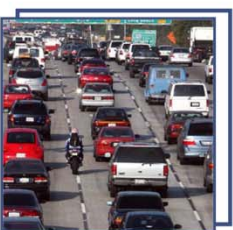


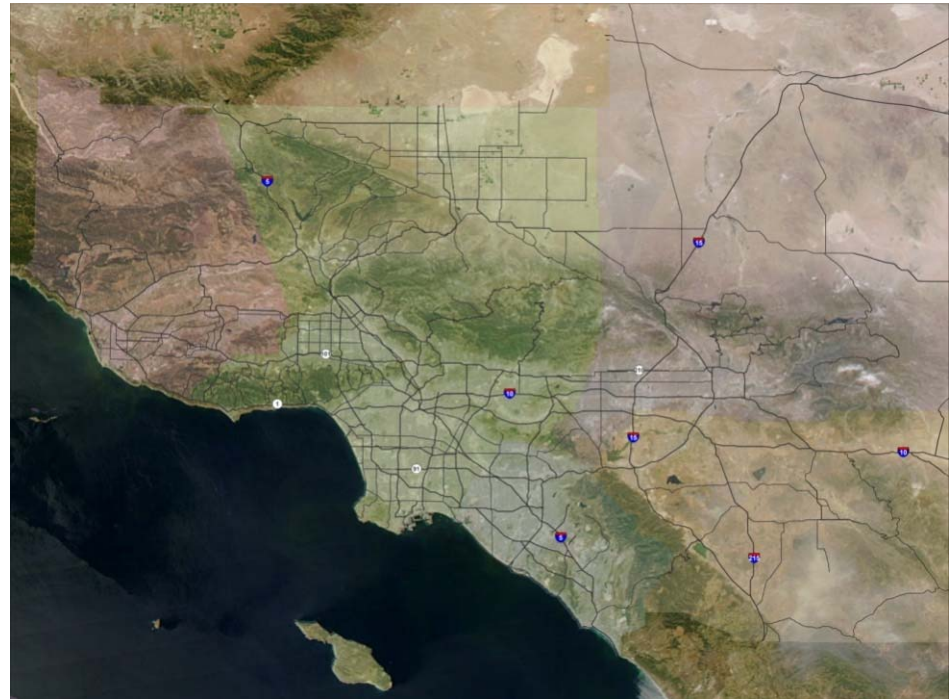
Southern California Association of Governments Regional Screenline Count Database

Modeling Task Force
March 26, 2014



AGENDA

- Overview & Approach
- Data Collected
- Technology
- Database
- Analysis





Project Overview



PROJECT OVERVIEW



- Extensive Count Coverage
 - 35 Screenlines (one new)
 - Regional Cordon locations
 - Freight cordons and cut-lines
- 606 Counts on Arterials
 - Vehicle Classification Data
 - 24 or 48 Hours
- 34 Freeway Vehicle Classification Counts
 - Extensive PeMS Coverage
- Final Dataset
 - Ready for use in SCAG's next model validation exercise



L S A

CAMBRIDGE
SYSTEMATICS

NDS miovision
rethink traffic



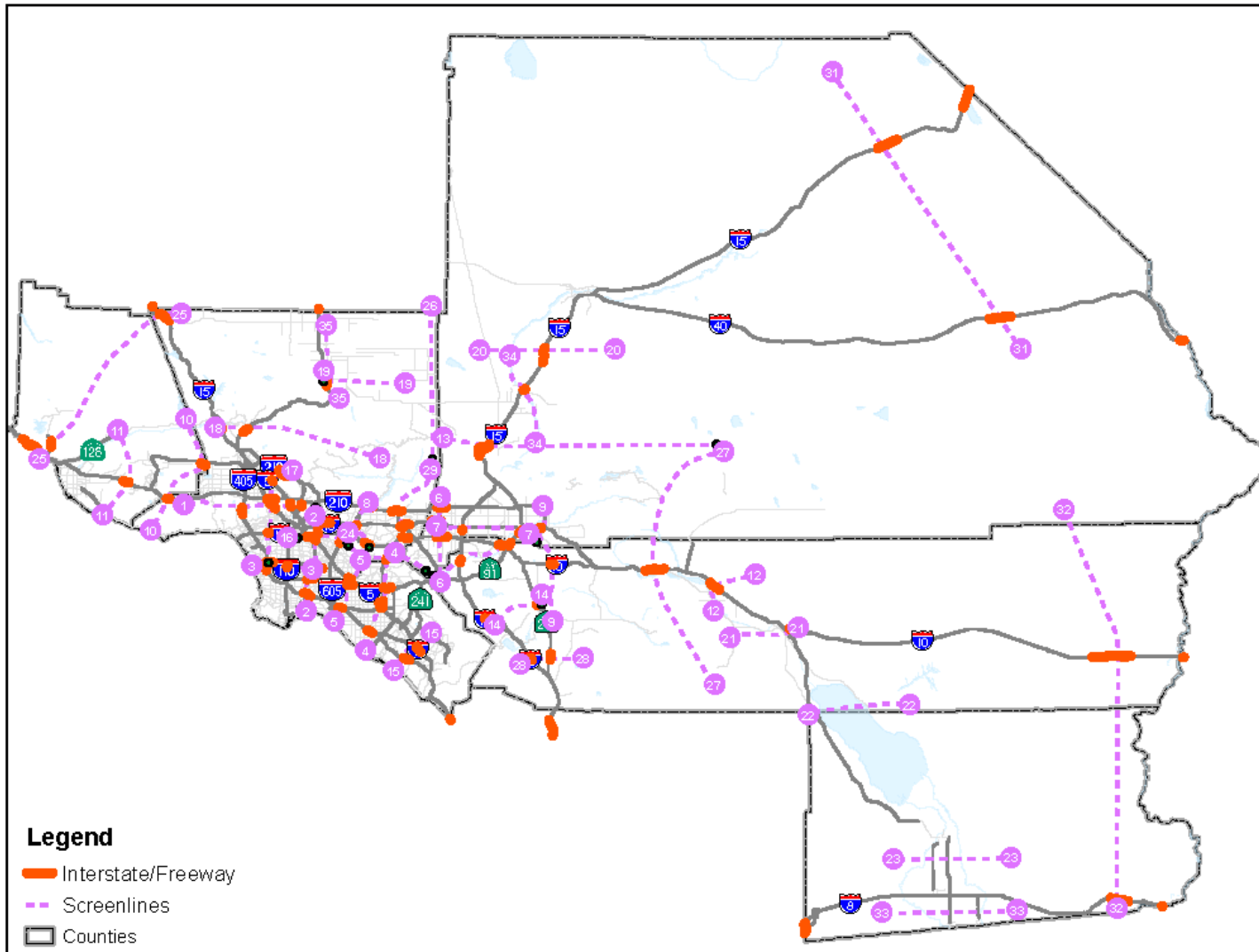
APPROACH



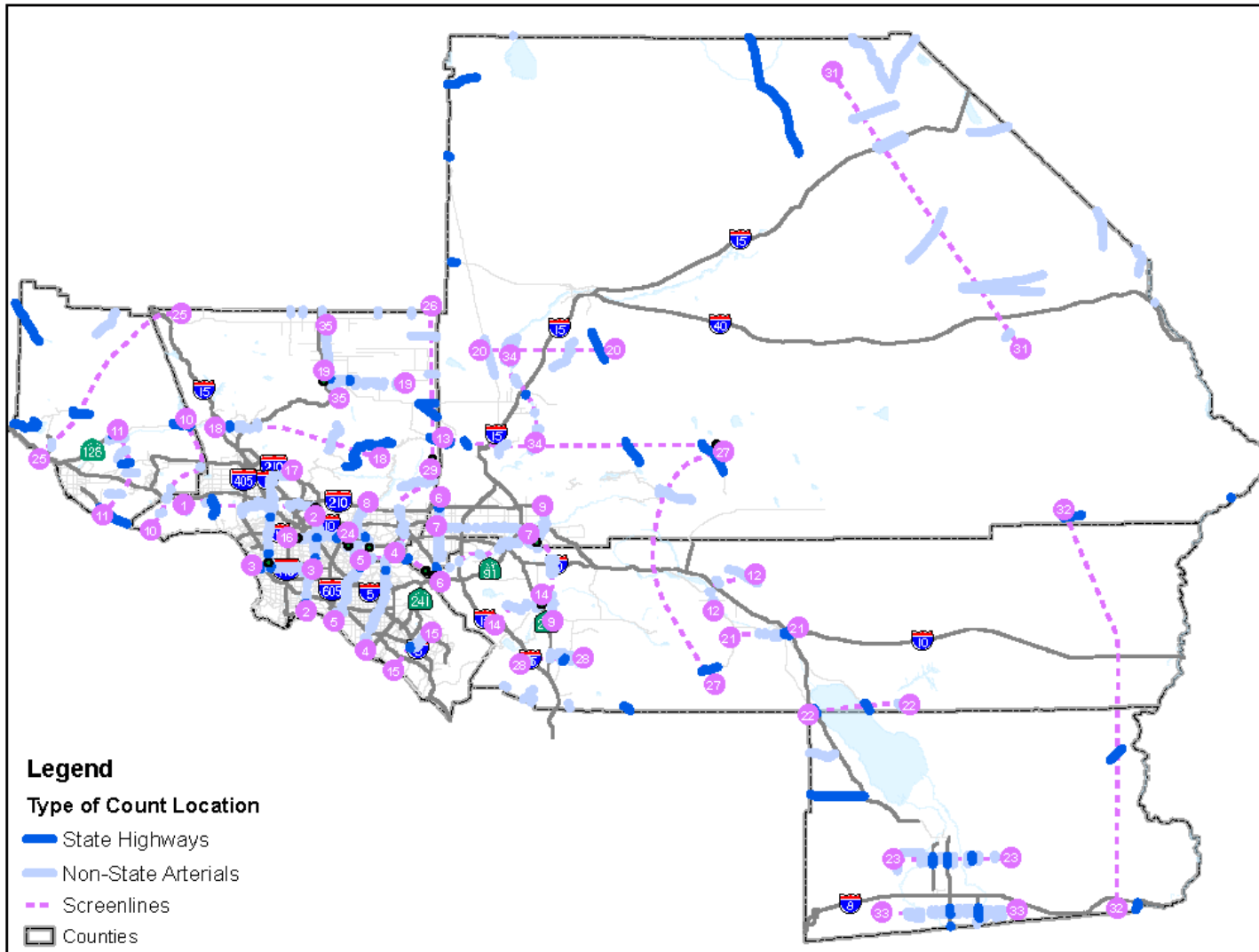
- Data Collection Timeframe
 - Collect on Tuesday / Wednesday / Thursday
 - Avoid major universities on Spring Break (no counts within 5 miles)
 - Majority of data collected in Spring and Fall of 2013
 - Some locations collected in Spring 2014
 - Caltrans permitting
 - Additional Locations
 - Re-counts
 - Construction Avoidance



