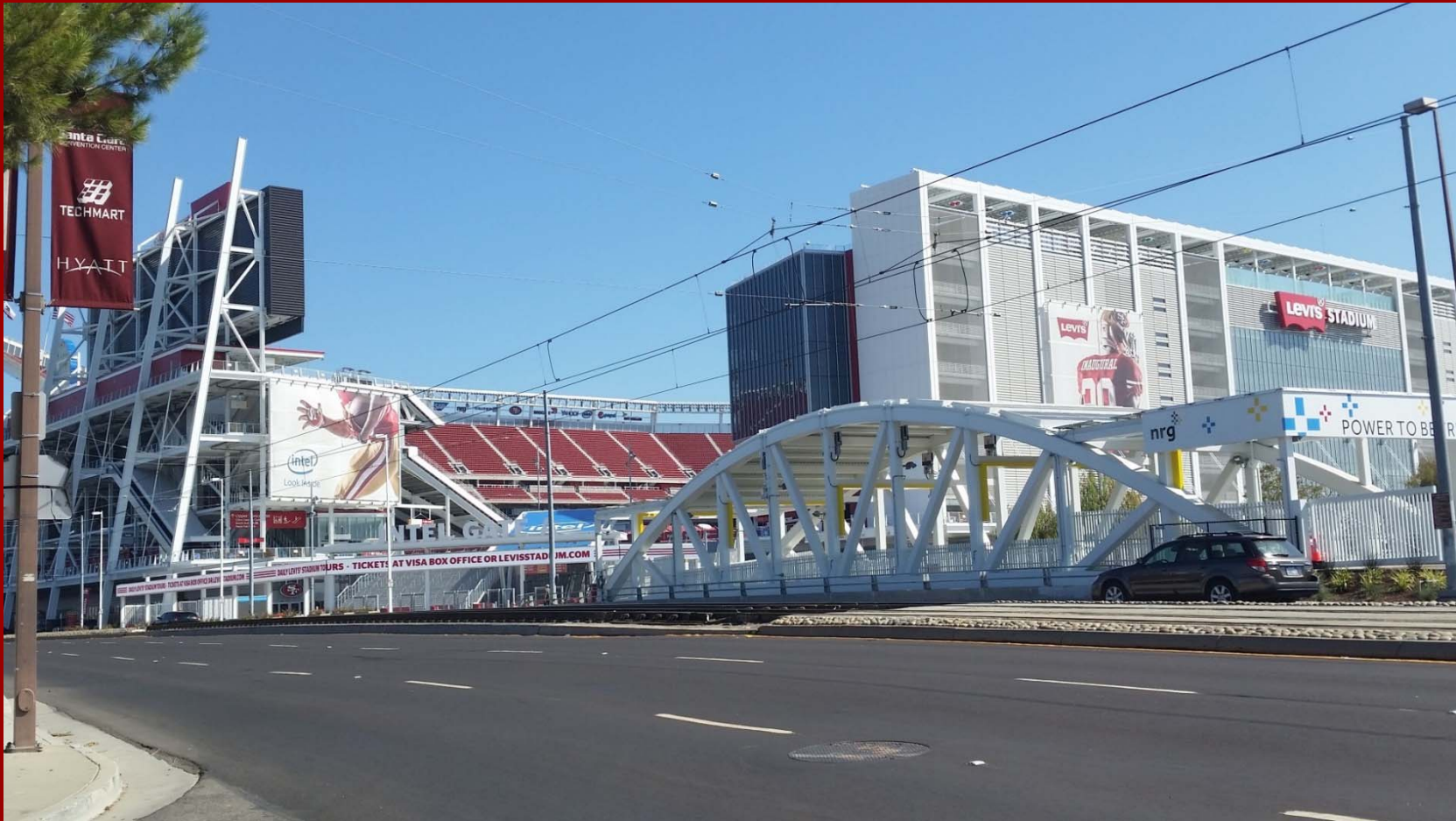


# Levi's Stadium Traffic Operations



Prepared By:  
Dennis Ng, City of Santa Clara  
Brian Sowers, Kimley-Horn

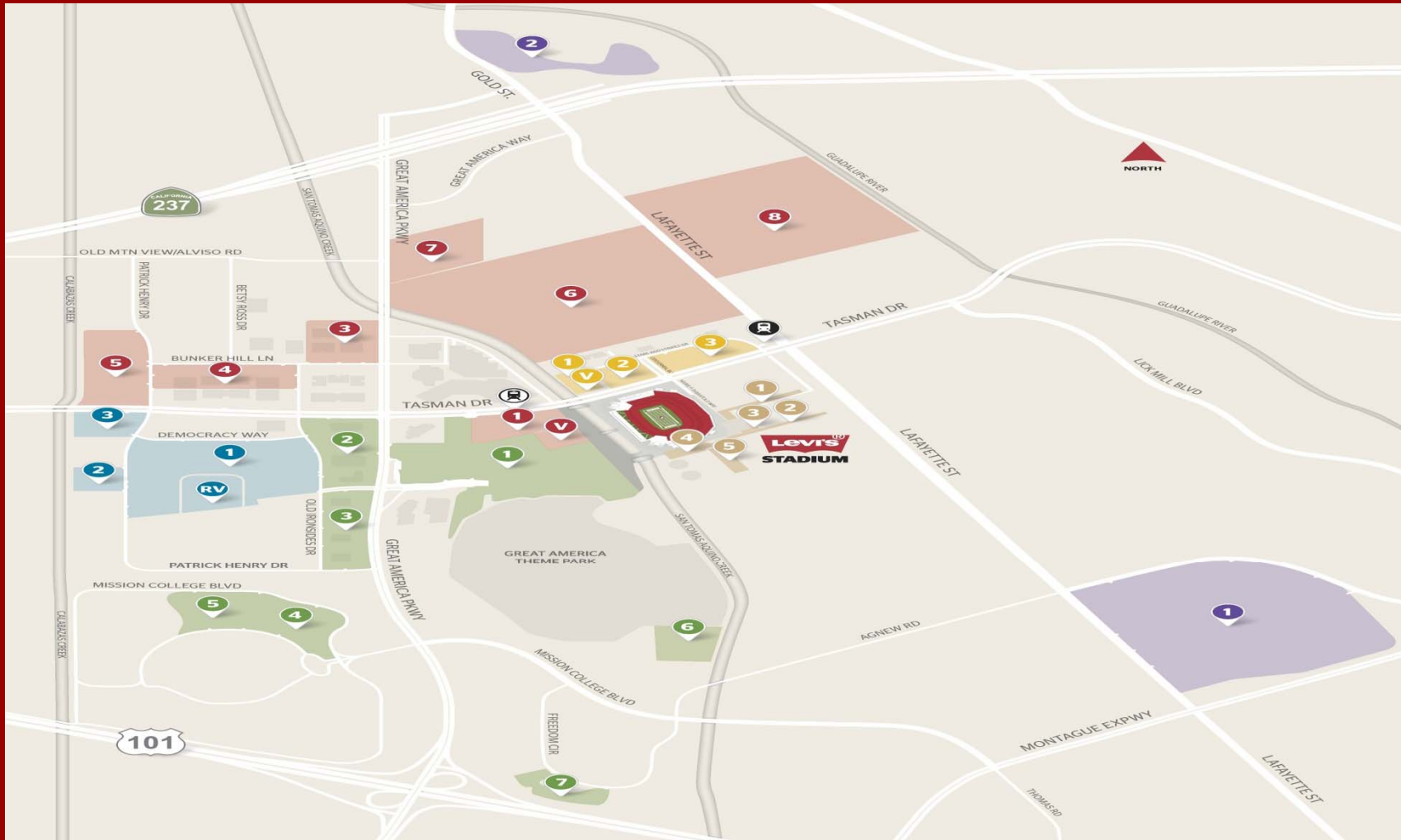


# Area Map





# Levi's Stadium Parking Map



# Traffic Signals



# Traffic Operations Goals

- Pre-event: No performance goal, minimize delay for vehicles into the stadium
- Post-event goal: Last vehicle out under 2 hours with ultimate goal of *1 hour 30 minutes* after event ends (down from approx. 3 hours at Candlestick)

# Game Day Operations

## Stadium Command Post

### Coordination

- Law Enforcement
- Fire Department
  - Fire Station 10
- Parking Management
- Off-site Security
- Transit

# Game Day Operations

- Traffic control – limit ingress and egress routes and movements
- Manually deploy signal timing plans
  - Coordination in some groups
  - Alternate free timings
  - Provide extended pedestrian times
  - Restrict pedestrian movements
  - Omit specific signal phases with lane closures
- Wayfinding – Portable CMS sign messaging
- Monitor and adjust operations
- Pre-paid parking route information



