3	15.8	0.4	
N28	I-880 - SB from SR 84 / Decoto Rd to Santa Clara County Line	PM	SB	12	10.1	11.1	9.3	1.2	9.7	0.1	
N24	I-880 - NB from SR 84 / Decoto Rd to SR 92	AM	NB	13	6.4	10.9	5.9	1.9	7.4	0.5	
N24	I-880 - NB from SR 84 / Decoto Rd to SR 92	PM	NB	13	6.4	27.4	5.9	4.7	18.8	0.5	
N27	I-880 - SB from SR 92 to SR 84 / Decoto Rd	AM	SB	13	6.4	25.1	5.9	4.3	14.8	0.7	
N27	I-880 - SB from SR 92 to SR 84 / Decoto Rd	PM	SB	13	6.4	9.7	5.9	1.6	7.2	0.3	
N25	I-880 - NB from SR 92 to I-80	AM	NB	14	18.9	48.0	17.5	2.7	31.8	0.5	
N25	I-880 - NB from SR 92 to I-80	PM	NB	14	18.9	40.5	17.5	2.3	27.4	0.5	
N26	I-880 - SB from I-80 to SR 92	AM	SB	14	18.8	30.9	17.3	1.8	21.9	0.4	
N26	I-880 - SB from I-80 to SR 92	PM	SB	14	18.8	55.3	17.3	3.2	32.9	0.7	
N30	I-980 - EB from I-880 to I-580	AM	EB	15	2.4	2.6	2.2	1.1	2.4	0.1	
N30	I-980 - EB from I-880 to I-580	PM	EB	15	2.4	6.0	2.2	2.7	3.4	0.8	
N29	I-980 - WB from I-580 to I-880	AM	WB	15	2.5	3.1	2.3	1.3	2.5	0.2	
N29	I-980 - WB from I-580 to I-880	PM	WB	15	2.5	3.3	2.3	1.5	2.4	0.4	
N31	SR 13 - NB from I-580 to SR 24	AM	NB	16	5.8	17.9	5.4	3.3	10.0	0.8	
N31	SR 13 - NB from I-580 to SR 24	PM	NB	16	5.8	15.7	5.4	2.9	10.4	0.5	
N32	SR 13 - SB from SR 24 to I-580	AM	SB	16	5.9	6.7	5.5	1.2	5.6	0.2	
N32	SR 13 - SB from SR 24 to I-580	PM	SB	16	5.9	16.4	5.5	3.0	10.6	0.6	
N33	SR 24 - EB from I-580 to Contra Costa County Line	AM	EB	17	4.5	4.9	4.2	1.2	4.4	0.1	
N33	SR 24 - EB from I-580 to Contra Costa County Line	PM	EB	17	4.5	27.3	4.2	6.5	19.6	0.4	

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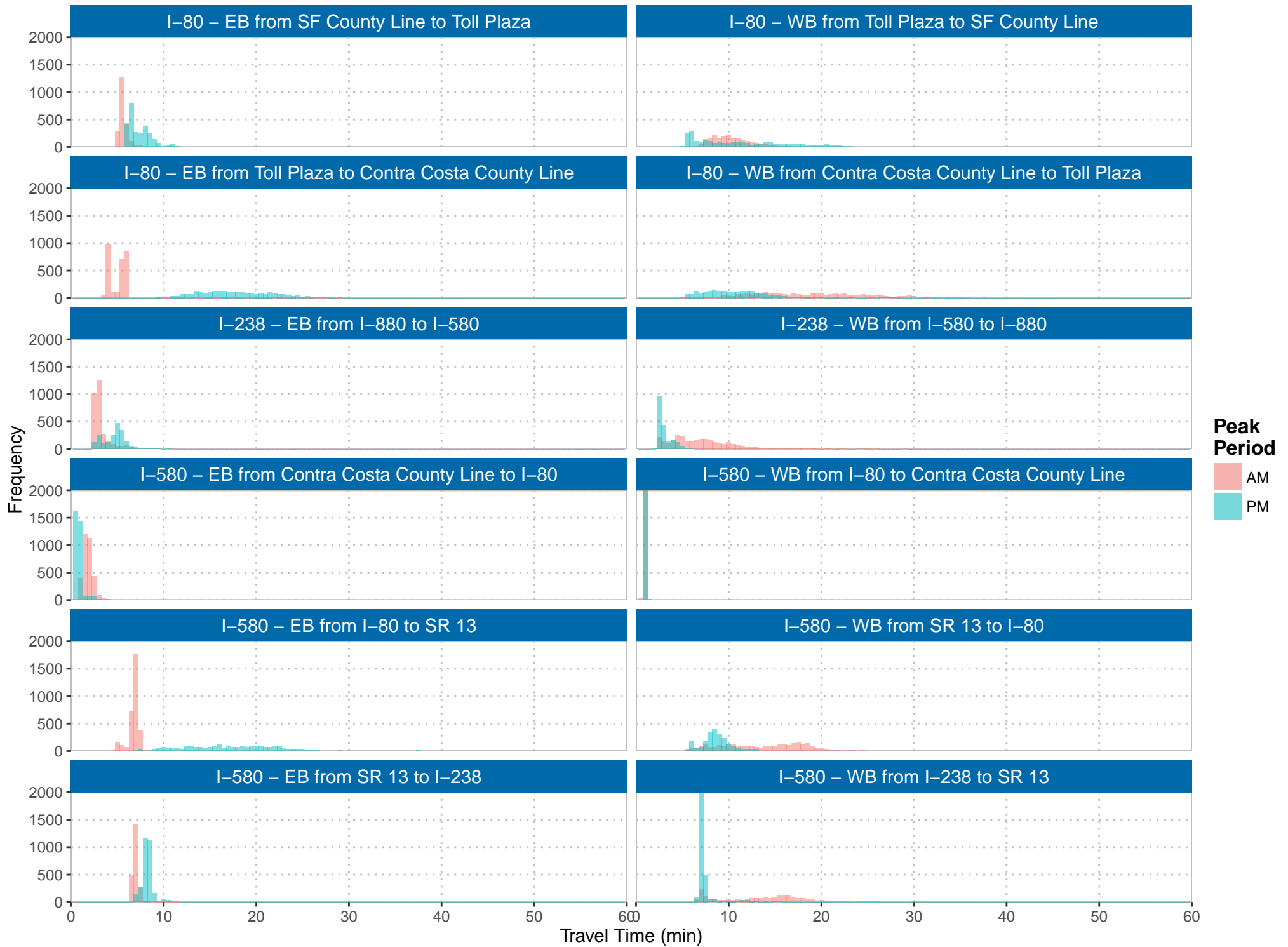
Table H-1: Reliability Segment Results