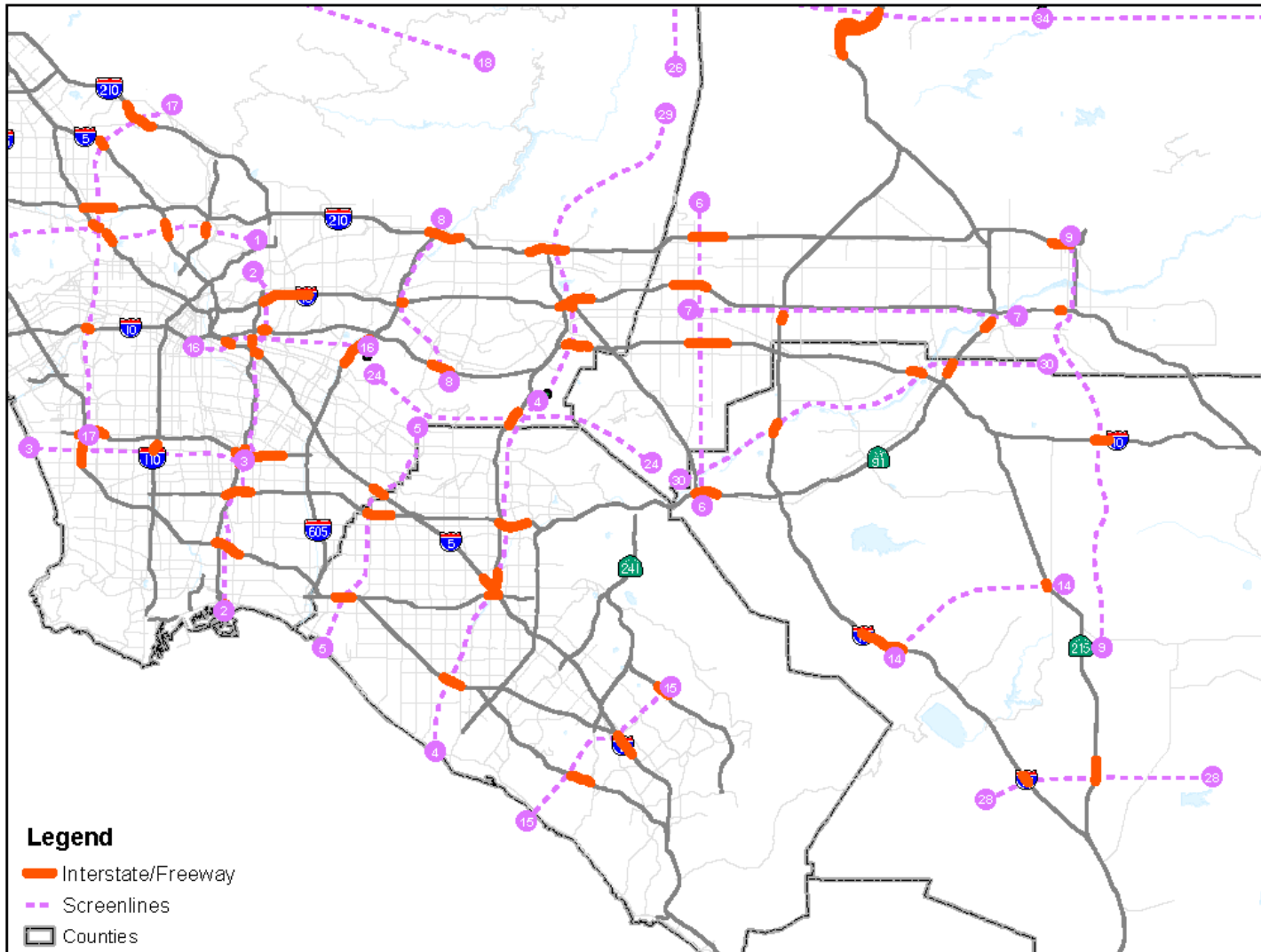
SCREENLINE COUNT LOCATIONS - Freeways



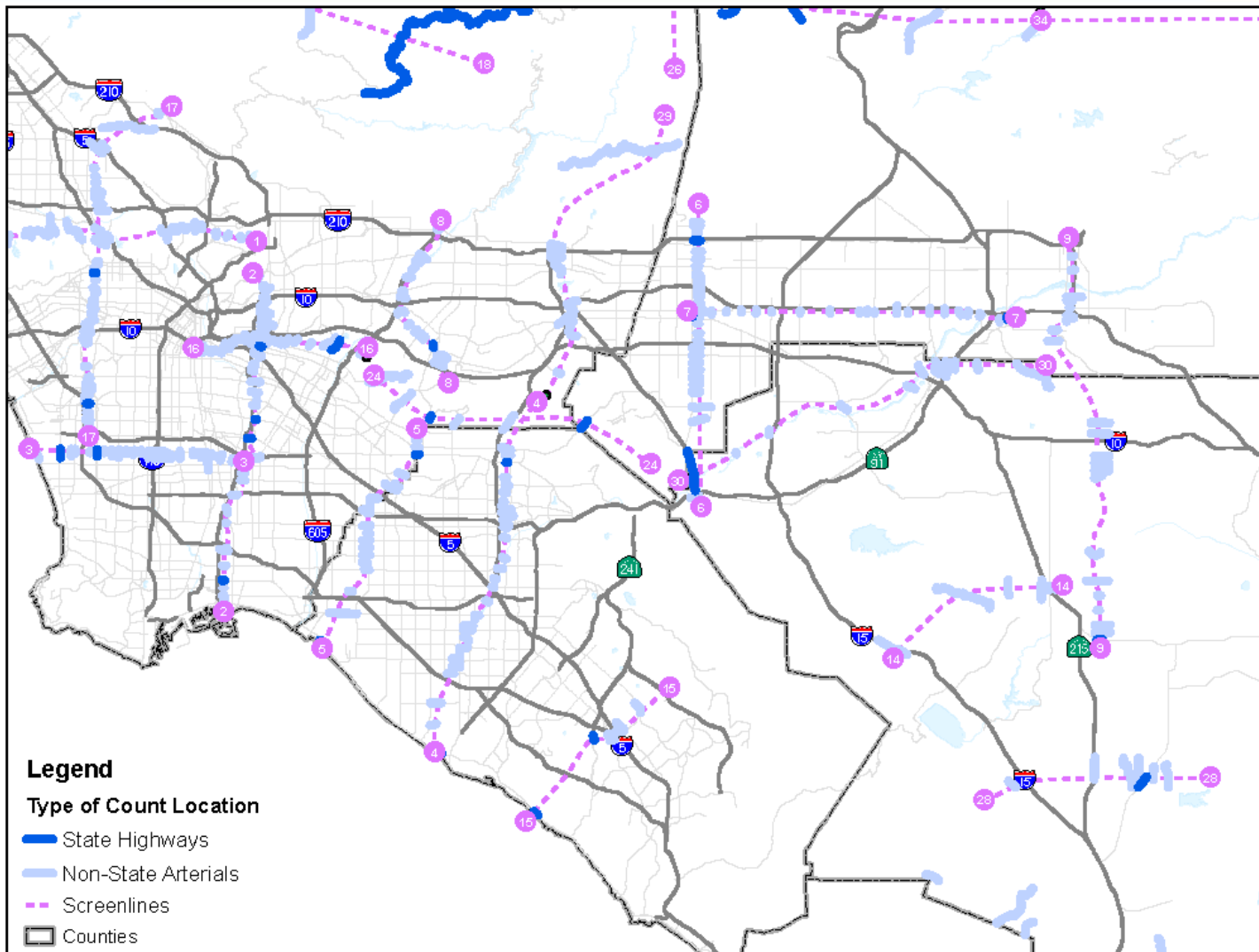
SCREENLINE COUNT LOCATIONS – Arterials and Collectors



