

DOCKETED

| | |
|-------------------------|--|
| Docket Number: | 21-AFC-01 |
| Project Title: | Pecho Energy Storage Center |
| TN #: | 240712-31 |
| Document Title: | Pecho Energy Center's Application for Certification-Appendix 5 12 A Traffic |
| Description: | N/A |
| Filer: | Chester Hong |
| Organization: | Golder |
| Submitter Role: | Applicant Consultant |
| Submission Date: | 11/23/2021 4:49:00 PM |
| Docketed Date: | 11/23/2021 |

Appendix A

Synchro Analyses

Synchro Analyses for Existing (Pre-Project) Conditions

SimTraffic Simulation Summary
Existing AM

Hydrostor Pecho Pre-Project AM Conditions

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|------|------|------|------|------|------|
| Start Time | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 |
| End Time | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 3301 | 3373 | 3329 | 3349 | 3253 | 3321 |
| Vehs Exited | 3305 | 3368 | 3346 | 3352 | 3254 | 3325 |
| Starting Vehs | 41 | 34 | 45 | 49 | 40 | 38 |
| Ending Vehs | 37 | 39 | 28 | 46 | 39 | 34 |
| Travel Distance (mi) | 1325 | 1358 | 1341 | 1345 | 1306 | 1335 |
| Travel Time (hr) | 47.2 | 46.5 | 47.6 | 48.9 | 45.4 | 47.1 |
| Total Delay (hr) | 9.8 | 8.3 | 9.9 | 11.0 | 8.5 | 9.5 |
| Total Stops | 739 | 706 | 690 | 673 | 713 | 705 |
| Fuel Used (gal) | 40.4 | 40.5 | 40.7 | 40.8 | 39.2 | 40.3 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 6:45 |
| End Time | 7:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 7:00 |
| End Time | 7:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|-----|------|------|------|------|------|
| Vehs Entered | 752 | 794 | 771 | 774 | 758 | 770 |
| Vehs Exited | 751 | 791 | 778 | 786 | 757 | 774 |
| Starting Vehs | 41 | 34 | 45 | 49 | 40 | 38 |
| Ending Vehs | 42 | 37 | 38 | 37 | 41 | 37 |
| Travel Distance (mi) | 299 | 320 | 312 | 317 | 305 | 311 |
| Travel Time (hr) | 9.8 | 10.7 | 10.2 | 10.5 | 10.1 | 10.3 |
| Total Delay (hr) | 1.4 | 1.7 | 1.5 | 1.7 | 1.5 | 1.6 |
| Total Stops | 160 | 164 | 150 | 139 | 158 | 153 |
| Fuel Used (gal) | 9.1 | 9.6 | 9.2 | 9.3 | 9.1 | 9.3 |

SimTraffic Simulation Summary
Existing AM

Hydrostor Pecho Pre-Project AM Conditions

Interval #2 Information Recording

| | |
|------------------|------|
| Start Time | 7:15 |
| End Time | 7:30 |
| Total Time (min) | 15 |

Volumes adjusted by PHF, Growth Factors.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1023 | 959 | 1031 | 957 | 1035 | 1002 |
| Vehs Exited | 990 | 942 | 988 | 928 | 1017 | 973 |
| Starting Vehs | 42 | 37 | 38 | 37 | 41 | 37 |
| Ending Vehs | 75 | 54 | 81 | 66 | 59 | 67 |
| Travel Distance (mi) | 400 | 376 | 399 | 374 | 405 | 391 |
| Travel Time (hr) | 15.4 | 13.7 | 15.6 | 13.9 | 15.3 | 14.8 |
| Total Delay (hr) | 4.1 | 3.0 | 4.3 | 3.2 | 3.7 | 3.7 |
| Total Stops | 268 | 217 | 192 | 224 | 263 | 234 |
| Fuel Used (gal) | 12.3 | 11.4 | 12.3 | 11.5 | 12.6 | 12.0 |

Interval #3 Information Recording

| | |
|------------------|------|
| Start Time | 7:30 |
| End Time | 7:45 |
| Total Time (min) | 15 |

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 791 | 790 | 777 | 814 | 743 | 782 |
| Vehs Exited | 827 | 804 | 817 | 835 | 756 | 808 |
| Starting Vehs | 75 | 54 | 81 | 66 | 59 | 67 |
| Ending Vehs | 39 | 40 | 41 | 45 | 46 | 41 |
| Travel Distance (mi) | 326 | 324 | 323 | 329 | 307 | 322 |
| Travel Time (hr) | 11.6 | 10.9 | 11.9 | 11.4 | 10.4 | 11.2 |
| Total Delay (hr) | 2.4 | 1.9 | 2.7 | 2.2 | 1.9 | 2.2 |
| Total Stops | 173 | 158 | 209 | 154 | 142 | 168 |
| Fuel Used (gal) | 10.1 | 9.6 | 10.3 | 9.9 | 8.9 | 9.8 |

Interval #4 Information Recording

| | |
|------------------|------|
| Start Time | 7:45 |
| End Time | 8:00 |
| Total Time (min) | 15 |