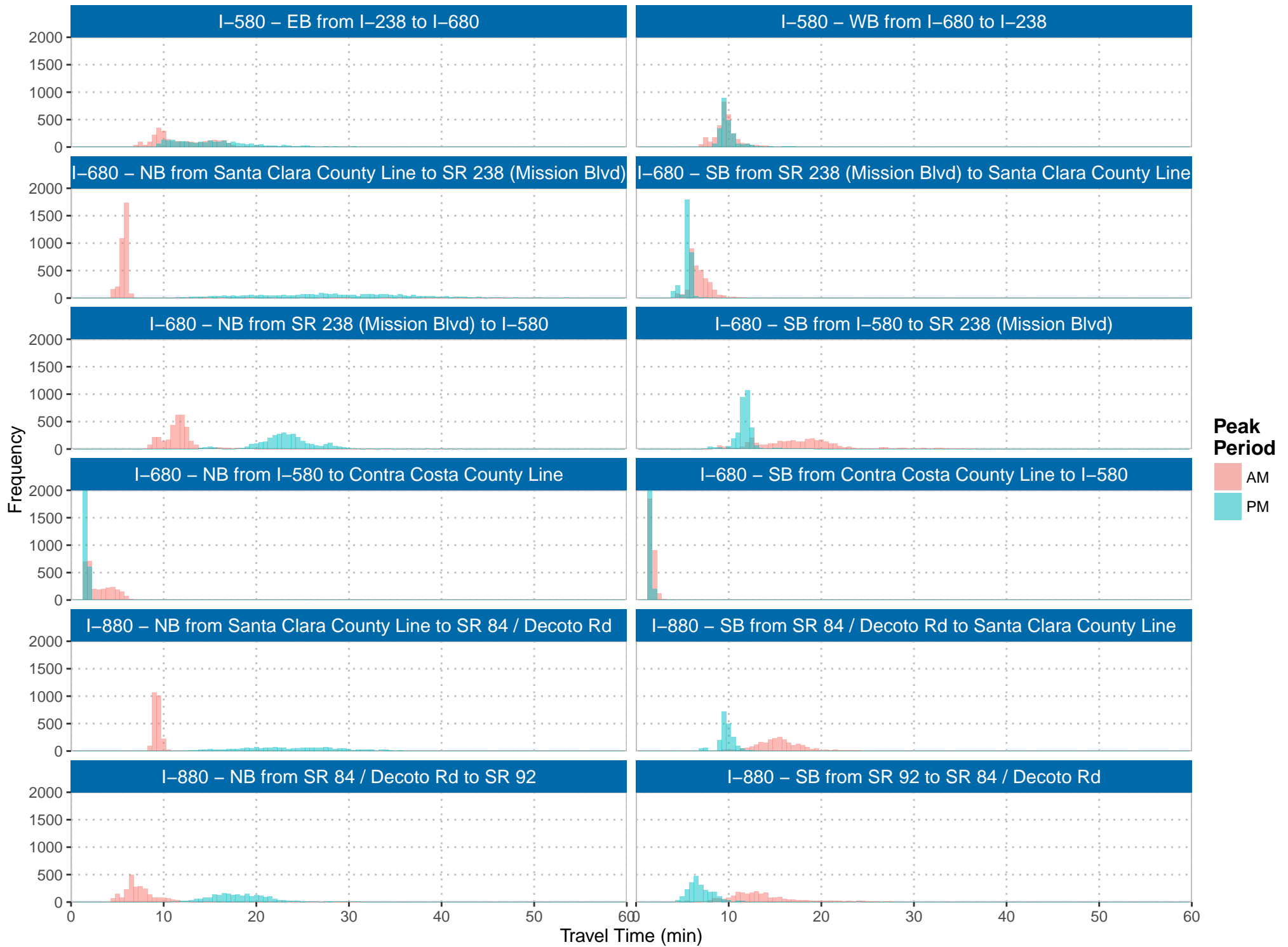
Reliability Segment ID	Description	Peak Period	Direction	New ID	Segment Length (mi)	95% Travel Time (min)	Free Flow Travel Time (min)	PTI	Mean Travel Time (min)	BTI	Note
N34	SR 24 - WB from Contra Costa County Line to I-580	AM	WB	17	4.6	6.7	4.2	1.6	4.9	0.4	
N34	SR 24 - WB from Contra Costa County Line to I-580	PM	WB	17	4.6	5.4	4.2	1.3	4.2	0.3	
N35	SR 84 - EB from Dumbarton Bridge Western Landing to I-880	AM	EB	18	7.5	8.0	6.9	1.2	7.0	0.1	
N35	SR 84 - EB from Dumbarton Bridge Western Landing to I-880	PM	EB	18	7.5	18.3	6.9	2.6	12.1	0.5	
N36	SR 84 - WB from I-880 to Dumbarton Bridge Western Landing	AM	WB	18	7.5	20.2	6.9	2.9	13.9	0.5	
N36	SR 84 - WB from I-880 to Dumbarton Bridge Western Landing	PM	WB	18	7.5	8.8	6.9	1.3	7.5	0.2	
N37	SR 92 - EB from Foster City Blvd to I-880	AM	EB	19	11.7	11.2	10.8	1.0	10.0	0.1	
N37	SR 92 - EB from Foster City Blvd to I-880	PM	EB	19	11.7	23.8	10.8	2.2	19.4	0.2	
N38	SR 92 - WB from I-880 to Foster City Blvd	AM	WB	19	11.7	30.5	10.8	2.8	20.8	0.5	
N38	SR 92 - WB from I-880 to Foster City Blvd	PM	WB	19	11.7	11.7	10.8	1.1	10.7	0.1	