# Game Day Operations Traffic Control





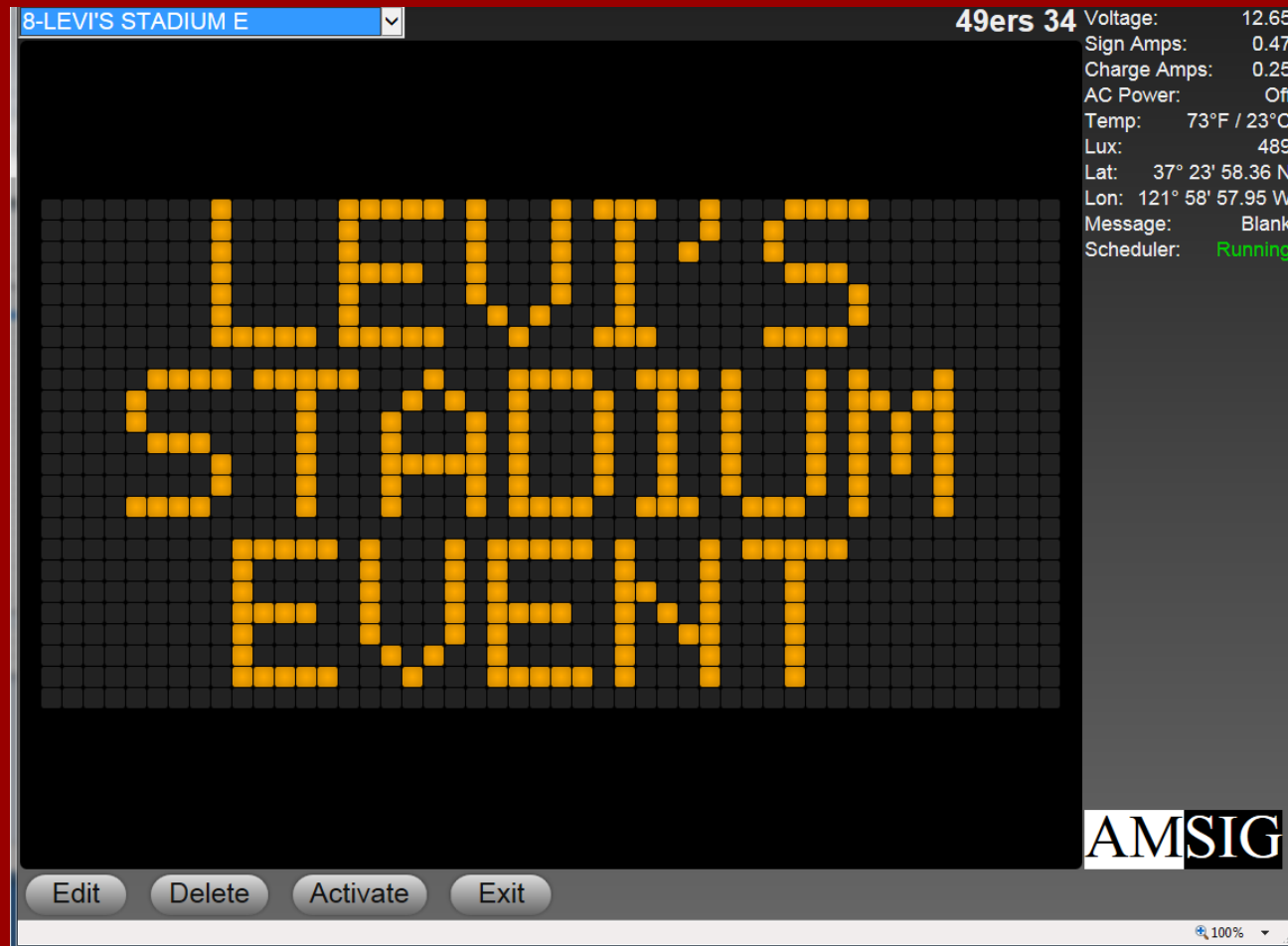
# Game Day Operations Traffic Signals

The screenshot displays the ATMS software interface for the City of Santa Clara. The main window is titled "Controller List" and shows a table of 17 found controllers. The table columns include Alarm Status, ID, Name, Lock, Revision, Coord State, Pattern, TBC, Local Counter, Cycle Offset, Controller Time, Time Diff (Sec), Port, DHCP IP, IP Address, Lock User Name, T8AMS ID, Prog Split 1, and Prog Split 2. Below the table, there are sections for "Recent Alarms" and "Field Chooser". The "Field Chooser" section has a list of fields with checkboxes, including "1 - Power Up Alarm", "2 - Stop Timing", "3 - Cabinet Door Activation", "4 - Coordination Failure", "5 - Cabinet Door Alarm", "6 - External Alarm # 2", "7 - External Alarm # 3", "8 - External Alarm # 4", "9 - Closed Loop Disabled", "10 - External Alarm # 5", "11 - External Alarm # 6", "12 - Manual Control Enable", "13 - Coordination Free Switch", and "14 - Local Flash Input". Three detail windows are open, showing "100 - GAP @ Mission College", "112 - GAP @ Old Glory", and "107 - GAP @ Patrick Henry". Each detail window shows a "General" tab with fields for Date, Time, Rev, Pattern, Preempt, Comm Ok %, Phase, Overlap, Call, Ped, and Ped Call.

Alarm Status	ID	Name	Lock	Revision	Coord State	Pattern	TBC	Local Counter	Cycle Offset	Controller Time	Time Diff (Sec)	Port	DHCP IP	IP Address	Lock User Name	T8AMS ID	Prog Split 1	Prog Split 2
OK	84	Bowers @ 101 SB Off-Ramp		76.7d	SYNC	1	43	114	150	79	10/10/2014 @ 8:10 AM	-4		172.020.065.084			0	100