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|-----|------|-----|------|
| Vehs Entered | 735 | 830 | 750 | 804 | 717 | 768 |
| Vehs Exited | 737 | 831 | 763 | 803 | 724 | 772 |
| Starting Vehs | 39 | 40 | 41 | 45 | 46 | 41 |
| Ending Vehs | 37 | 39 | 28 | 46 | 39 | 34 |
| Travel Distance (mi) | 300 | 338 | 308 | 325 | 289 | 312 |
| Travel Time (hr) | 10.5 | 11.2 | 9.8 | 13.1 | 9.6 | 10.8 |
| Total Delay (hr) | 2.0 | 1.8 | 1.3 | 3.9 | 1.4 | 2.1 |
| Total Stops | 138 | 167 | 139 | 156 | 150 | 150 |
| Fuel Used (gal) | 8.9 | 10.0 | 8.9 | 10.1 | 8.6 | 9.3 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|------|------|------|------|------|
| Denied Delay (hr) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Denied Del/Veh (s) | 4.0 | 0.3 | 0.0 | 0.1 | 0.1 | 0.1 | 0.3 |
| Total Delay (hr) | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.4 |
| Total Del/Veh (s) | 12.2 | 2.9 | 1.4 | 2.5 | 9.7 | 6.4 | 2.4 |
| Stop Del/Veh (s) | 10.3 | 2.4 | 0.0 | 0.3 | 8.1 | 6.7 | 0.9 |
| Total Stops | 38 | 15 | 0 | 0 | 13 | 12 | 78 |
| Stop/Veh | 1.00 | 1.00 | 0.00 | 0.00 | 0.93 | 1.00 | 0.11 |

Queuing and Blocking Report
Existing AM

Hydrostor Pecho Pre-Project AM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | SB |
|-----------------------|----|-----|----|
| Directions Served | L | TR | TR |
| Maximum Queue (ft) | 49 | 68 | 54 |
| Average Queue (ft) | 23 | 14 | 19 |
| 95th Queue (ft) | 48 | 45 | 46 |
| Link Distance (ft) | | 828 | 56 |
| Upstream Blk Time (%) | | | 0 |
| Queuing Penalty (veh) | | | 0 |
| Storage Bay Dist (ft) | 25 | | |
| Storage Blk Time (%) | 9 | 1 | |
| Queuing Penalty (veh) | 2 | 1 | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho Pre-Project AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↘ | ↑↑ | ↗ | ↘ | ↑↑ | ↗ | | ↗ | ↗ | | ↗ | ↗ |
| Traffic Vol, veh/h | 9 | 1016 | 8 | 2 | 779 | 1 | 12 | 0 | 5 | 5 | 0 | 13 |
| Future Vol, veh/h | 9 | 1016 | 8 | 2 | 779 | 1 | 12 | 0 | 5 | 5 | 0 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 1104 | 9 | 2 | 847 | 1 | 13 | 0 | 5 | 5 | 0 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 848 | 0 | 0 | 1113 | 0 | 0 | 1552 | 1976 | 552 | 1423 | 1984 | 424 |
| Stage 1 | - | - | - | - | - | - | 1124 | 1124 | - | 851 | 851 | - |
| Stage 2 | - | - | - | - | - | - | 428 | 852 | - | 572 | 1133 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 785 | - | - | 623 | - | - | 77 | 61 | 477 | 96 | 61 | 579 |
| Stage 1 | - | - | - | - | - | - | 219 | 279 | - | 321 | 375 | - |
| Stage 2 | - | - | - | - | - | - | 575 | 374 | - | 472 | 276 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 785 | - | - | 623 | - | - | 74 | 60 | 477 | 94 | 60 | 579 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 74 | 60 | - | 94 | 60 | - |
| Stage 1 | - | - | - | - | - | - | 216 | 275 | - | 317 | 374 | - |
| Stage 2 | - | - | - | - | - | - | 559 | 373 | - | 461 | 272 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 | | | 0 | | | 48.7 | | | 20.9 | | |
| HCM LOS | | | | | | | E | | | C | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 74 | 477 | 785 | - | - | 623 | - | - | 94 | 579 |
| HCM Lane V/C Ratio | 0.176 | 0.011 | 0.012 | - | - | 0.003 | - | - | 0.058 | 0.024 |
| HCM Control Delay (s) | 63.8 | 12.6 | 9.6 | - | - | 10.8 | - | - | 45.6 | 11.4 |
| HCM Lane LOS | F | B | A | - | - | B | - | - | E | B |
| HCM 95th %tile Q(veh) | 0.6 | 0 | 0 | - | - | 0 | - | - | 0.2 | 0.1 |

HCM 6th TWSC

3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho Pre-Project AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | | | | ↖ | | | ↖ | |
| Traffic Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 567 | 226 | 10 | 50 | 0 |
| Future Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 567 | 226 | 10 | 50 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 23 | 0 | 473 | 0 | 0 | 0 | 0 | 718 | 286 | 13 | 63 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 950 | 1093 | 63 | - | 0 | 0 | 1004 | 0 | 0 |
| Stage 1 | 89 | 89 | - | - | - | - | - | - | - |
| Stage 2 | 861 | 1004 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 289 | 214 | 1002 | 0 | - | - | 690 | - | 0 |
| Stage 1 | 934 | 821 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 414 | 320 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 283 | 0 | 1002 | - | - | - | 690 | - | - |
| Mov Cap-2 Maneuver | 283 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 934 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 406 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.1 | 0 | 1.7 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 283 | 1002 | 690 | - |
| HCM Lane V/C Ratio | - | - | 0.081 | 0.472 | 0.018 | - |
| HCM Control Delay (s) | - | - | 18.8 | 11.8 | 10.3 | 0 |
| HCM Lane LOS | - | - | C | B | B | A |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 2.6 | 0.1 | - |