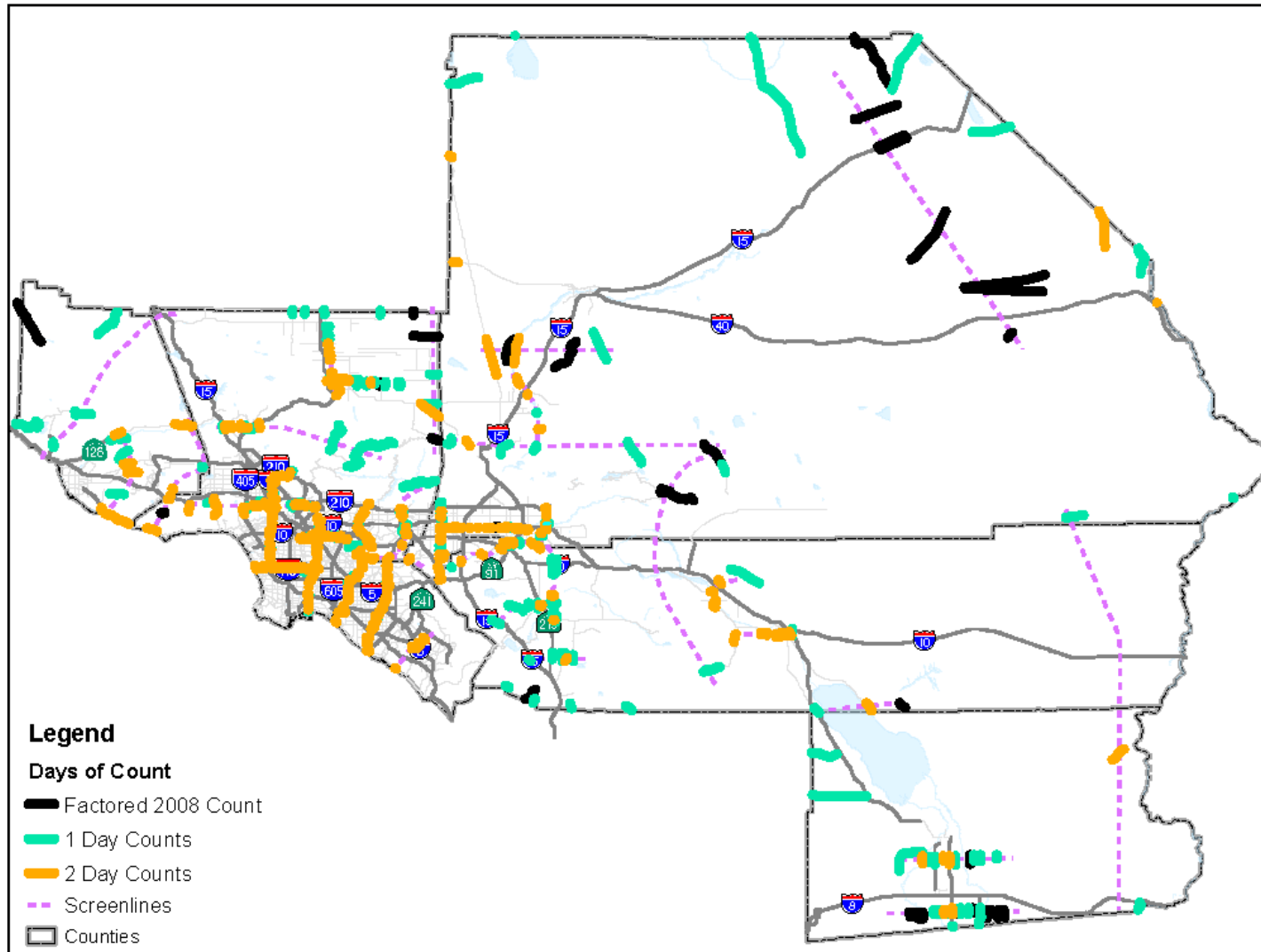
SCREENLINE COUNT LOCATIONS - Freeways



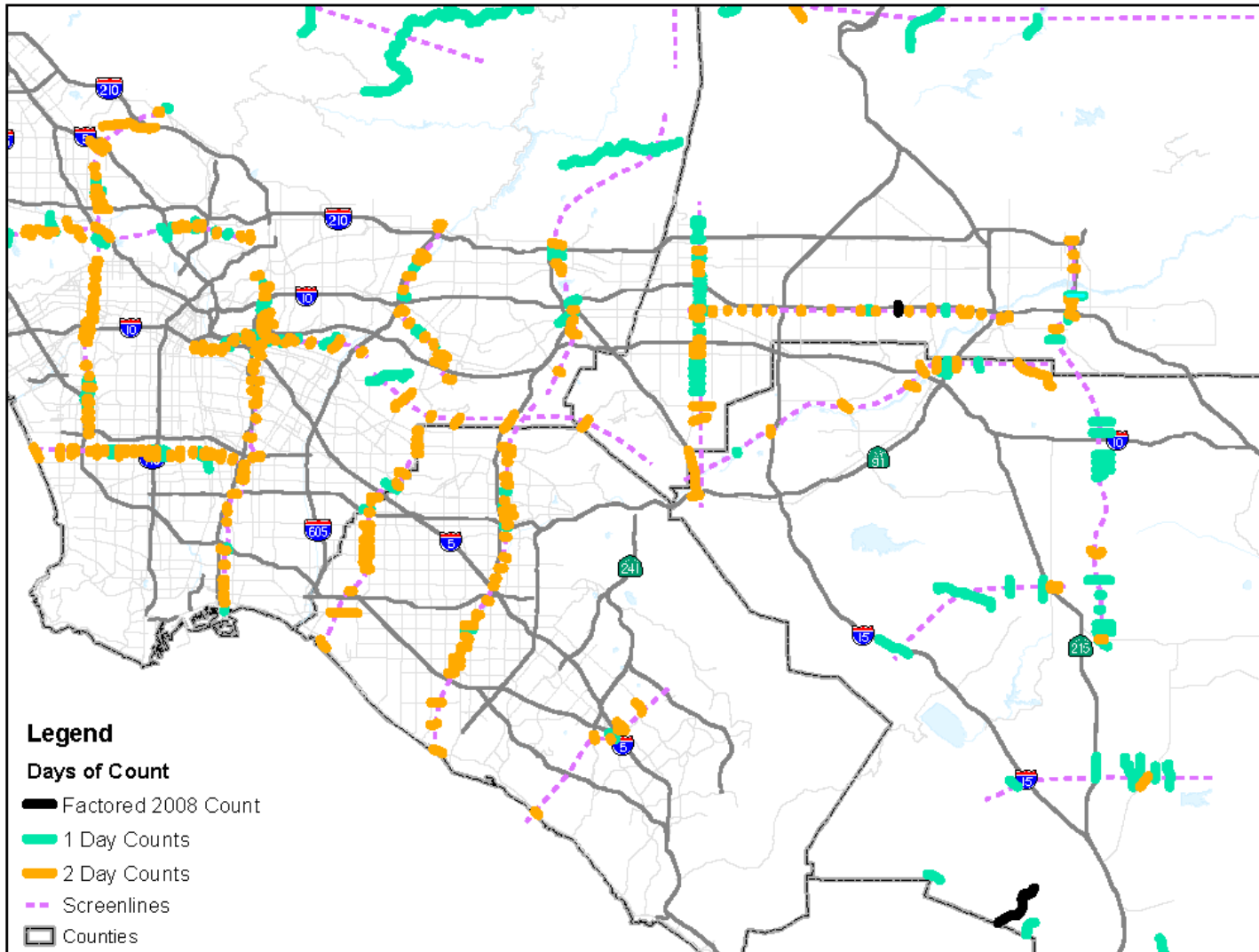
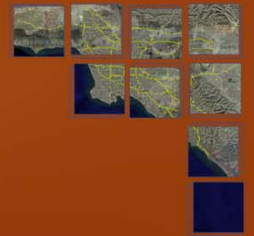
SCREENLINE COUNT LOCATIONS - Arterials and Collectors



Count Locations by Duration of Count



Count Locations by Duration of Count (Inset)





Technology



LSA

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Technology



- Tube Counters
 - Most Surface Streets
 - 13 Vehicle Classifications
 - Industry Standard
- Radar
 - Uncongested Freeways
- Video
 - Congested Freeways

Technology



- Video Classification Counts
 - 26 Locations
 - 260 Hours of Video
 - Do we really want to make someone watch it all?
- Software Video Analysis
 - Software counts vehicles by class
 - Checked by humans
 - Software “loses” a vehicle
 - QA/QC Checks on 12% of footage
 - Check for overall pattern anomalies



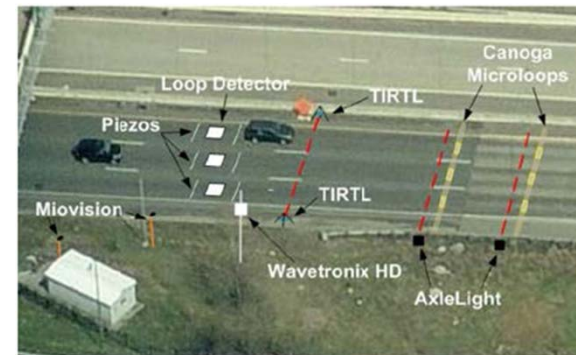
Data Accuracy Comparison



Evaluation of Non-Intrusive Technologies for Traffic Detection



U.S. Department
of Transportation
**Federal Highway
Administration**



Above: Mid-block testing area setup by SRF consulting and Minnesota DOT.

		Wavetronix SmartSensor	GTT Canoga Microloop	PEEK AxleLight	TIRTL	Miovision
Technology		Radar	Magnetometer	Laser	Infrared	Video
ADT	LOS A-D	<2.0%	2.5%	5.4%	3.8%	<2.0%
	LOS E-F	2 to 20%	2.5%	N/A	N/A	<2.0%
TMC	4-6pm	--	--	--	--	<0.5%

Tested in urban traffic conditions, varying weather and lighting conditions.

Volume and Classification accuracy was independently manually verified with video review on highway, and compared with a manually counted video baseline at the intersection.