OK	88	GAP @ 101 NB Off-Ramp		76.7d	SYNC	1	43	48	150	145	10/10/2014 @ 8:10 AM	-4		172.020.065.088			0	106
OK	100	GAP @ Mission College		76.7d	SHRT	1	42	147	150	43	10/10/2014 @ 8:10 AM	-4		172.020.065.100			17	64
OK	101	Mission College @ College Entrance		76.7d	FREE	254	12	12			10/10/2014 @ 8:10 AM	-5		172.020.065.101			0	0
OK	107	GAP @ Patrick Henry		76.7d	SYNC	1	41	19	150	22	10/10/2014 @ 8:10 AM	-5		172.020.065.107			14	69
OK	112	GAP @ Old Glory		76.7d	SYNC	1	42	30	150	12	10/10/2014 @ 8:10 AM	-6		172.020.065.112			12	91
OK	115	Tasman @ Lick Mill (LRT)		76.8h	FREE	20	11	20			10/10/2014 @ 8:10 AM	-5		172.020.065.115			25	60
OK	116	Tasman @ Calle Del Sol (LRT)		76.8h	FREE	20	11	7			10/10/2014 @ 8:10 AM	-5		172.020.065.116			35	60
OK	118	Tasman @ Convention Center (LRT)		76.8h	FREE	20	12	12			10/10/2014 @ 8:10 AM	-4		172.020.065.118			45	65
OK	119	GAP @ Tasman (LRT)		76.8h	FREE	20	11	11			10/10/2014 @ 8:10 AM	-5		172.020.065.119			45	45
OK	120	Tasman @ Old Ironside (LRT)		76.8h	FREE	20	11	23			10/10/2014 @ 8:10 AM	-5		172.020.065.120			20	60
OK	121	Tasman @ Patrick Henry (LRT)		76.8h	FREE	20	12	12			10/10/2014 @ 8:10 AM	-4		172.020.065.121			25	70
OK	122	GAP @ Bunker Hill		76.7d	SYNC	1	41	39	100	2	10/10/2014 @ 8:10 AM	-5		172.020.065.122			17	37
OK	124	GAP @ Old Mt View-Aviso		76.7d	FREE	1	11	1			10/10/2014 @ 8:10 AM	-5		172.020.065.124			0	0
OK	126	GAP @ GAV		76.7d	FREE	1	42	88			10/10/2014 @ 8:10 AM	-4		172.020.065.126			10	37
OK	127	Tasman @ Ped Crossing (LRT)		76.8h	FREE	20	11	11			10/10/2014 @ 8:10 AM	-5		172.020.065.127			0	56
OK	134	Tasman @ Centennial (LRT)		76.8h	FREE	20	11	11			10/10/2014 @ 8:10 AM	-5		172.020.065.134			30	45