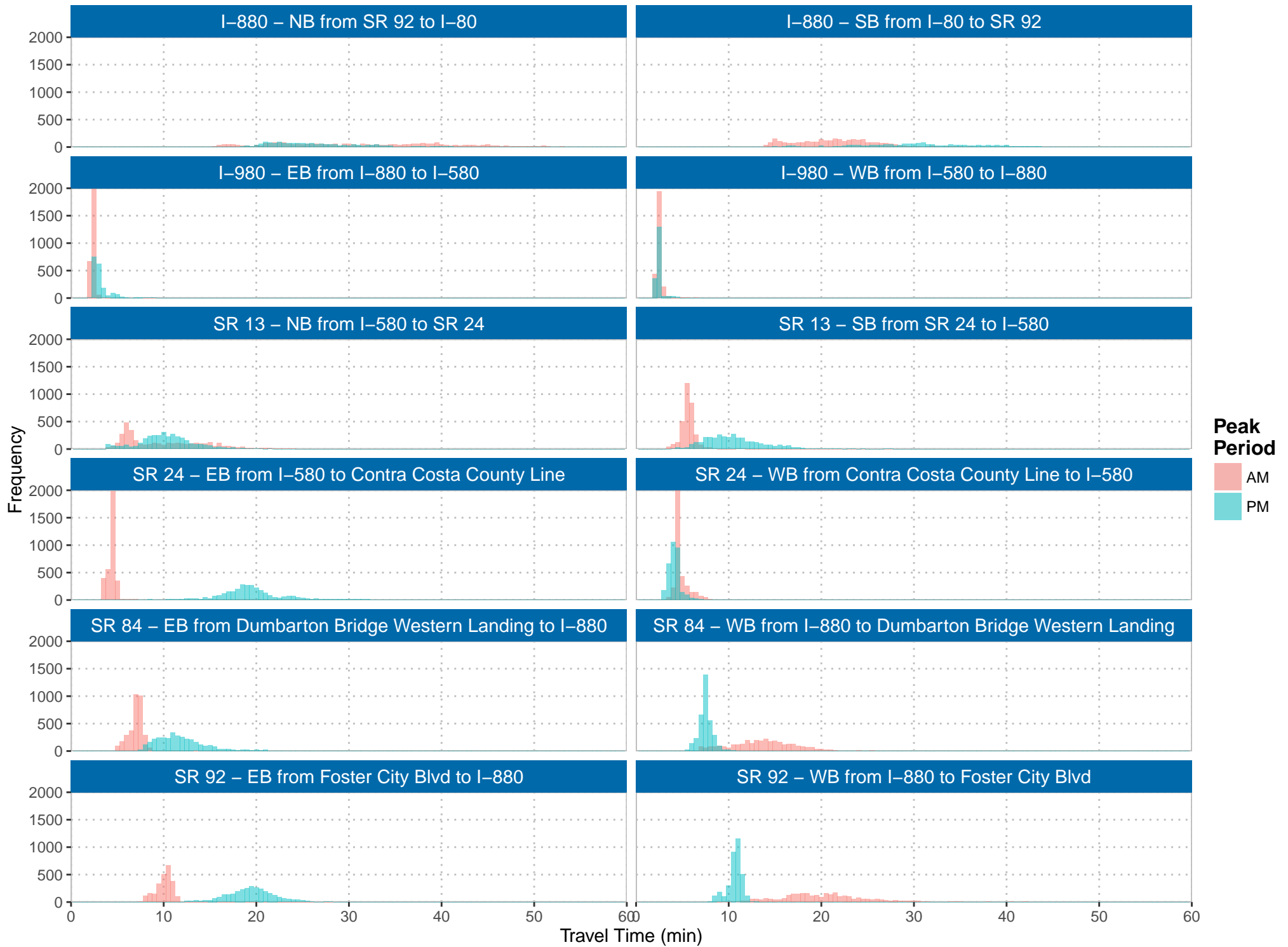
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