HCM 6th TWSC
4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho Pre-Project AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 15 | 4 | 70 | 8 | 4 | 15 | 41 | 759 | 5 | 8 | 398 | 17 |
| Future Vol, veh/h | 15 | 4 | 70 | 8 | 4 | 15 | 41 | 759 | 5 | 8 | 398 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 5 | 91 | 10 | 5 | 19 | 53 | 986 | 6 | 10 | 517 | 22 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1644 | 1635 | 517 | 1688 | 1651 | 986 | 539 | 0 | 0 | 992 | 0 | 0 |
| Stage 1 | 537 | 537 | - | 1092 | 1092 | - | - | - | - | - | - | - |
| Stage 2 | 1107 | 1098 | - | 596 | 559 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 80 | 101 | 558 | 74 | 99 | 301 | 1029 | - | - | 697 | - | - |
| Stage 1 | 528 | 523 | - | 260 | 291 | - | - | - | - | - | - | - |
| Stage 2 | 255 | 289 | - | 490 | 511 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 64 | 87 | 558 | 53 | 86 | 301 | 1029 | - | - | 697 | - | - |
| Mov Cap-2 Maneuver | 64 | 87 | - | 53 | 86 | - | - | - | - | - | - | - |
| Stage 1 | 467 | 512 | - | 230 | 258 | - | - | - | - | - | - | - |
| Stage 2 | 207 | 256 | - | 397 | 500 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 28.2 | | 46.9 | | 0.4 | | 0.2 | |
| HCM LOS | D | | E | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1029 | - | - | 68 | 558 | 61 | 301 | 697 | - | - |
| HCM Lane V/C Ratio | 0.052 | - | - | 0.363 | 0.163 | 0.255 | 0.065 | 0.015 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 85.5 | 12.7 | 83.2 | 17.8 | 10.2 | 0 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 1.4 | 0.6 | 0.9 | 0.2 | 0 | - | - |

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|------|------|------|------|------|------|
| Start Time | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 |
| End Time | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 3454 | 3538 | 3502 | 3441 | 3347 | 3456 |
| Vehs Exited | 3456 | 3543 | 3516 | 3437 | 3349 | 3460 |
| Starting Vehs | 49 | 46 | 56 | 41 | 40 | 46 |
| Ending Vehs | 47 | 41 | 42 | 45 | 38 | 40 |
| Travel Distance (mi) | 1391 | 1434 | 1417 | 1392 | 1355 | 1398 |
| Travel Time (hr) | 51.4 | 49.3 | 53.1 | 46.1 | 46.1 | 49.2 |
| Total Delay (hr) | 12.8 | 9.5 | 13.7 | 7.5 | 8.5 | 10.4 |
| Total Stops | 912 | 940 | 883 | 849 | 878 | 889 |
| Fuel Used (gal) | 42.8 | 42.9 | 43.2 | 40.9 | 40.5 | 42.1 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 3:45 |
| End Time | 4:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 4:00 |
| End Time | 4:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 845 | 879 | 841 | 836 | 838 | 851 |
| Vehs Exited | 851 | 879 | 842 | 829 | 819 | 843 |
| Starting Vehs | 49 | 46 | 56 | 41 | 40 | 46 |
| Ending Vehs | 43 | 46 | 55 | 48 | 59 | 48 |
| Travel Distance (mi) | 340 | 357 | 341 | 337 | 339 | 343 |
| Travel Time (hr) | 11.6 | 12.4 | 12.2 | 11.1 | 11.1 | 11.7 |
| Total Delay (hr) | 2.1 | 2.4 | 2.7 | 1.8 | 1.8 | 2.2 |
| Total Stops | 226 | 251 | 200 | 204 | 187 | 212 |
| Fuel Used (gal) | 10.2 | 10.8 | 10.2 | 9.8 | 9.7 | 10.1 |

SimTraffic Simulation Summary
Existing PM

Hydrostor Pecho Pre-Project PM Conditions

Interval #2 Information Recording

| | |
|--|------|
| Start Time | 4:15 |
| End Time | 4:30 |
| Total Time (min) | 15 |
| Volumes adjusted by PHF, Growth Factors. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 964 | 928 | 910 | 919 | 936 | 932 |
| Vehs Exited | 960 | 927 | 915 | 905 | 943 | 929 |
| Starting Vehs | 43 | 46 | 55 | 48 | 59 | 48 |
| Ending Vehs | 47 | 47 | 50 | 62 | 52 | 50 |
| Travel Distance (mi) | 388 | 377 | 369 | 370 | 378 | 376 |
| Travel Time (hr) | 13.9 | 13.6 | 13.9 | 12.1 | 13.7 | 13.5 |
| Total Delay (hr) | 3.2 | 3.2 | 3.7 | 1.9 | 3.2 | 3.0 |
| Total Stops | 265 | 233 | 225 | 221 | 277 | 246 |
| Fuel Used (gal) | 11.9 | 11.4 | 11.2 | 10.8 | 11.5 | 11.3 |

Interval #3 Information Recording

| | |
|---|------|
| Start Time | 4:30 |
| End Time | 4:45 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 840 | 858 | 893 | 833 | 800 | 844 |
| Vehs Exited | 824 | 863 | 891 | 852 | 809 | 848 |
| Starting Vehs | 47 | 47 | 50 | 62 | 52 | 50 |
| Ending Vehs | 63 | 42 | 52 | 43 | 43 | 44 |
| Travel Distance (mi) | 337 | 344 | 360 | 343 | 325 | 342 |
| Travel Time (hr) | 13.2 | 11.7 | 13.4 | 11.4 | 11.0 | 12.1 |
| Total Delay (hr) | 4.0 | 1.9 | 3.4 | 1.9 | 2.0 | 2.6 |
| Total Stops | 200 | 242 | 227 | 204 | 204 | 217 |
| Fuel Used (gal) | 10.3 | 10.4 | 11.0 | 10.1 | 9.8 | 10.3 |