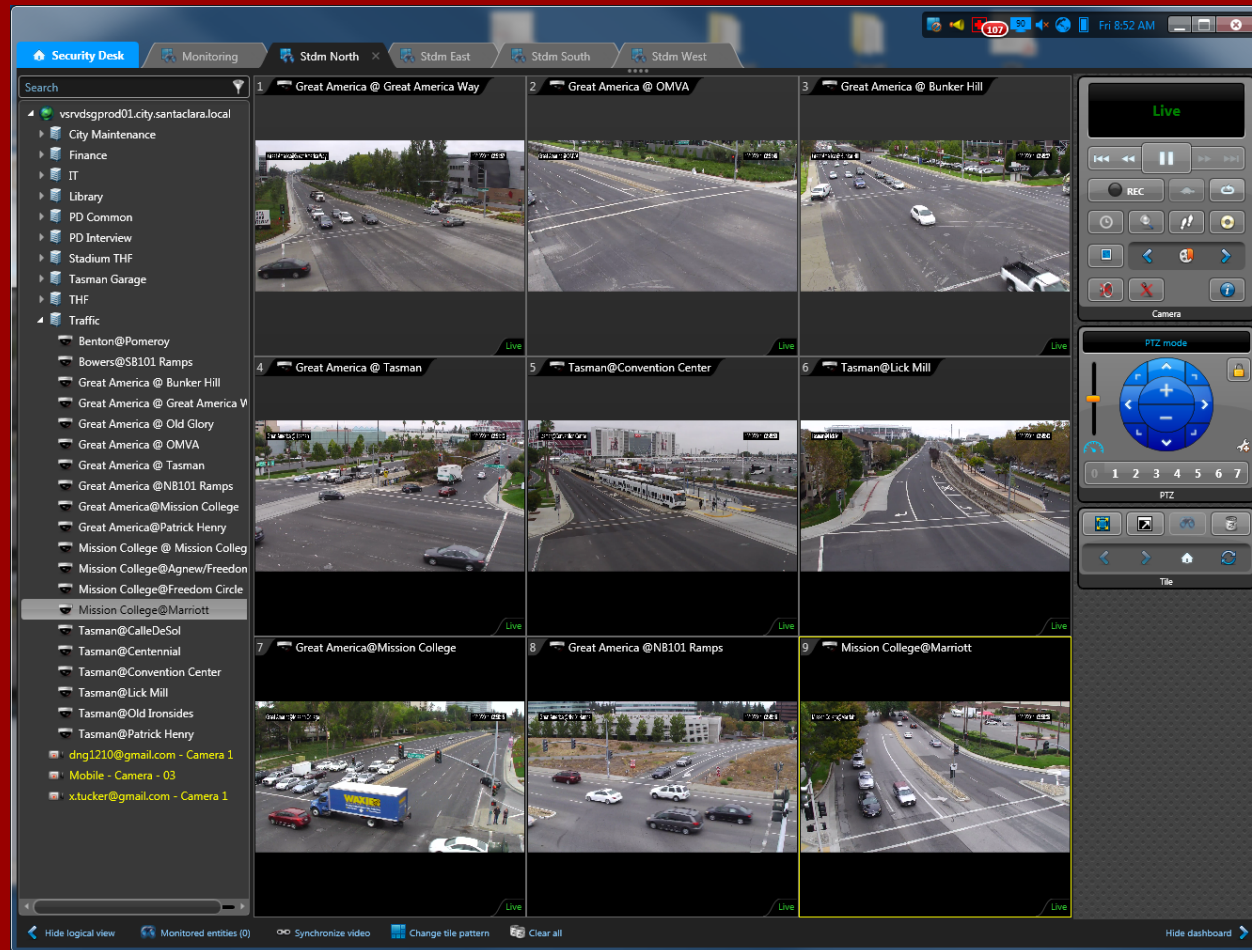
- Event timing plans deployed as early as 3-4 hours before event and until parking lots clear – started with 3 pre-event and 2 post-event plans

# Game Day Operations Portable CMS





# Game Day Operations PTZ Camera Management



# Competing Needs & Challenges

- Pedestrians
- Light Rail
- Buses
- Cars
- Non-event traffic
- Traffic control
- Parking loading
- Opening of stadium
- Police control
- Lack of capacity in some areas