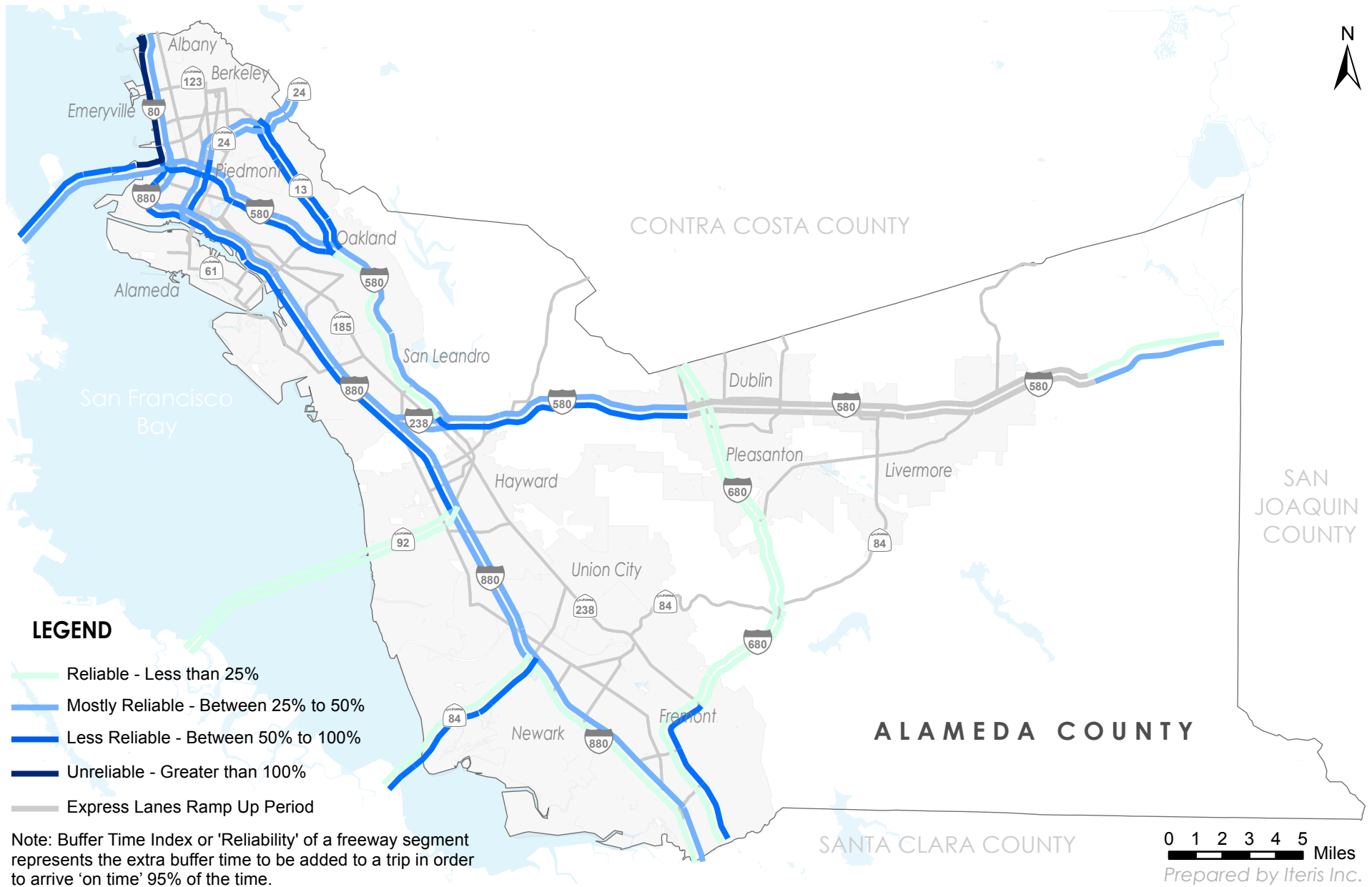
[1] Express Lane Ramp Up Period