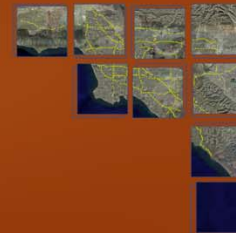
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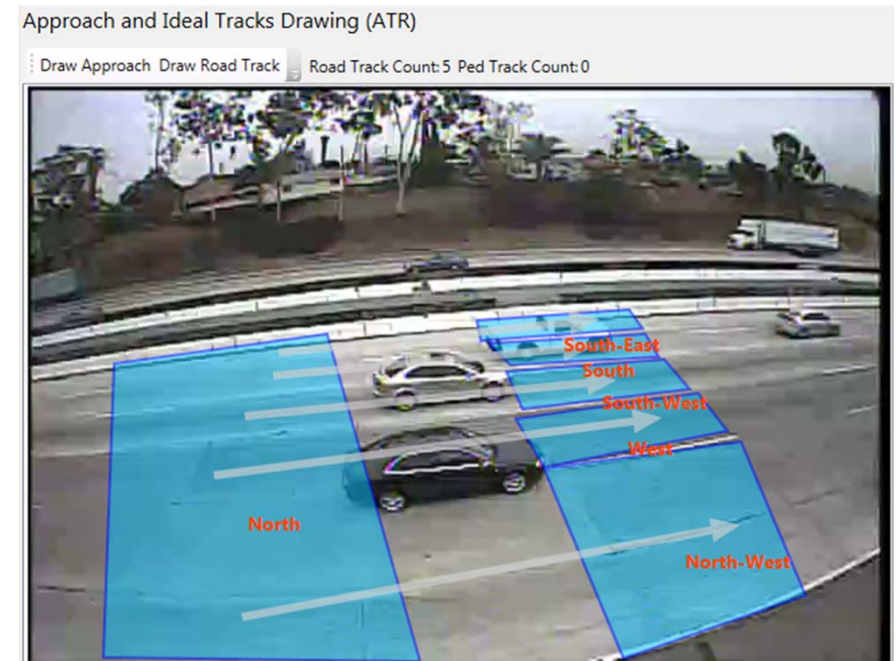
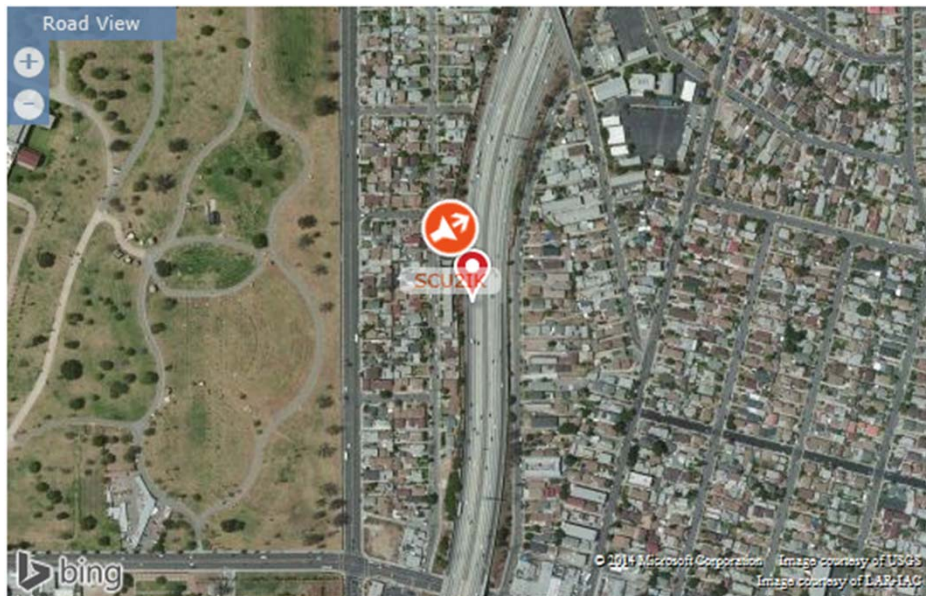


Telescoping Arm



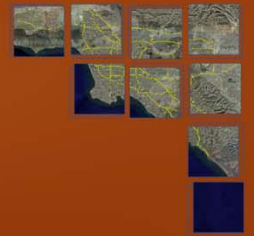
Technology

- 5-Lane Location on I-710 South of SH 60
– Screenline 16



Vehicle entry points defined and paths drawn for each lane of travel and submitted for video processing.





Database and Analysis



LSA

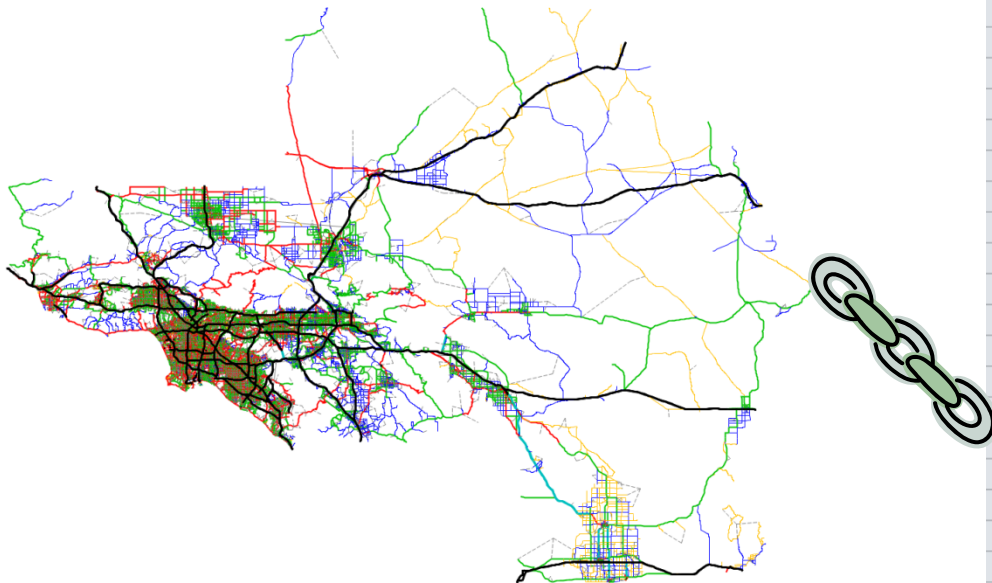
CAMBRIDGE
SYSTEMATICS

NDS

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rethink traffic

Available Data

- Complete Database linked to the Roadway Network
 - Vehicle classification
 - 15-minute increments

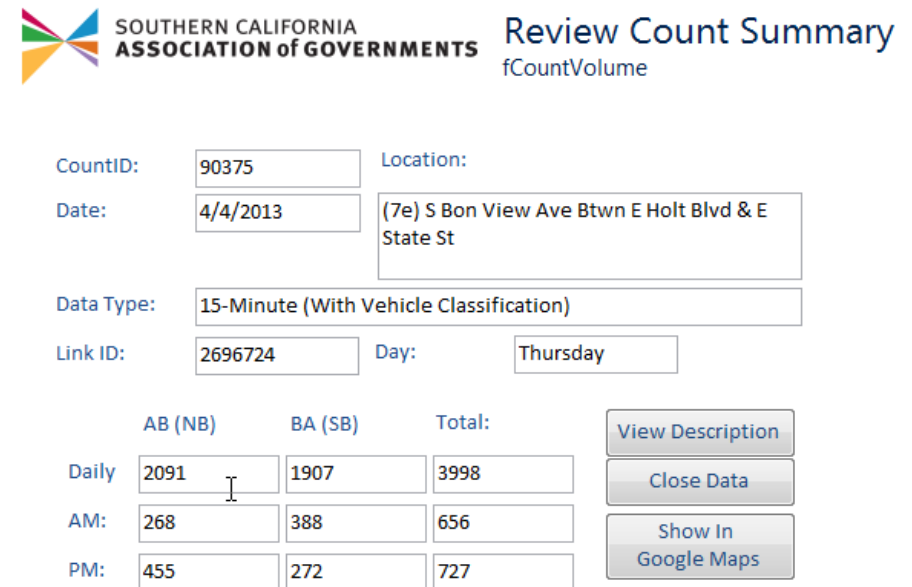


CountID	TimePeriod	VehicleClass	Dir	Direction	Volume
90350	1	2	2	1 NB	74
90350	1	2	-1	SB	75
90350	2	2	-1	SB	70
90350	2	2	1	NB	57
90350	3	2	1	NB	46
90350	3	2	-1	SB	62
90350	4	2	-1	SB	46
90350	4	2	1	NB	50
90350	5	2	-1	SB	40
90350	5	2	1	NB	33
90350	6	2	-1	SB	34
90350	6	2	1	NB	34
90350	7	2	-1	SB	25
90350	7	2	1	NB	35
90350	8	2	1	NB	29
90350	8	2	-1	SB	25
90350	9	2	1	NB	19
90350	9	2	-1	SB	18
90350	10	2	-1	SB	11
90350	10	2	1	NB	12
90350	11	2	-1	SB	21
90350	11	2	1	NB	21
90350	12	2	-1	SB	14
90350	12	2	1	NB	17



Available Data

- Exportable Queries
 - 24-Hour Counts
 - Time period
 - AM, MD, PM, NT, OP
 - Assignment class
 - Autos, LHDT, MHDT, HHDT
- Customizable
 - Flexible time periods and vehicle class groups



SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS Review Count Summary
fCountVolume

CountID: 90375 Location: (7e) S Bon View Ave Btwn E Holt Blvd & E State St
Date: 4/4/2013
Data Type: 15-Minute (With Vehicle Classification)
Link ID: 2696724 Day: Thursday

	AB (NB)	BA (SB)	Total:	
Daily	2091	1907	3998	View Description
AM:	268	388	656	Close Data
PM:	455	272	727	Show In Google Maps