Interval #4 Information Recording

| | |
|---|------|
| Start Time | 4:45 |
| End Time | 5:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 805 | 873 | 858 | 853 | 773 | 834 |
| Vehs Exited | 821 | 874 | 868 | 851 | 778 | 837 |
| Starting Vehs | 63 | 42 | 52 | 43 | 43 | 44 |
| Ending Vehs | 47 | 41 | 42 | 45 | 38 | 40 |
| Travel Distance (mi) | 326 | 356 | 348 | 342 | 313 | 337 |
| Travel Time (hr) | 12.7 | 11.7 | 13.6 | 11.4 | 10.3 | 12.0 |
| Total Delay (hr) | 3.6 | 1.9 | 3.9 | 1.9 | 1.6 | 2.6 |
| Total Stops | 221 | 214 | 231 | 220 | 210 | 219 |
| Fuel Used (gal) | 10.4 | 10.3 | 10.9 | 10.1 | 9.5 | 10.3 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBT | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|------|------|------|------|------|------|
| Denied Delay (hr) | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Denied Del/Veh (s) | 3.9 | 0.1 | 0.5 | 0.0 | 0.0 | 0.2 | 0.2 | 1.0 |
| Total Delay (hr) | 0.4 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.6 |
| Total Del/Veh (s) | 10.0 | 9.9 | 3.6 | 0.7 | 1.4 | 7.3 | 5.6 | 3.5 |
| Stop Del/Veh (s) | 7.6 | 5.9 | 2.7 | 0.0 | 0.5 | 5.7 | 6.0 | 2.3 |
| Total Stops | 162 | 2 | 14 | 0 | 0 | 27 | 12 | 217 |
| Stop/Veh | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.93 | 0.92 | 0.33 |

Queuing and Blocking Report
Existing PM

Hydrostor Pecho Pre-Project PM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | NB | SB |
|-----------------------|----|-----|-----|----|
| Directions Served | L | TR | LT | TR |
| Maximum Queue (ft) | 56 | 96 | 8 | 62 |
| Average Queue (ft) | 39 | 39 | 0 | 25 |
| 95th Queue (ft) | 55 | 84 | 4 | 52 |
| Link Distance (ft) | | 828 | 189 | 56 |
| Upstream Blk Time (%) | | | | 1 |
| Queuing Penalty (veh) | | | | 0 |
| Storage Bay Dist (ft) | 25 | | | |
| Storage Blk Time (%) | 26 | 2 | | |
| Queuing Penalty (veh) | 4 | 3 | | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho Pre-Project PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 10 | 837 | 12 | 5 | 1255 | 4 | 13 | 0 | 3 | 2 | 0 | 11 |
| Future Vol, veh/h | 10 | 837 | 12 | 5 | 1255 | 4 | 13 | 0 | 3 | 2 | 0 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 910 | 13 | 5 | 1364 | 4 | 14 | 0 | 3 | 2 | 0 | 12 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 1368 | 0 | 0 | 923 | 0 | 0 | 1624 | 2310 | 455 | 1851 | 2319 | 682 |
| Stage 1 | - | - | - | - | - | - | 932 | 932 | - | 1374 | 1374 | - |
| Stage 2 | - | - | - | - | - | - | 692 | 1378 | - | 477 | 945 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 498 | - | - | 736 | - | - | 68 | 38 | 552 | 46 | 37 | 392 |
| Stage 1 | - | - | - | - | - | - | 287 | 343 | - | 153 | 211 | - |
| Stage 2 | - | - | - | - | - | - | 400 | 210 | - | 538 | 339 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 498 | - | - | 736 | - | - | 64 | 37 | 552 | 45 | 36 | 392 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 64 | 37 | - | 45 | 36 | - |
| Stage 1 | - | - | - | - | - | - | 281 | 335 | - | 150 | 210 | - |
| Stage 2 | - | - | - | - | - | - | 385 | 209 | - | 523 | 332 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|----|------|----|
| HCM Control Delay, s | 0.1 | 0 | 64.3 | 26 |
| HCM LOS | | | F | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 64 | 552 | 498 | - | - | 736 | - | - | 45 | 392 |
| HCM Lane V/C Ratio | 0.221 | 0.006 | 0.022 | - | - | 0.007 | - | - | 0.048 | 0.031 |
| HCM Control Delay (s) | 76.5 | 11.6 | 12.4 | - | - | 9.9 | - | - | 89 | 14.5 |
| HCM Lane LOS | F | B | B | - | - | A | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.8 | 0 | 0.1 | - | - | 0 | - | - | 0.1 | 0.1 |

HCM 6th TWSC

3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho Pre-Project PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | | | | ↖ | | | ↖ | |
| Traffic Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 419 | 80 | 15 | 171 | 0 |
| Future Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 419 | 80 | 15 | 171 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 16 | 0 | 406 | 0 | 0 | 0 | 0 | 446 | 85 | 16 | 182 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 703 | 745 | 182 | - | 0 | 0 | 531 | 0 | 0 |
| Stage 1 | 214 | 214 | - | - | - | - | - | - | - |
| Stage 2 | 489 | 531 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.41 | 6.51 | 6.21 | - | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | - | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 405 | 344 | 863 | 0 | - | - | 1042 | - | 0 |
| Stage 1 | 824 | 727 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 619 | 528 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 398 | 0 | 863 | - | - | - | 1042 | - | - |
| Mov Cap-2 Maneuver | 398 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 824 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 608 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.9 | 0 | 0.7 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 398 | 863 | 1042 | - |
| HCM Lane V/C Ratio | - | - | 0.04 | 0.471 | 0.015 | - |
| HCM Control Delay (s) | - | - | 14.4 | 12.8 | 8.5 | 0 |
| HCM Lane LOS | - | - | B | B | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 2.6 | 0 | - |