Figure H-1: Reliability Travel Time Distributions









LEGEND

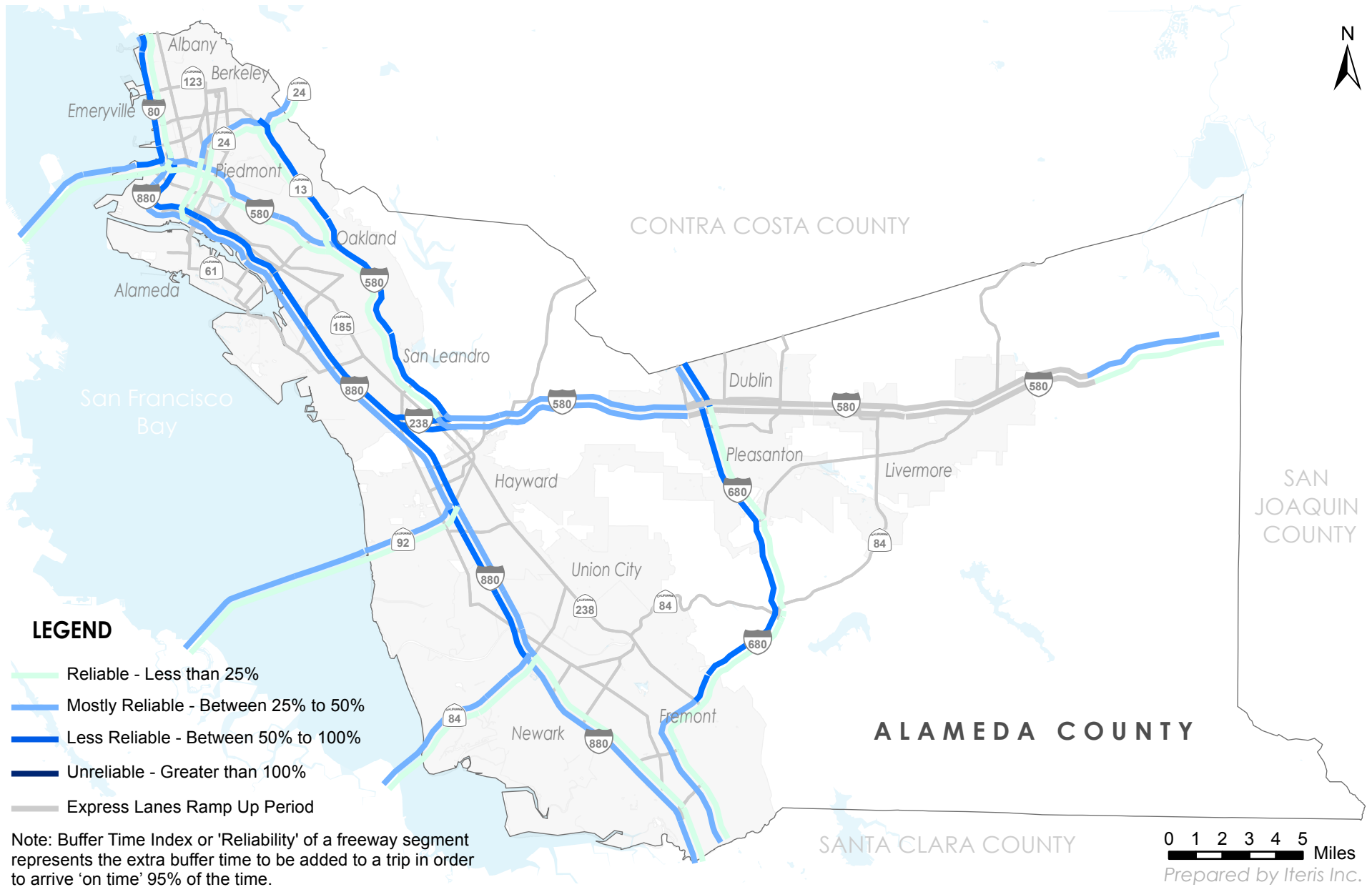
- Reliable - Less than 25%
- Mostly Reliable - Between 25% to 50%
- Less Reliable - Between 50% to 100%
- Unreliable - Greater than 100%
- Express Lanes Ramp Up Period

Note: Buffer Time Index or 'Reliability' of a freeway segment represents the extra buffer time to be added to a trip in order to arrive 'on time' 95% of the time.

0 1 2 3 4 5 Miles
Prepared by Iteris Inc.



**2016 LEVEL OF SERVICE MONITORING ADDITIONAL RESULTS:
RELIABILITY/BUFFER TIME INDEX - PM PEAK PERIOD**



- LEGEND**
- Reliable - Less than 25%
 - Mostly Reliable - Between 25% to 50%
 - Less Reliable - Between 50% to 100%
 - Unreliable - Greater than 100%
 - Express Lanes Ramp Up Period

Note: Buffer Time Index or 'Reliability' of a freeway segment represents the extra buffer time to be added to a trip in order to arrive 'on time' 95% of the time.

0 1 2 3 4 5 Miles
Prepared by Iteris Inc.



2016 LEVEL OF SERVICE MONITORING ADDITIONAL RESULTS: RELIABILITY/BUFFER TIME INDEX - AM PEAK PERIOD

H.2 | Duration of Congestion

The duration of congestion throughout the day is given for all freeway CMP segments in Table H-3, and shown on the map in Figure H-5.

Table H-2: Duration of Congestion Analysis Results

CMP	Description	Length (mi)	Duration of Congestion (Avg. mins per day)	Note
F1	I-80 - EB from SF County Line to Toll Plaza	2.0	7	
F2	I-80 - EB from Toll Plaza to I-580 SB Merge	1.3	145	
F3	I-80 - EB from I-80/I-580 (Merge) to Powell	0.5	238	
F4	I-80 - EB from Powell to Ashby	0.7	223	
F5	I-80 - EB from Ashby to University	1.3	174	
F6	I-80 - EB from University to Jct I-580 (off)	1.4	96	
F7	I-80 - EB from Jct I-580 (off) to Central (County Line)	0.8	46	
F8	I-80 - WB from Central (County Line) to Jct I-580	0.7	214	
F9	I-80 - WB from Jct I-580 to University	1.5	310	
F10	I-80 - WB from University to Ashby	1.3	394	
F11	I-80 - WB from Ashby to Powell	0.7	442	
F12	I-80 - WB from Powell to I-80/I-580 (Split)	0.5	276	
F13	I-80 - WB from I-580 Split to Toll Plaza	1.3	286	
F14	I-80 - WB from Toll Plaza to SF County	2.0	291	
F15	I-238 - EB from I-880 to I-580	2.6	58	
F16	I-238 - WB from I-580 to I-880	2.5	122	
F17	I-580 - EB from I-580/I-238 changed fm (I-238/Fthl Off) to Grove	2.7	58	
F18	I-580 EB from Grove to Eden Canyon	2.2	33	
F19	I-580 EB from Eden Canyon to San Ramon/ Foothill	4.8	36	
F20	I-580 EB from San Ramon/ Foothill to I-680	0.7	-	[1]
F21	I-580 EB from I-680 to Hopyard	0.9	-	[1]
F22	I-580 EB from Hopyard to Santa Rita	1.9	-	[1]
F23	I-580 EB from Santa Rita to El Charro	1.2	-	[1]
F24	I-580 EB from El Charro to SR 84/Airway Blvd.	1.7	-	[1]
F25	I-580 EB from SR 84/Airway Blvd. to Portola	1.7	-	[1]
F26	I-580 - EB from Portola to 1st St	2.5	-	[1]