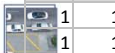


Available Data

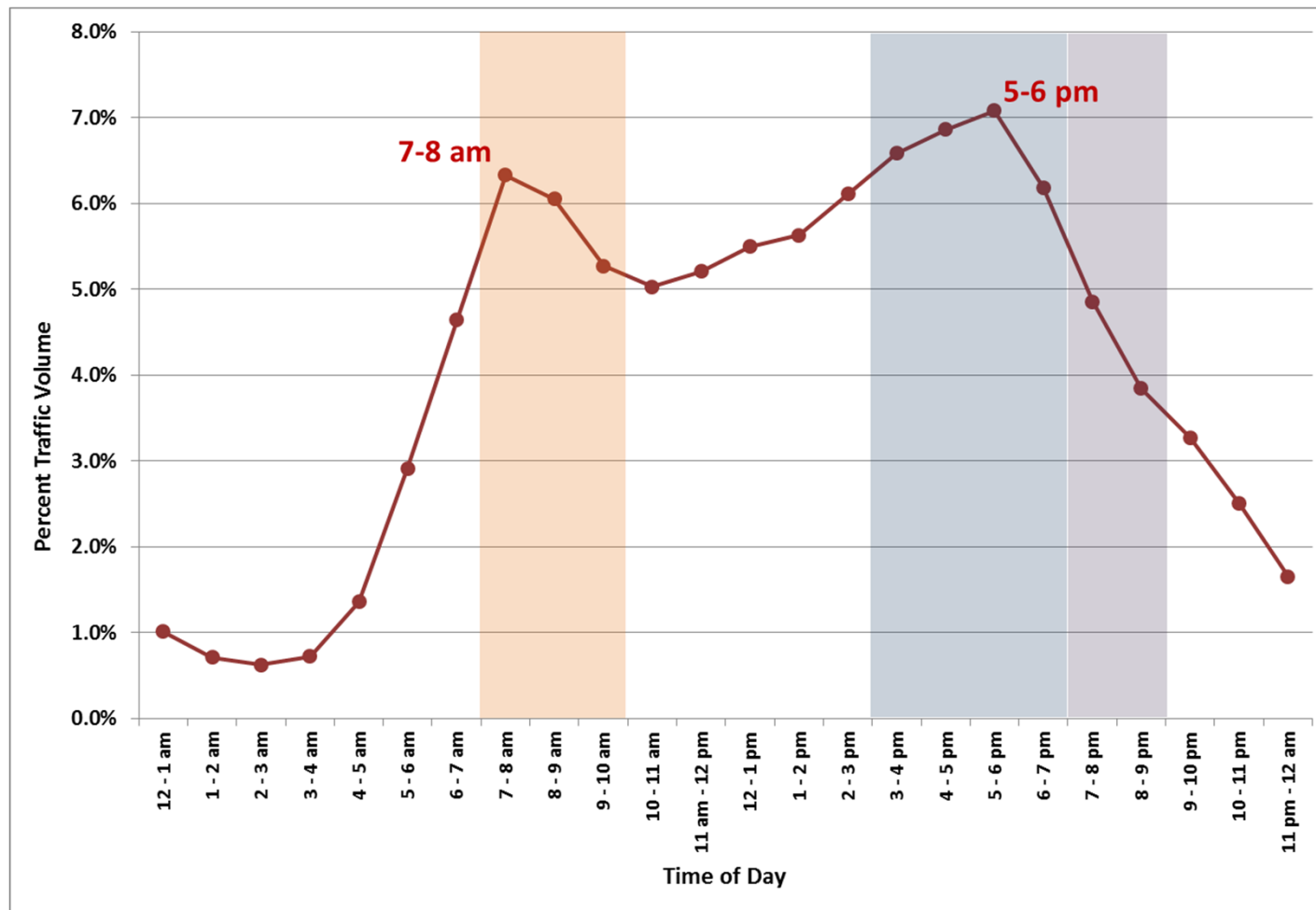


- Writes results to Excel
 - Load into TransCAD
 - Analyze directly in Excel

SCRL	LINK_ID	Location	AB_VOL	BA_VOL	TOT_VOL	AB_AM_VOL	BA_AM_VOL	TOT_AM_VOL	AB_PM_VOL	BA_PM_VOL	TOT_PM_VOL	AB_PASS_VOL	BA_PASS_VOL	TOT_PASS_VOL	AB_LHDT_VOL	BA_LHDT_VOL	TOT_LHDT_VOL	AB_LTRK_VOL
1	130294	(1a) Las Virgenes Rd Btwn Lost Hills Rd & Mulholland Hwy	11302	11389	22691	1122	3572	4694	2594	1245	3839	10650	10544	21194	596	794	1390	56
1	102600	(1b) Mulholland Hwy Btwn Mulholland Dr & Old Topanga Cyn Rd	1670	1992	3662	339	272	611	252	490	742	1556	1858	3414	111	133	244	3
1	2679076	(1c) N Topanga Canyon Blvd Btwn Mulholland Dr & Old Topanga	10895	9356	20251	1574	2680	4254	2382	1039	3421	10070	8864	18934	790	463	1253	34
1	125433	(1d) N Sepulveda Blvd btwn Mission Dump Rd & Mountaingate	11064	10866	21930	994	4954	5948	2186	658	2844	10548	10416	20964	448	362	810	68
1	11194	I 405 - S @ BEL AIR CR (ML)	114914	0	114914	19129	0	19129	13630	0	13630	110553	0	110553	3690	0	3690	671
1	1642715	I 405 - S @ BEL AIR CR (HV)	14568	0	14568	2984	0	2984	2530	0	2530	14021	0	14021	464	0	464	83
1	11212	I 405 - N @ BEL AIR CR (ML)	192619	0	192619	30886	0	30886	22260	0	22260	185703	0	185703	5874	0	5874	1041
1	2688922	(1h) Roscomare Rd btwn Mulholland Dr & Linda Flora Dr	2529	2689	5218	349	1086	1435	544	199	743	2401	2542	4943	123	128	251	5
1	101591	(1i) N Beverly Glen Blvd Btwn Mulholland Dr & Nicada Dr	8807	8632	17439	934	2497	3431	1412	820	2232	8613	8440	17053	185	188	373	9
1	101940	(1j) Benedict Canyon Dr Btwn Mulholland Dr & Wallingford Dr	6612	6357	12969	558	3034	3592	1640	338	1978	6396	6125	12521	216	232	448	0
1	101154	(1k) Mulholland Dr Btwn Coldwater Cyn Ave & Beverly Ranch Rd	2191	3008	5199	445	334	779	316	666	982	1975	2707	4682	209	295	504	7
1	101497	(1l) Coldwater Canyon Avenue Btwn Ventura Blvd &	8222	7990	16212	2462	1087	3549	767	1204	1971	7950	7706	15656	271	284	555	1
1	130126	(1m) Laurel Canyon Blvd Btwn Ventura Blvd & Mulholland Dr	21526	21162	42688	3522	5010	8532	2954	2545	5499	20630	20458	41088	860	649	1509	36
1	104543	(1n) Cahuenga Blvd W Btwn Barham Blvd & Lakeridge Pl	24104	0	24104	5064	0	5064	3295	0	3295	23606	0	23606	488	0	488	11
1	13184	I 101 - S @ N/O MULHOLLAND (ML)	161255	0	161255	30154	0	30154	17529	0	17529	154581	0	154581	6271	0	6271	403
1	1656523	I 101 - N @ N/O MULHOLLAND (ML)	141595	0	141595	21748	0	21748	17282	0	17282	137520	0	137520	3679	0	3679	396
1	105333	(1q) Cahuenga Blvd E Btwn Barham Blvd & Lakeridge Pl	0	17924	17924	0	2651	2651	0	3168	3168	0	17498	17498	0	410	410	0
1	124650	(1r) Crystal Springs Dr Btwn Griffith Park Dr & Los Feliz Blvd	3922	0	3922	523	0	523	631	0	631	3761	0	3761	128	0	128	33
1	124662	(1s) Crystal Springs Dr Btwn Griffith Park Dr & Los Feliz Blvd	3268	0	3268	462	0	462	499	0	499	3107	0	3107	131	0	131	30



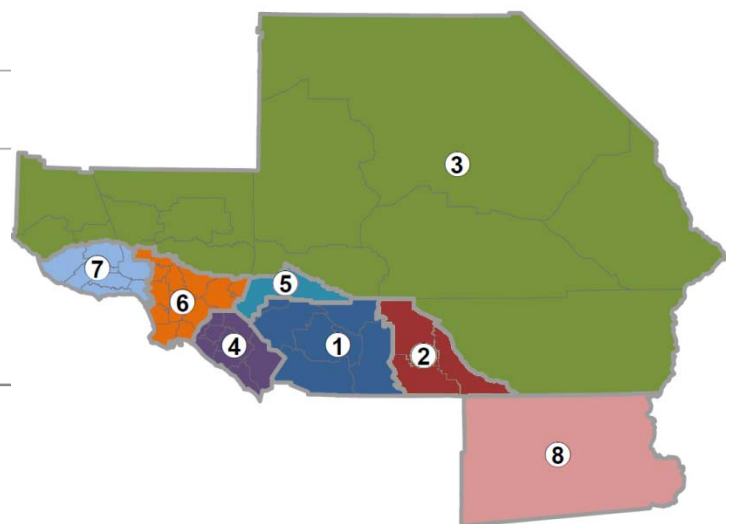
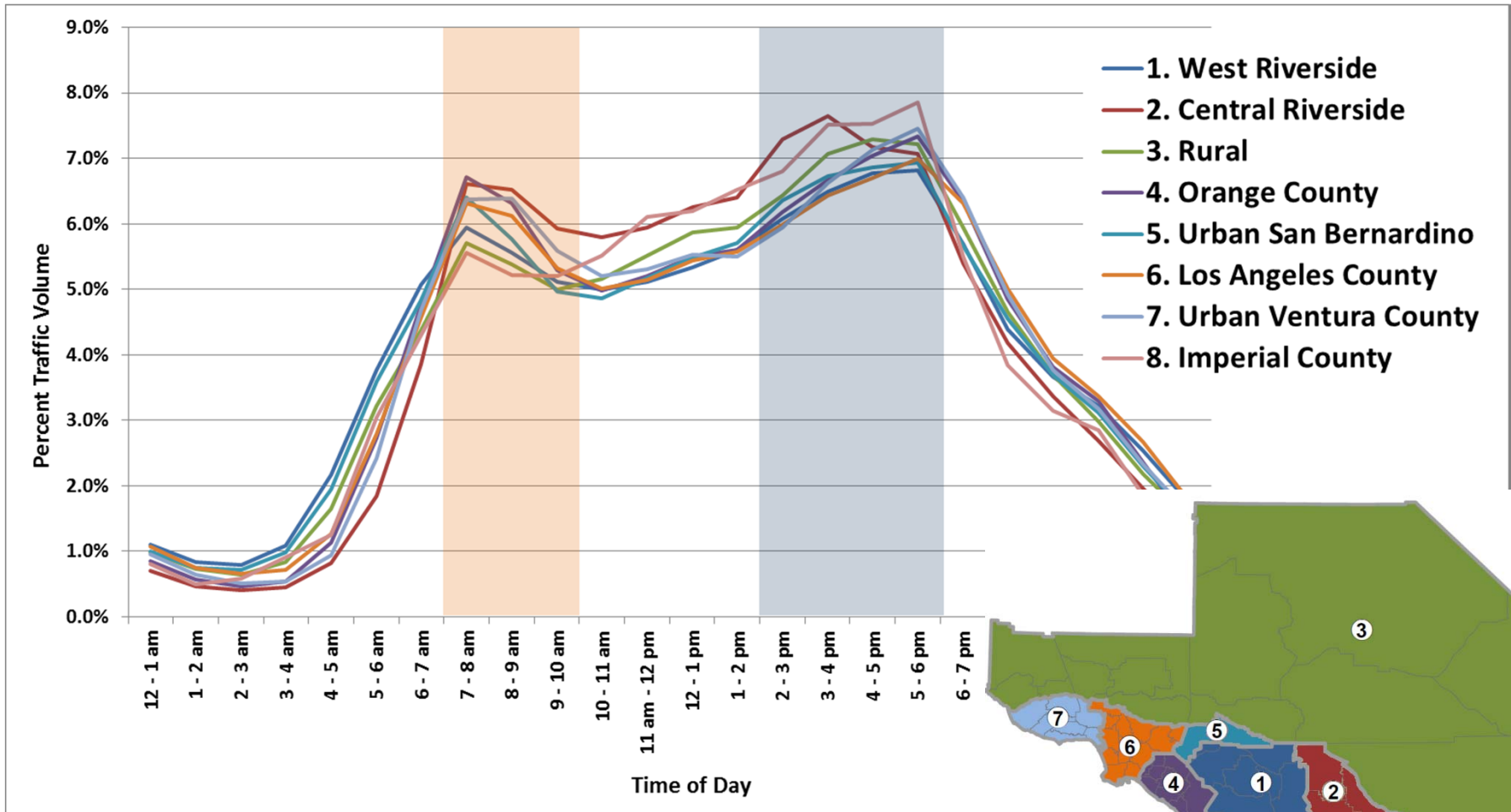
Time of Day