HCM 6th TWSC
4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho Pre-Project PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 11 | 7 | 107 | 8 | 6 | 22 | 40 | 452 | 9 | 16 | 519 | 19 |
| Future Vol, veh/h | 11 | 7 | 107 | 8 | 6 | 22 | 40 | 452 | 9 | 16 | 519 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 12 | 7 | 113 | 8 | 6 | 23 | 42 | 476 | 9 | 17 | 546 | 20 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 1159 | 1149 | 546 | 1210 | 1160 | 476 | 566 | 0 | 0 | 485 | 0 | 0 |
| Stage 1 | 580 | 580 | - | 560 | 560 | - | - | - | - | - | - | - |
| Stage 2 | 579 | 569 | - | 650 | 600 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 174 | 199 | 540 | 160 | 196 | 591 | 1011 | - | - | 1083 | - | - |
| Stage 1 | 502 | 502 | - | 515 | 512 | - | - | - | - | - | - | - |
| Stage 2 | 503 | 507 | - | 460 | 491 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 153 | 183 | 540 | 115 | 181 | 591 | 1011 | - | - | 1083 | - | - |
| Mov Cap-2 Maneuver | 153 | 183 | - | 115 | 181 | - | - | - | - | - | - | - |
| Stage 1 | 473 | 490 | - | 486 | 483 | - | - | - | - | - | - | - |
| Stage 2 | 450 | 478 | - | 350 | 480 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | | SB | | |
|----------------------|------|--|------|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 15.8 | | 20.4 | | 0.7 | | | 0.2 | | |
| HCM LOS | C | | C | | | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1011 | - | - | 163 | 540 | 136 | 591 | 1083 | - | - |
| HCM Lane V/C Ratio | 0.042 | - | - | 0.116 | 0.209 | 0.108 | 0.039 | 0.016 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 30 | 13.4 | 34.7 | 11.3 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | D | B | D | B | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 0.8 | 0.4 | 0.1 | 0 | - | - |

Synchro Analyses for
Project Conditions During Construction
(before mitigation)

SimTraffic Simulation Summary
Existing AM

Hydrostor Pecho Plus Construction AM Conditions

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|-------|------|-------|------|-------|-------|
| Start Time | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 |
| End Time | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 4361 | 4352 | 4218 | 4305 | 4198 | 4287 |
| Vehs Exited | 4354 | 4366 | 4179 | 4299 | 4171 | 4274 |
| Starting Vehs | 57 | 71 | 43 | 57 | 57 | 55 |
| Ending Vehs | 64 | 57 | 82 | 63 | 84 | 70 |
| Travel Distance (mi) | 1666 | 1670 | 1602 | 1651 | 1605 | 1639 |
| Travel Time (hr) | 125.0 | 98.0 | 117.1 | 64.0 | 136.6 | 108.1 |
| Total Delay (hr) | 73.5 | 46.3 | 67.4 | 13.1 | 86.8 | 57.4 |
| Total Stops | 979 | 1218 | 1122 | 1220 | 908 | 1086 |
| Fuel Used (gal) | 69.1 | 63.8 | 66.2 | 55.2 | 70.7 | 65.0 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 6:45 |
| End Time | 7:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 7:00 |
| End Time | 7:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1006 | 1036 | 1018 | 1035 | 994 | 1018 |
| Vehs Exited | 1013 | 1037 | 1010 | 1028 | 990 | 1015 |
| Starting Vehs | 57 | 71 | 43 | 57 | 57 | 55 |
| Ending Vehs | 50 | 70 | 51 | 64 | 61 | 56 |
| Travel Distance (mi) | 389 | 398 | 390 | 395 | 385 | 391 |
| Travel Time (hr) | 14.3 | 16.8 | 15.2 | 14.7 | 14.0 | 15.0 |
| Total Delay (hr) | 2.3 | 4.4 | 3.2 | 2.6 | 2.1 | 2.9 |
| Total Stops | 287 | 359 | 292 | 269 | 230 | 285 |
| Fuel Used (gal) | 12.9 | 14.1 | 13.1 | 13.0 | 12.6 | 13.2 |

SimTraffic Simulation Summary

Existing AM

Hydrostor Pecho Plus Construction AM Conditions

Interval #2 Information Recording

Start Time 7:15
End Time 7:30
Total Time (min) 15

Volumes adjusted by PHF, Growth Factors.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1202 | 1272 | 1214 | 1214 | 1153 | 1209 |
| Vehs Exited | 1129 | 1206 | 1138 | 1194 | 1077 | 1150 |
| Starting Vehs | 50 | 70 | 51 | 64 | 61 | 56 |
| Ending Vehs | 123 | 136 | 127 | 84 | 137 | 121 |
| Travel Distance (mi) | 432 | 463 | 440 | 458 | 415 | 442 |
| Travel Time (hr) | 35.1 | 28.4 | 25.3 | 19.2 | 36.9 | 29.0 |
| Total Delay (hr) | 21.8 | 14.1 | 11.5 | 5.0 | 24.1 | 15.3 |
| Total Stops | 278 | 353 | 384 | 358 | 260 | 326 |
| Fuel Used (gal) | 18.3 | 17.7 | 16.3 | 15.6 | 18.3 | 17.3 |