Table H-2: Duration of Congestion Analysis Results

CMP	Description	Length (mi)	Duration of Congestion (Avg. mins per day)	Note
F27	I-580 - EB from 1st St to Greenville	2.1	-	[1]
F28	I-580 - EB from Greenville to N.Flynn	2.7	65	
F29	I-580 - EB from N.Flynn to Grant Line	4.3	13	
F30	I-580 - EB from Grant Line to I-205 (SJ Co) Off	0.9	2	
F31	I-580 - WB from I-205 (SJ Co) to Grant Line	0.7	177	
F32	I-580 - WB from Grant Line to N Flynn	4.6	107	
F33	I-580 - WB from N Flynn to Greenville Rd	2.4	5	
F34	I-580 - WB from Greenville Rd to 1st St	2.2	-	[1]
F35	I-580 - WB from 1st St to Portola Ave	2.5	-	[1]
F36	I-580 - WB from Portola to SR 84/Airway Blvd	1.7	-	[1]
F37	I-580 - WB from SR 84/Airway Blvd to Fallon Rd/El Charro	1.7	-	[1]
F38	I-580 - WB from Fallon Rd/El Charro to Tassajara	1.2	-	[1]
F39	I-580 - WB from Tassajara Rd to I-680	2.8	-	[1]
F40	I-580 - WB from I-680 to San Ramon Rd	0.7	-	[1]
F41	I-580 - WB from San Ramon Rd to Eden Caynon	4.8	1	
F42	I-580 - WB from Eden Canyon to Center St	2.5	3	
F43	I-580 - WB from Center to I-580/238	2.3	11	
F44	I-580 - EB from I-80 to I-980	1.3	116	
F45	I-580 - EB from I-980 to Harrison	1.0	134	
F46	I-580 - EB from Harrison to Lakeshore	0.8	136	
F47	I-580 - EB from Lakeshore to Coolidge	2.2	46	
F48	I-580 - EB from Coolidge to SH 13 Off	2.2	89	
F49	I-580 - EB from SH 13 Off to MacArthur	4.1	1	
F50	I-580 - EB from MacArthur to I-580/238	3.8	0	
F51	I-580 - WB from I-238 to Foothill/MacArthur	3.9	17	
F52	I-580 - WB from Foothill/MacArthur to SH 13 Off	4.0	55	
F53	I-580 - WB from SH 13 Off to Fruitvale	2.6	99	
F54	I-580 - WB from Fruitvale to Harrison	2.7	10	
F55	I-580 - WB from Harrison to SH 24 On-ramp	1.2	18	
F56	I-580 - WB from SH-24 On-ramp to I-80/580 Split	1.2	289	
F57	I-580 - EB from Central (County Line) to I-80 Jct	0.7	157	

Table H-2: Duration of Congestion Analysis Results

CMP	Description	Length (mi)	Duration of Congestion (Avg. mins per day)	Note
F58	I-580 - WB from I-80 Jct to Central (County Line)	0.9	1	
F59	I-680 - NB from Scott Creek Rd to Rt 262/Mission	2.3	50	
F60	I-680 - NB from Rt 262/Mission to Durham Rd	1.6	251	
F61	I-680 - NB from Durham Rd to Washington Blvd	1.3	262	
F62	I-680 - NB from Washington Blvd to Rt 238/Mission	1.1	240	
F63	I-680 NB from SR 238/Mission to Vargas Rd	1.1	221	
F64	I-680 NB from Vargas Rd to Andrade Rd	2.2	270	
F65	I-680 NB from Andrade Rd to Calaveras	1.2	142	
F66	I-680 NB from Calaveras to Rt.84/Vallecitos	0.4	4	
F67	I-680 NB from SR 84 to Sunol Blvd	3.5	0	
F68	I-680 NB from Sunol Blvd. to Bernal Ave	1.5	3	
F69	I-680 NB from Bernal Ave to Stoneridge Dr	2.5	2	
F70	I-680 NB from Stoneridge Dr to I-580	0.7	22	
F71	I-680 - NB from I-580 to Alcosta	1.9	38	
F72	I-680 - SB from Alcosta to I-580	1.9	2	
F73	I-680 SB from I-580 to Stoneridge Dr	0.7	31	
F74	I-680 SB from Stoneridge Dr to Bernal	2.5	78	
F75	I-680 SB from Bernal Ave. to Sunol Blvd	1.5	102	
F76	I-680 SB from Sunol Blvd. to SR 84	3.7	10	
F77	I-680 SB from SR 84 (Niles Canyon) to Andrade Rd	1.3	1	
F78	I-680 SB from Andrade Rd to Sheridan Rd	1.4	0	
F79	I-680 SB from Sheridan Rd to Vargas Rd	0.8	2	
F80	I-680 SB from Vargas Rd to SR 238/Mission	1.1	1	
F81	I-680 - SB from Rt 238/Mission to Washington Blvd	1.1	2	
F82	I-680 - SB from Washington Blvd to Durham Rd	1.4	24	
F83	I-680 - SB from Durham Rd to Rt 262/Mission	1.6	9	
F84	I-680 - SB from Rt 262/Mission to Scott Creek Rd	2.2	0	
F85	I-880 - NB from Dix Landing to SR 262/Mission	2.1	136	
F86	I-880 - NB from SR 262/Mission to AutoMall Pkwy	2.4	86	
F87	I-880 - NB from AutoMall Pkwy to Stevenson	1.5	19	
F88	I-880 - NB from Stevenson to Decoto	4.1	123	