# Experiences & Lessons Learned

- Event Days are Fluid and Fast Paced
- Event Patron Characteristics
  - Arrival/Departure
    - Patterns and Rates vary
- Infrastructure
  - Freeways
  - Pedestrians



# More Lessons Learned

- Informational Signs
  - Permanent CMS
  - Wayfinding
  - Pedestrian
  - Trailblazer
- Signal Operations
- Expectations



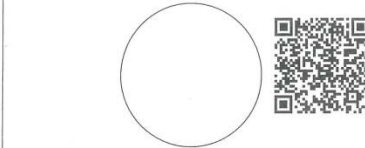


# Season Summary

- Traffic control and routing changed over 10 times
- Traffic projections revised several times
- Implemented 11 timing plans:
  - 6 ingress plans (3 weekend plans and 3 weeknight plans)
  - 5 egress plans (high cycle length nearly 7 minutes long - 410 seconds)
- ***Primary Goal Achieved!!***
  - Egress empty time:*
    - Started around 2 ½ hrs at first event
    - Down to just over 1 hr to below 1 ½ hrs for most events

# Recommendations for Event Attendees and Public

1. Plan Your Day /Arrive Early
2. Follow Directions on Parking Pass
3. When in the Stadium area, follow PCMS messages
4. Be Patient at Egress



**THIS LICENSE LIMITS OUR LIABILITY...READ IT**


- Customer expressly agrees to assume all risks arising out of or connected with the use of the parking facilities, including, but not limited to the risk of lost, stolen or damaged property, and the risk of personal injury or death.
- Parking pass licenses the holder to park ONE AUTOMOBILE in the park area designated by operator upon customer arrival. PARK PROPERLY AND LOCK YOUR CAR. Only rental space license is granted and no bailment is created. NO REFUNDS FOR LOST, STOLEN OR UNUSED PARKING PASSES. PARKING PASS MUST BE INTACT UPON CUSTOMER ARRIVAL. NO IN-AND-OUT PRIVILEGES.
- The failure of any person to obey management's rules and / or regulations, including verbal instructions or directions, may result in eviction from the parking lots. Eviction constitutes forfeiture and / or cancellation of parking privileges without compensation.
- Any vehicle or vehicles that park in aiseways, driveways, fire lanes or any other unauthorized areas (including failure to park between the painted lines) will be cited or towed and stored at the owner's expense. For information regarding towed vehicles, please contact the San Francisco 49ers Stadium Operations Office at (415) 658-4949.
- Resale or attempted resale of this license is prohibited. No employee or agent may alter or enlarge liability hereunder orally or otherwise.
- The San Francisco 49ers or its agents shall not be responsible for fire, theft, damage or loss to said automobile or any other article left in the same.
- This constitutes the entire license and acceptance of this parking pass constitutes acknowledgment by the holder he/she has read and agrees to the foregoing.

**PLEASE ADHERE TO THE FOLLOWING DIRECTIONS FOR GOLD LOT #1**  
*No glass containers permitted*

**From I-880:**  
Take westbound CA 237 and follow directions below.

**From US 101:**  
Take eastbound CA 237 and follow directions below.

**From CA 237:**  
1. Take the North First Street exit.  
2. Turn left onto southbound North First Street.  
3. Proceed approx. 1 mi south on North First Street to Tasman Drive.  
4. Turn right onto westbound Tasman Dr. and prepare to display parking pass.  
5. Turn right on Centennial and right onto Stars and Stripes.  
6. Continue back under Tasman. Follow signage / staff directions into your parking area.



NOT TO SCALE

# Additional Recommendations for Attendees and Public

1. Sign up with Nixle messaging for notifications at:  
<http://scpd.org/index.aspx?page=2619>
2. Event Day comments or concerns:  
neighbors@levisstadium.com
3. Use Public View of Santa Clara Traffic Camera Feeds:  
<http://santaclaraca.gov/TrafficCam>



# Santa Clara Traffic Feeds



**Bowers Ave @ SB101 Ramps** [View Full Screen](#)

10/10/2014 09:29:05

1 Bowers Ave @ SB101 Ramps  
2 Great America @ 101 Off-Ramp NB  
3 Mission College @ Agnew  
4 Mission College @ Mission College Circle  
5 Great America @ Mission College  
6 Great America @ Patrick Henry  
7 Great America @ Old

<http://trafficcam.santaclaraca.gov/TrafficCamera.aspx?CID=Bowers101> 100%



# Questions?