Diurnal curve for all counted locations



Time of Day

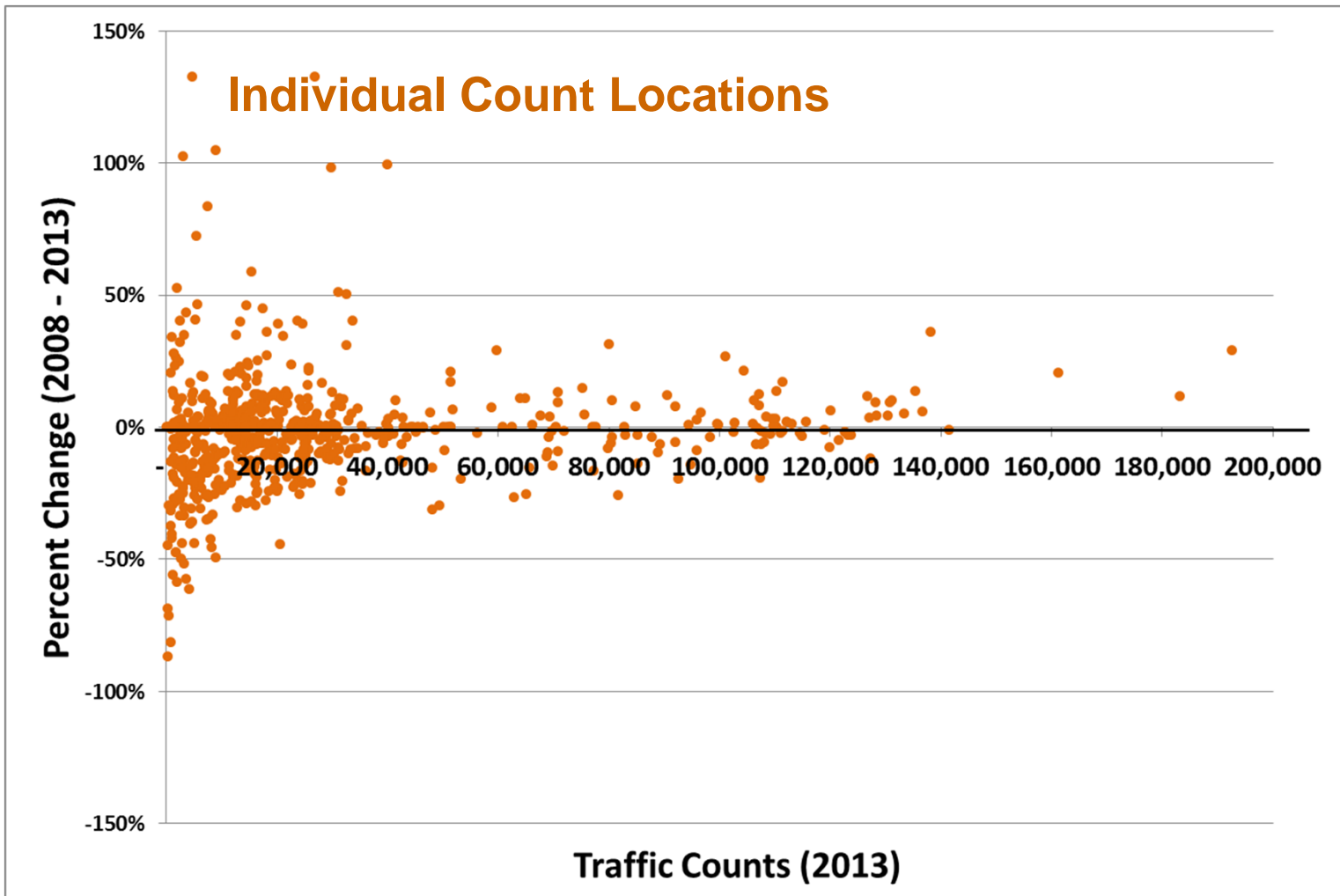


Change from 2008 to 2012

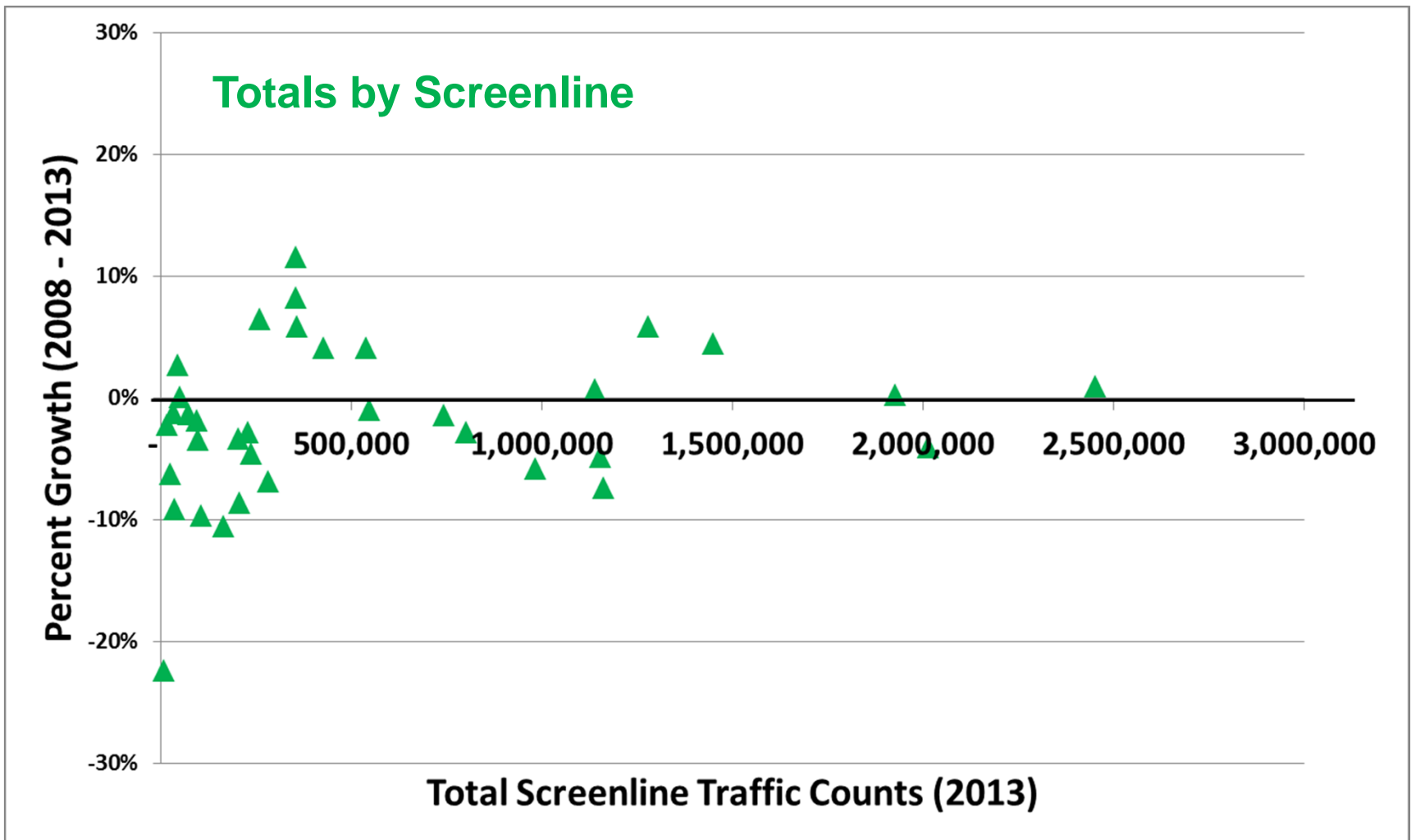


- Little or no traffic growth on average
 - 43% of locations increased
 - 57% of locations decreased
 - Overall growth rate of **-0.7%**
(**-0.1%** compounded annually)
- 2012 data collection uses more consistent data collection than the 2008 database