Interval #3 Information Recording

Start Time 7:30
End Time 7:45
Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1038 | 983 | 970 | 1026 | 1023 | 1010 |
| Vehs Exited | 1053 | 1047 | 992 | 1049 | 1048 | 1038 |
| Starting Vehs | 123 | 136 | 127 | 84 | 137 | 121 |
| Ending Vehs | 108 | 72 | 105 | 61 | 112 | 91 |
| Travel Distance (mi) | 406 | 396 | 378 | 403 | 405 | 398 |
| Travel Time (hr) | 48.2 | 33.2 | 39.7 | 15.5 | 51.2 | 37.6 |
| Total Delay (hr) | 35.6 | 20.9 | 28.0 | 3.1 | 38.6 | 25.3 |
| Total Stops | 160 | 194 | 204 | 318 | 206 | 218 |
| Fuel Used (gal) | 20.5 | 17.3 | 18.5 | 13.5 | 21.6 | 18.3 |

Interval #4 Information Recording

Start Time 7:45
End Time 8:00
Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1115 | 1061 | 1016 | 1030 | 1028 | 1047 |
| Vehs Exited | 1159 | 1076 | 1039 | 1028 | 1056 | 1074 |
| Starting Vehs | 108 | 72 | 105 | 61 | 112 | 91 |
| Ending Vehs | 64 | 57 | 82 | 63 | 84 | 70 |
| Travel Distance (mi) | 439 | 413 | 393 | 395 | 401 | 408 |
| Travel Time (hr) | 27.5 | 19.6 | 36.8 | 14.6 | 34.5 | 26.6 |
| Total Delay (hr) | 13.8 | 6.8 | 24.6 | 2.4 | 22.0 | 13.9 |
| Total Stops | 254 | 312 | 242 | 275 | 212 | 261 |
| Fuel Used (gal) | 17.3 | 14.7 | 18.2 | 13.1 | 18.1 | 16.3 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|-------|-------|------|------|------|------|------|
| Denied Delay (hr) | 1.8 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 |
| Denied Del/Veh (s) | 19.3 | 16.4 | 0.1 | 0.0 | 2.1 | 0.1 | 6.8 |
| Total Delay (hr) | 10.6 | 0.7 | 0.2 | 0.0 | 0.1 | 0.0 | 11.6 |
| Total Del/Veh (s) | 115.6 | 120.5 | 1.4 | 2.5 | 17.9 | 6.8 | 42.2 |
| Stop Del/Veh (s) | 119.4 | 124.6 | 0.0 | 0.3 | 16.4 | 7.2 | 42.6 |
| Total Stops | 272 | 29 | 2 | 0 | 18 | 12 | 333 |
| Stop/Veh | 0.83 | 1.45 | 0.00 | 0.00 | 0.86 | 0.92 | 0.34 |

Queuing and Blocking Report
Existing AM

Hydrostor Pecho Plus Construction AM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | NB | SB |
|-----------------------|----|-----|-----|----|
| Directions Served | L | TR | LT | TR |
| Maximum Queue (ft) | 66 | 758 | 37 | 60 |
| Average Queue (ft) | 50 | 341 | 2 | 23 |
| 95th Queue (ft) | 59 | 857 | 21 | 52 |
| Link Distance (ft) | | 828 | 189 | 56 |
| Upstream Blk Time (%) | | 16 | | 1 |
| Queuing Penalty (veh) | | 0 | | 0 |
| Storage Bay Dist (ft) | 25 | | | |
| Storage Blk Time (%) | 76 | 3 | | |
| Queuing Penalty (veh) | 11 | 9 | | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho Plus Construction AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↘ | ↑↑ | ↗ | ↘ | ↑↑ | ↗ | | ↗ | ↗ | | ↗ | ↗ |
| Traffic Vol, veh/h | 9 | 1016 | 426 | 2 | 1057 | 1 | 12 | 0 | 5 | 5 | 0 | 13 |
| Future Vol, veh/h | 9 | 1016 | 426 | 2 | 1057 | 1 | 12 | 0 | 5 | 5 | 0 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 1104 | 463 | 2 | 1149 | 1 | 13 | 0 | 5 | 5 | 0 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 1150 | 0 | 0 | 1567 | 0 | 0 | 1703 | 2278 | 552 | 1725 | 2740 | 575 |
| Stage 1 | - | - | - | - | - | - | 1124 | 1124 | - | 1153 | 1153 | - |
| Stage 2 | - | - | - | - | - | - | 579 | 1154 | - | 572 | 1587 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 603 | - | - | 417 | - | - | 59 | 39 | 477 | 57 | 20 | 461 |
| Stage 1 | - | - | - | - | - | - | 219 | 279 | - | 210 | 270 | - |
| Stage 2 | - | - | - | - | - | - | 468 | 270 | - | 472 | 166 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 603 | - | - | 417 | - | - | 56 | 38 | 477 | 55 | 20 | 461 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 56 | 38 | - | 55 | 20 | - |
| Stage 1 | - | - | - | - | - | - | 215 | 274 | - | 206 | 269 | - |
| Stage 2 | - | - | - | - | - | - | 451 | 269 | - | 459 | 163 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0.1 | | | 0 | | | 65.7 | | | 31 | | |
| HCM LOS | | | | | | | F | | | D | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 56 | 477 | 603 | - | - | 417 | - | - | 55 | 461 |
| HCM Lane V/C Ratio | 0.233 | 0.011 | 0.016 | - | - | 0.005 | - | - | 0.099 | 0.031 |
| HCM Control Delay (s) | 87.8 | 12.6 | 11.1 | - | - | 13.7 | - | - | 77.5 | 13.1 |
| HCM Lane LOS | F | B | B | - | - | B | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.8 | 0 | 0 | - | - | 0 | - | - | 0.3 | 0.1 |