Table H-2: Duration of Congestion Analysis Results

CMP	Description	Length (mi)	Duration of Congestion (Avg. mins per day)	Note
F89	I-880 - NB from Decoto to Alvarado Blvd	1.2	243	
F90	I-880 - NB from Alvarado Blvd to Alvarado-Niles Blvd	1.6	231	
F91	I-880 - NB from Alv-Niles to Tennyson	2.6	253	
F92	I-880 - NB from Tennyson to SR 92	1.0	223	
F93	I-880 - NB from SR 92 to A St	1.7	122	
F94	I-880 - NB from A St to I-238 (Marina before 06)	1.9	36	
F95	I-880 - NB from I-880/I238 (split) to Marina Blvd	2.5	97	
F96	I-880 - NB from Marina Blvd to SR 112/Davis	0.8	137	
F97	I-880 - NB from SR 112/Davis to Hegenberger	1.8	108	
F98	I-880 - NB from Hegenberger to High/42nd	2.3	167	
F99	I-880 - NB from High/42nd to 23rd (1st on)	1.2	146	
F100	I-880 - NB from 23RD (1ST on) to Jct 980 (off)	2.6	2	
F101	I-880 - NB from Jct 980 (off) to I-880/I-80 split	2.4	10	
F102	I-880 - NB from I-880/I-80 (split) to I-880/I-80 (merge)	1.4	196	
F103	I-880 - SB from I-880/I-80 split to I-880/I-80 merge	1.3	0	
F104	I-880 - SB from I-880/I-80 merge to Jct 980	2.5	106	
F105	I-880 - SB from I-980 to 23rd	2.7	158	
F106	I-880 - SB from 23rd St to High/42nd	1.1	43	
F107	I-880 - SB from High/42nd to Hegenberger	2.4	13	
F108	I-880 - SB from Hegenberger to SR 112/Davis	1.8	6	
F109	I-880 - SB from SR 112/Davis to Marina Blvd	0.8	12	
F110	I-880 - SB from Marina Blvd to SR 238 WB (merge)	2.5	24	
F111	I-880 - SB from I-238 (Marina before 06) to A St	1.9	169	
F112	I-880 - SB from A St to Rt 92	1.7	99	
F113	I-880 - SB from Rt 92 to Tennyson	1.0	158	
F114	I-880 - SB from Tennyson to Alv-Niles	2.6	102	
F115	I-880 - SB from Alvarado-Niles to Alvarado	1.6	101	
F116	I-880 - SB from Alvarado to Decoto	1.2	68	
F117	I-880 - SB from Decoto to Stevenson	4.1	58	
F118	I-880 - SB from Stevenson to AutoMall Pkwy	1.5	11	
F119	I-880 - SB from AutoMall Pkwy to Rt 262/Mission	2.8	30	