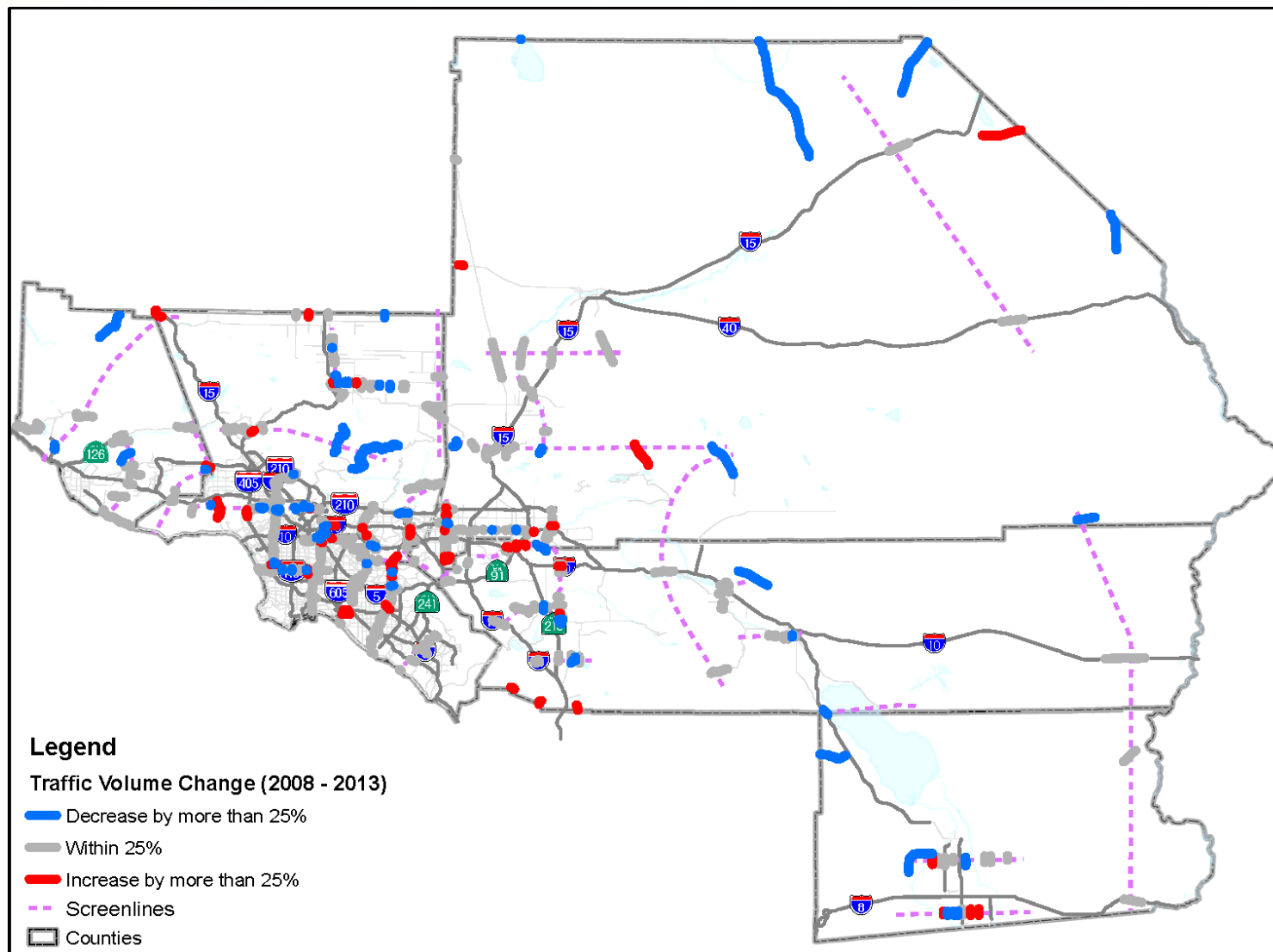
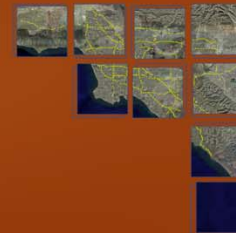
Change from 2008 to 2012



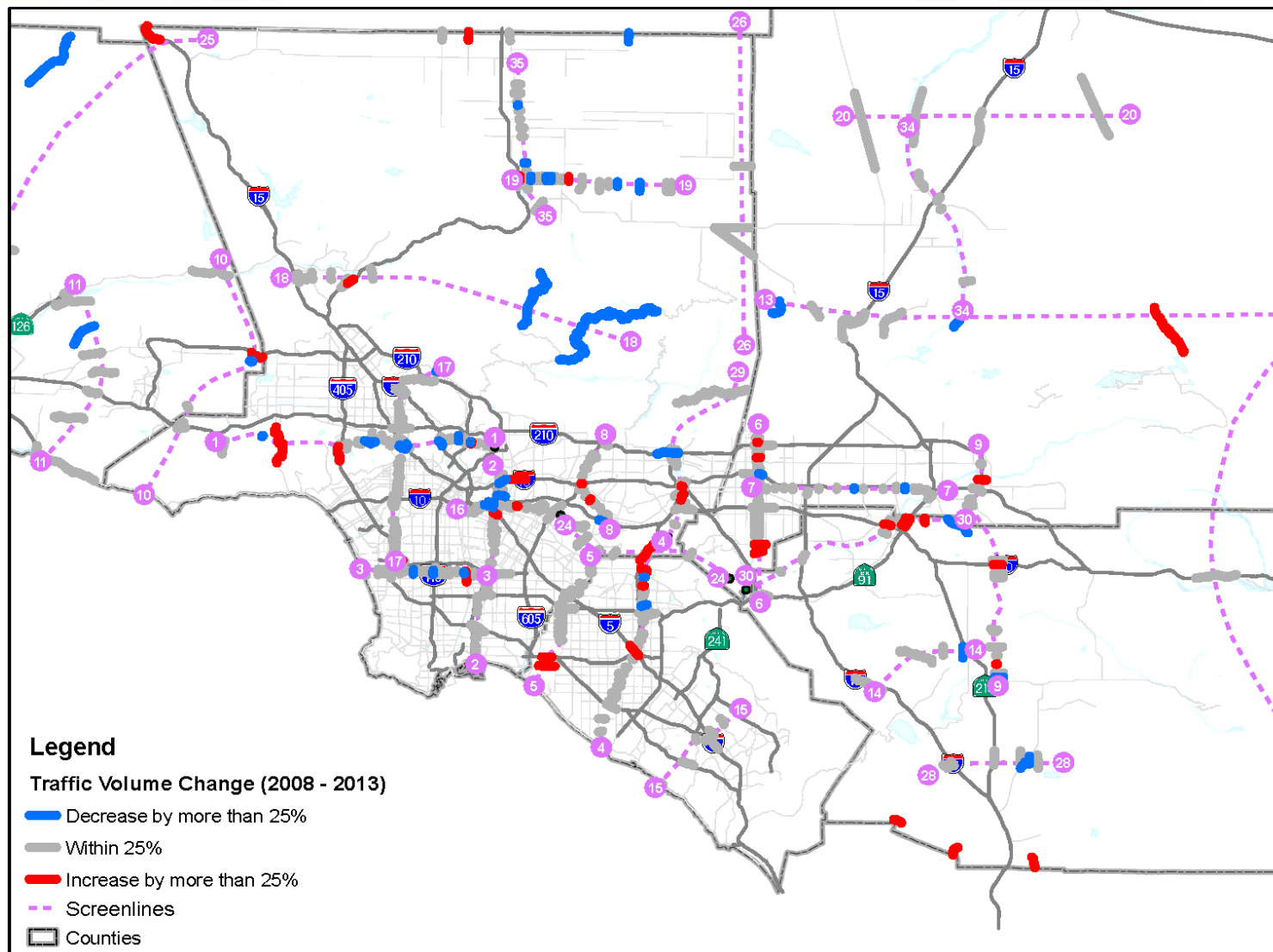
Change from 2008 to 2012



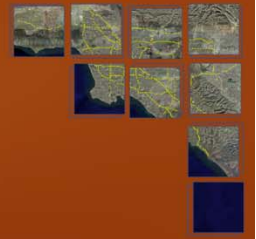
Change from 2008 to 2012



Change from 2008 to 2012



Annual Adjustments



- Data collected in 2013 and 2014
 - Adjustment to represent Spring of 2012?

Time Period	Active Stations	Growth Rate
2008 - 2009	16	+0.97%
2009 - 2010	18	-0.56%
2010 - 2011	13	-0.39%
2011 - 2012	4	+1.06%
2012 - 2013	5*	-0.48%

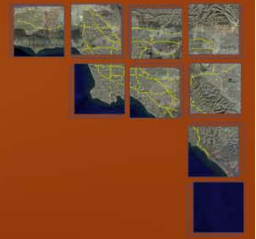
DRAFT: Analysis of additional locations is underway

Source: Caltrans Weigh in Motion (WIM) data for April, autos only.