HCM 6th TWSC

3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho Plus Construction AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 7.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | | | | ↖ | | | ↖ | |
| Traffic Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 581 | 226 | 288 | 56 | 0 |
| Future Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 581 | 226 | 288 | 56 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 23 | 0 | 473 | 0 | 0 | 0 | 0 | 735 | 286 | 365 | 71 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 1679 | 1822 | 71 | - | 0 | 0 | 1021 | 0 | 0 |
| Stage 1 | 801 | 801 | - | - | - | - | - | - | - |
| Stage 2 | 878 | 1021 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 104 | 77 | 991 | 0 | - | - | 680 | - | 0 |
| Stage 1 | 442 | 397 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 406 | 314 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 46 | 0 | 991 | - | - | - | 680 | - | - |
| Mov Cap-2 Maneuver | 46 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 442 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 179 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|----|----|------|
| HCM Control Delay, s | 18 | 0 | 13.6 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 46 | 991 | 680 | - |
| HCM Lane V/C Ratio | - | - | 0.495 | 0.478 | 0.536 | - |
| HCM Control Delay (s) | - | - | 143.9 | 11.9 | 16.2 | 0 |
| HCM Lane LOS | - | - | F | B | C | A |
| HCM 95th %tile Q(veh) | - | - | 1.8 | 2.6 | 3.2 | - |

HCM 6th TWSC

4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho Plus Construction AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 15 | 4 | 70 | 8 | 4 | 29 | 41 | 759 | 26 | 14 | 398 | 17 |
| Future Vol, veh/h | 15 | 4 | 70 | 8 | 4 | 29 | 41 | 759 | 26 | 14 | 398 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 5 | 91 | 10 | 5 | 38 | 53 | 986 | 34 | 18 | 517 | 22 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1684 | 1679 | 517 | 1704 | 1667 | 986 | 539 | 0 | 0 | 1020 | 0 | 0 |
| Stage 1 | 553 | 553 | - | 1092 | 1092 | - | - | - | - | - | - | - |
| Stage 2 | 1131 | 1126 | - | 612 | 575 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 75 | 95 | 558 | 72 | 96 | 301 | 1029 | - | - | 680 | - | - |
| Stage 1 | 517 | 514 | - | 260 | 291 | - | - | - | - | - | - | - |
| Stage 2 | 247 | 280 | - | 480 | 503 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 55 | 80 | 558 | 51 | 81 | 301 | 1029 | - | - | 680 | - | - |
| Mov Cap-2 Maneuver | 55 | 80 | - | 51 | 81 | - | - | - | - | - | - | - |
| Stage 1 | 455 | 494 | - | 229 | 256 | - | - | - | - | - | - | - |
| Stage 2 | 186 | 246 | - | 382 | 484 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 32.3 | | 39.1 | | 0.4 | | 0.3 | |
| HCM LOS | D | | E | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1029 | - | - | 59 | 558 | 58 | 301 | 680 | - | - |
| HCM Lane V/C Ratio | 0.052 | - | - | 0.418 | 0.163 | 0.269 | 0.125 | 0.027 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 104.3 | 12.7 | 88.5 | 18.7 | 10.4 | 0 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 1.6 | 0.6 | 0.9 | 0.4 | 0.1 | - | - |

SimTraffic Simulation Summary
Existing PM

Hydrostor Pecho Plus Construction PM Conditions

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|------|------|------|------|------|------|
| Start Time | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 |
| End Time | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 4012 | 3848 | 3894 | 3834 | 3997 | 3916 |
| Vehs Exited | 3993 | 3857 | 3907 | 3835 | 3995 | 3917 |
| Starting Vehs | 61 | 57 | 57 | 61 | 64 | 57 |
| Ending Vehs | 80 | 48 | 44 | 60 | 66 | 59 |
| Travel Distance (mi) | 1532 | 1477 | 1492 | 1465 | 1526 | 1498 |
| Travel Time (hr) | 62.2 | 55.3 | 56.6 | 54.6 | 74.9 | 60.7 |
| Total Delay (hr) | 14.2 | 9.2 | 9.7 | 8.7 | 27.2 | 13.8 |
| Total Stops | 1400 | 1290 | 1360 | 1323 | 1268 | 1328 |
| Fuel Used (gal) | 53.2 | 50.1 | 50.5 | 49.6 | 55.8 | 51.8 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 3:45 |
| End Time | 4:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 4:00 |
| End Time | 4:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 921 | 1000 | 907 | 927 | 949 | 940 |
| Vehs Exited | 926 | 1001 | 916 | 938 | 944 | 945 |
| Starting Vehs | 61 | 57 | 57 | 61 | 64 | 57 |
| Ending Vehs | 56 | 56 | 48 | 50 | 69 | 56 |
| Travel Distance (mi) | 355 | 385 | 346 | 356 | 361 | 361 |
| Travel Time (hr) | 13.0 | 14.5 | 13.8 | 13.2 | 14.6 | 13.9 |
| Total Delay (hr) | 1.8 | 2.6 | 2.9 | 2.1 | 3.3 | 2.6 |
| Total Stops | 305 | 349 | 339 | 333 | 309 | 329 |
| Fuel Used (gal) | 12.0 | 13.1 | 11.9 | 12.2 | 12.5 | 12.3 |

SimTraffic Simulation Summary
Existing PM

Hydrostor Pecho Plus Construction PM Conditions

Interval #2 Information Recording

| | |
|--|------|
| Start Time | 4:15 |
| End Time | 4:30 |
| Total Time (min) | 15 |
| Volumes adjusted by PHF, Growth Factors. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1117 | 1015 | 1022 | 1011 | 1142 | 1063 |
| Vehs Exited | 1108 | 1009 | 1017 | 1001 | 1114 | 1050 |
| Starting Vehs | 56 | 56 | 48 | 50 | 69 | 56 |
| Ending Vehs | 65 | 62 | 53 | 60 | 97 | 66 |
| Travel Distance (mi) | 421 | 386 | 392 | 386 | 426 | 402 |
| Travel Time (hr) | 17.6 | 14.5 | 14.5 | 14.5 | 25.3 | 17.3 |
| Total Delay (hr) | 4.4 | 2.4 | 2.2 | 2.4 | 12.0 | 4.7 |
| Total Stops | 403 | 340 | 350 | 316 | 322 | 345 |
| Fuel Used (gal) | 14.8 | 13.0 | 13.1 | 12.9 | 16.5 | 14.0 |