Table H-2: Duration of Congestion Analysis Results

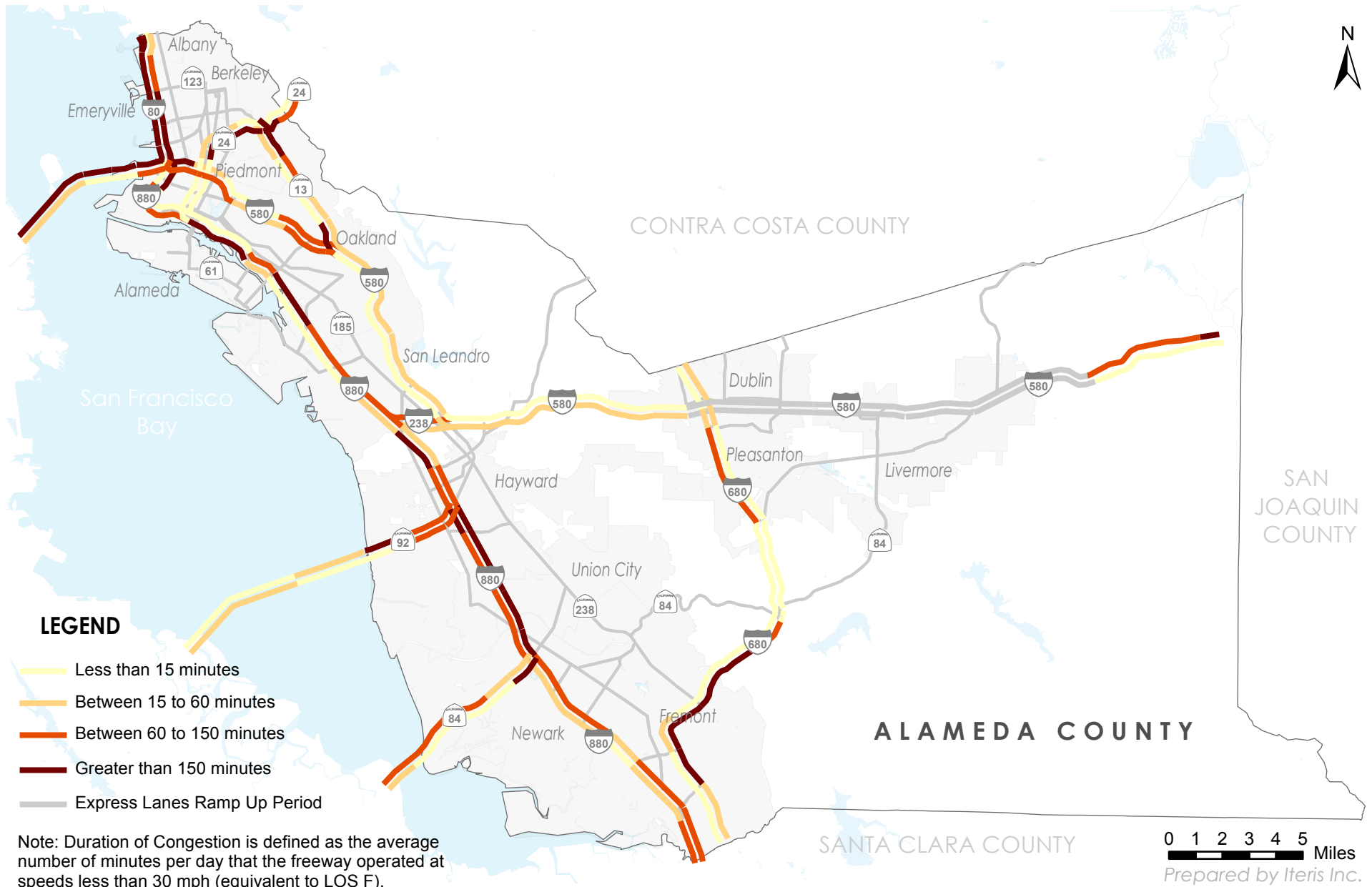
CMP	Description	Length (mi)	Duration of Congestion (Avg. mins per day)	Note
F120	I-880 - SB from SR 262/Mission to Dix Landing(off)	1.7	66	
F121	I-980 - WB from SR 24 @ 580 to I-880	2.5	2	
F122	I-980 - EB from I-880 to SR 24 @ 580	2.4	7	
F123	SR 13 - NB from Mountain On to Carson/Redwood (1) (off)	1.3	27	
F124	SR 13 - NB from Carson/Redwood (1) (off) to Joaquin Miller	1.1	53	
F125	SR 13 - NB from Joa Miller/Linc to Moraga Ave	1.8	116	
F126	SR 13 - NB from Moraga Ave to Hiller (Sig)	1.6	217	
F127	SR 13 - SB from Hiller Sig to Moraga Ave	1.6	28	
F128	SR 13 - SB from Moraga Ave to Joa Miller/Linc	1.9	6	
F129	SR 13 - SB from Joaq Miller/Lincoln to Redwood	1.1	5	
F130	SR 13 - SB from Redwood to Jct I-580 (EB Merge)	1.4	178	
F131	SR 24 - EB from Jct I-580 (on) to Broadway/SR 13	1.8	190	
F132	SR 24 - EB from Broadway/SR 13 to Caldecott (enter)	1.6	242	
F133	SR 24 - EB from Caldecott (enter) to Fish Ranch Road	1.0	118	
F134	SR 24 - WB from Fish Ranch Road (CC) to Caldecott (exit)	1.0	10	
F135	SR 24 - WB from Caldecott (exit) to Broadway	1.7	5	
F136	SR 24 - WB from Broadway to Jct I-580 (on)	1.9	15	
F137	SR 84 - EB from San M CL to Toll Plaza	3.3	12	
F138	SR 84 - EB from Toll Plaza to Thornton	0.5	3	
F139	SR 84 - EB from Thornton Ave/Pascon Padre to Newark Blvd/Ardenwood Blvd	1.2	14	
F140	SR 84 - EB from Newark Blvd/Ardenwood Blvd to I-880 NB (off)	1.2	244	
F141	SR 84 - WB from I-880 NB (off) to Ardenwood/Newark	1.2	34	
F142	SR 84 - WB from Ardenwood/Newark to Paseo Padre Pkwy	1.1	55	
F143	SR 84 - WB from Paseo Padre Pkwy to Toll Gate	0.5	113	
F144	SR 84 - WB from Toll Plaza to San M CL	3.3	69	
F145	SR 92 - EB from San M CL to Toll Plaza	2.8	7	
F146	SR 92 - EB from Toll Plaza to Clawiter	1.9	8	
F147	SR 92 - EB from Clawiter to I-880	2.1	67	
F148	SR 92 - WB from I-880 to Clawiter	2.0	89	
F149	SR 92 - WB from Clawiter to Toll Plaza	1.9	157	
F150	SR 92 - WB from Toll Plaza to San M CL	2.8	15	

Table H-2: Duration of Congestion Analysis Results

CMP	Description	Length (mi)	Duration of Congestion (Avg. mins per day)	Note
F151	SR 92 - WB from San M CL to Foster City Boulevard	5.0	14	
F152	SR 92 - EB from Foster City Boulevard to San M CL	5.0	25	
F153	SR 84 - WB from San M CL to Ravenswood Slough	1.3	111	
F154	SR 84 - EB from Ravenswood Slough to San M CL	1.3	19	
F155	I-80 - WB from SF County Line to Fremont St Off Ramp	3.3	196	
F156	I-80 - EB from Bryant St On Ramp to SF County Line	3.3	33	

Notes

[1] Express Lane Ramp Up Period



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