* 2012-2013 growth rates includes some 2- and 3- year rates

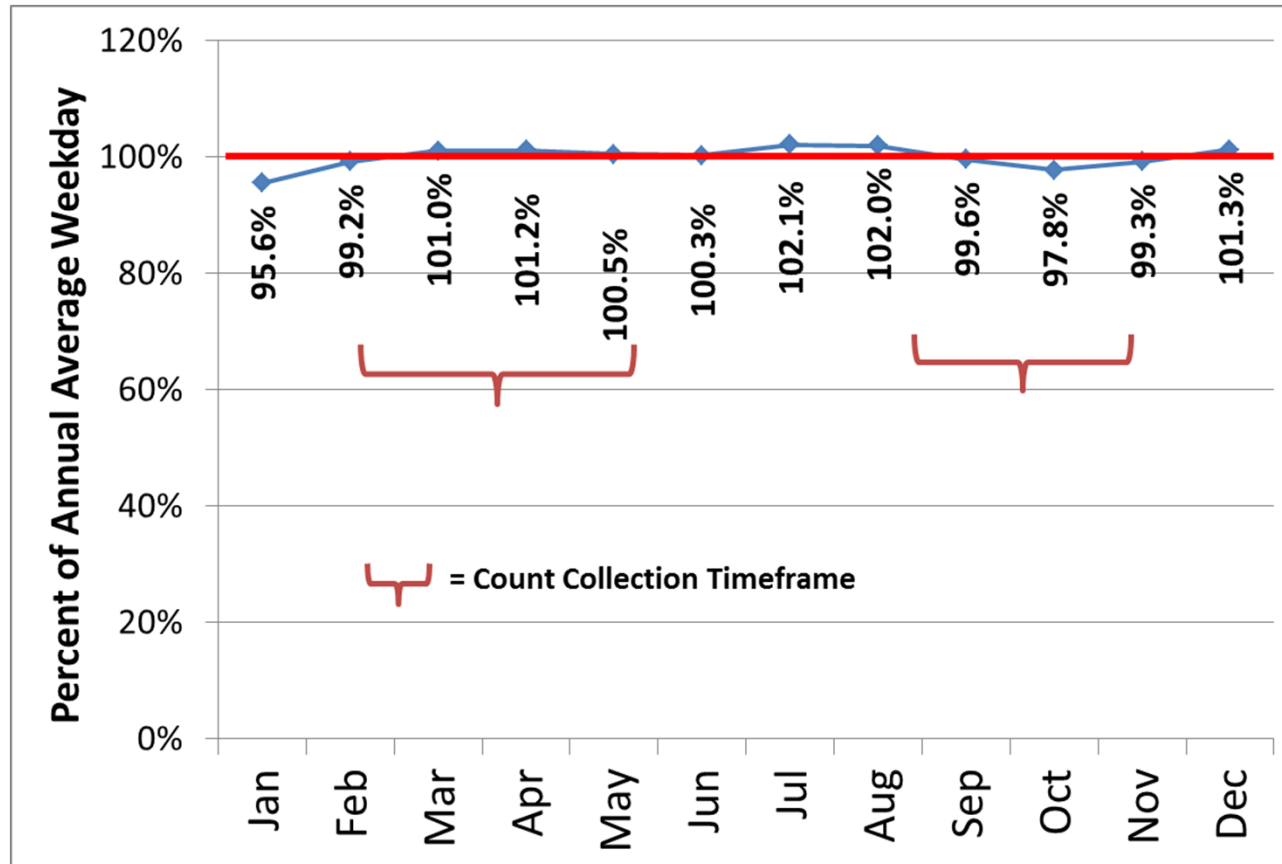


Seasonal Adjustments



- Seasonal
 - All counts collected during spring and fall
 - A small number of counts collected during Feb-April 2014
 - Lower port activity → Less truck activity?
 - Counts should represent an **Annual Average Weekday**

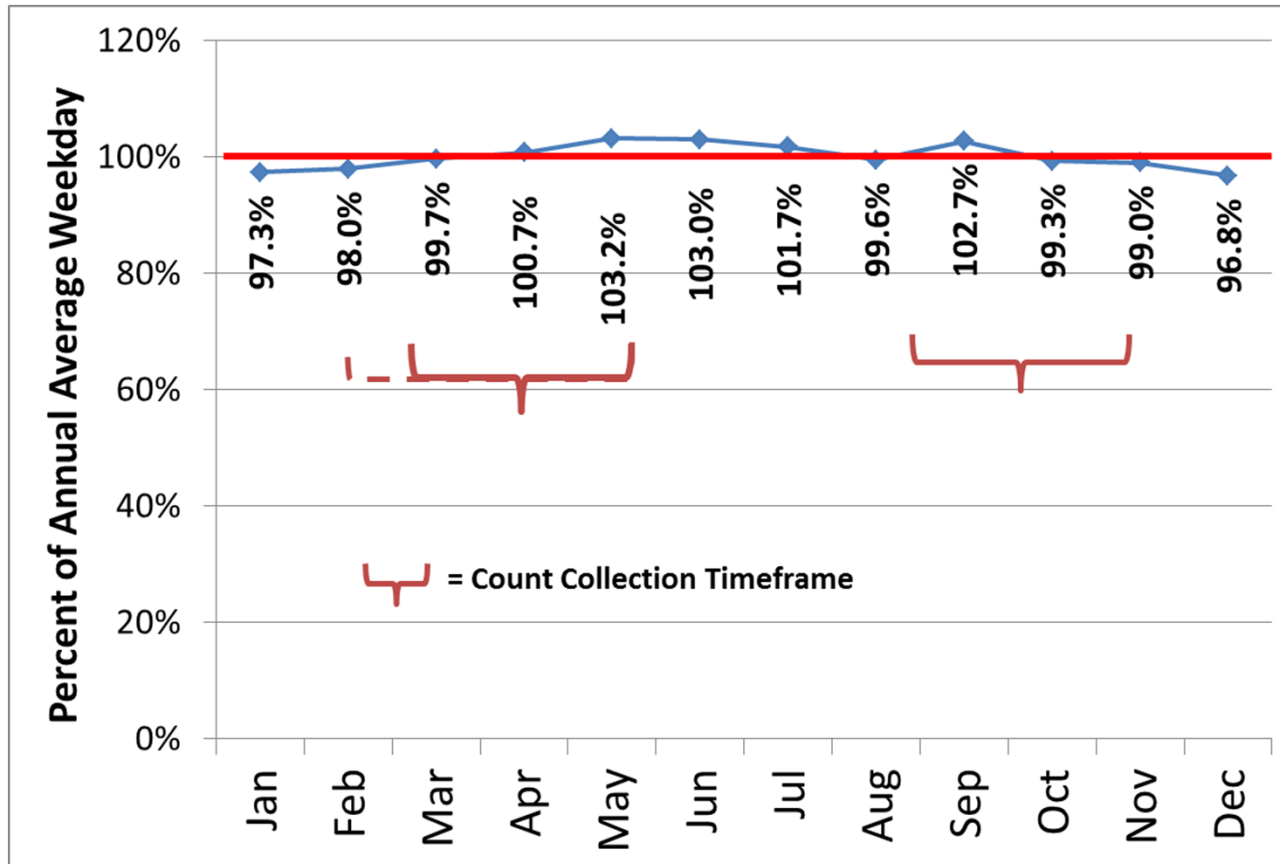
Seasonal Auto Patterns



Source: Caltrans Weigh in Motion (WIM) data from 2008-2013



Seasonal Truck Patterns



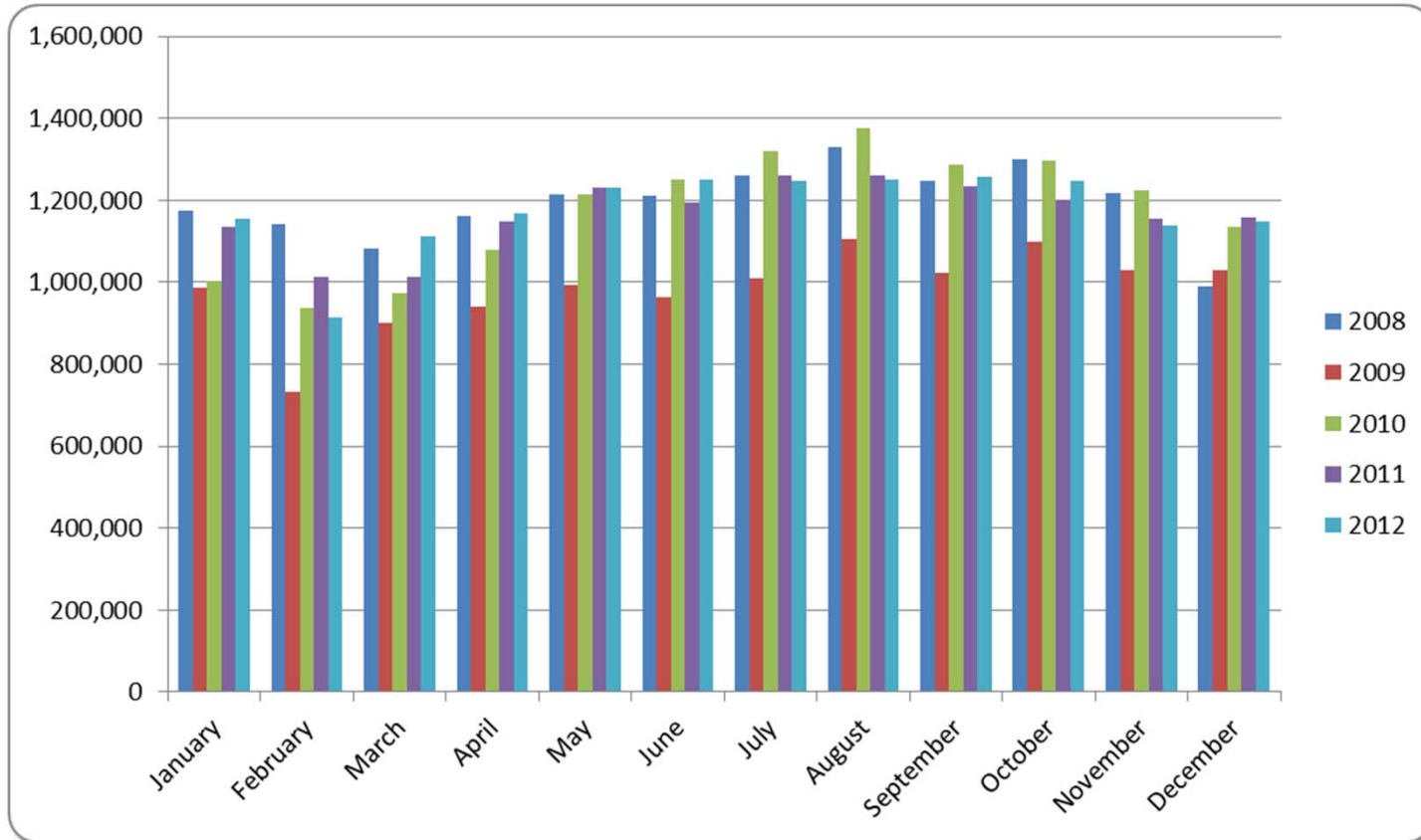
Source: Caltrans Weigh in Motion (WIM) data from 2008-2013



Seasonal & Annual Truck Patterns



Port Throughput: Down about 1.5% from 2008



Source: San Pedro Bay Ports



Conclusions



- A new 2012 traffic count database will be used in 2012 base year model validation
- Individual traffic counts vary substantially over time
- Screenline totals are fairly stable over time
- Regional screenline volume growth has been limited or non-existent from 2008 through 2012

THANK YOU



Questions?