Interval #3 Information Recording

| | |
|---|------|
| Start Time | 4:30 |
| End Time | 4:45 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 987 | 875 | 952 | 934 | 938 | 936 |
| Vehs Exited | 982 | 893 | 966 | 941 | 972 | 950 |
| Starting Vehs | 65 | 62 | 53 | 60 | 97 | 66 |
| Ending Vehs | 70 | 44 | 39 | 53 | 63 | 54 |
| Travel Distance (mi) | 378 | 339 | 364 | 358 | 370 | 362 |
| Travel Time (hr) | 14.1 | 12.5 | 13.4 | 13.1 | 20.9 | 14.8 |
| Total Delay (hr) | 2.2 | 1.9 | 2.0 | 1.9 | 9.3 | 3.4 |
| Total Stops | 345 | 289 | 326 | 330 | 297 | 315 |
| Fuel Used (gal) | 12.8 | 11.4 | 12.4 | 12.2 | 14.1 | 12.6 |

Interval #4 Information Recording

| | |
|---|------|
| Start Time | 4:45 |
| End Time | 5:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 987 | 958 | 1013 | 962 | 968 | 978 |
| Vehs Exited | 977 | 954 | 1008 | 955 | 965 | 972 |
| Starting Vehs | 70 | 44 | 39 | 53 | 63 | 54 |
| Ending Vehs | 80 | 48 | 44 | 60 | 66 | 59 |
| Travel Distance (mi) | 377 | 367 | 390 | 364 | 368 | 373 |
| Travel Time (hr) | 17.5 | 13.8 | 14.9 | 13.8 | 14.0 | 14.8 |
| Total Delay (hr) | 5.7 | 2.3 | 2.6 | 2.3 | 2.5 | 3.1 |
| Total Stops | 347 | 312 | 345 | 344 | 340 | 337 |
| Fuel Used (gal) | 13.6 | 12.6 | 13.1 | 12.4 | 12.6 | 12.9 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBT | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|------|------|------|------|------|------|
| Denied Delay (hr) | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Denied Del/Veh (s) | 3.8 | 0.6 | 0.5 | 0.0 | 0.0 | 0.2 | 0.1 | 0.8 |
| Total Delay (hr) | 0.8 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 1.1 |
| Total Del/Veh (s) | 16.5 | 14.5 | 5.4 | 0.8 | 1.9 | 12.6 | 10.5 | 4.8 |
| Stop Del/Veh (s) | 14.3 | 10.8 | 3.9 | 0.0 | 0.4 | 11.0 | 10.9 | 3.7 |
| Total Stops | 169 | 2 | 16 | 0 | 0 | 30 | 12 | 229 |
| Stop/Veh | 1.00 | 1.00 | 1.07 | 0.00 | 0.00 | 0.86 | 0.86 | 0.28 |

Queuing and Blocking Report
Existing PM

Hydrostor Pecho Plus Construction PM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | NB | SB |
|-----------------------|----|-----|-----|----|
| Directions Served | L | TR | LT | TR |
| Maximum Queue (ft) | 66 | 157 | 4 | 64 |
| Average Queue (ft) | 43 | 55 | 0 | 28 |
| 95th Queue (ft) | 58 | 122 | 0 | 56 |
| Link Distance (ft) | | 828 | 189 | 56 |
| Upstream Blk Time (%) | | | | 2 |
| Queuing Penalty (veh) | | | | 0 |
| Storage Bay Dist (ft) | 25 | | | |
| Storage Blk Time (%) | 39 | 2 | | |
| Queuing Penalty (veh) | 7 | 4 | | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho Plus Construction PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↘ | ↗ | ↗ | ↘ | ↗ | ↗ | | ↘ | ↗ | | ↘ | ↗ |
| Traffic Vol, veh/h | 10 | 837 | 20 | 5 | 1255 | 4 | 13 | 0 | 281 | 2 | 0 | 11 |
| Future Vol, veh/h | 10 | 837 | 20 | 5 | 1255 | 4 | 13 | 0 | 281 | 2 | 0 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 910 | 22 | 5 | 1364 | 4 | 14 | 0 | 305 | 2 | 0 | 12 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 1368 | 0 | 0 | 932 | 0 | 0 | 1624 | 2310 | 455 | 1851 | 2328 | 682 |
| Stage 1 | - | - | - | - | - | - | 932 | 932 | - | 1374 | 1374 | - |
| Stage 2 | - | - | - | - | - | - | 692 | 1378 | - | 477 | 954 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 498 | - | - | 730 | - | - | 68 | 38 | 552 | 46 | 37 | 392 |
| Stage 1 | - | - | - | - | - | - | 287 | 343 | - | 153 | 211 | - |
| Stage 2 | - | - | - | - | - | - | 400 | 210 | - | 538 | 335 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 498 | - | - | 730 | - | - | 64 | 37 | 552 | 20 | 36 | 392 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 64 | 37 | - | 20 | 36 | - |
| Stage 1 | - | - | - | - | - | - | 281 | 335 | - | 150 | 210 | - |
| Stage 2 | - | - | - | - | - | - | 385 | 209 | - | 235 | 328 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 | | | 0 | | | 21.8 | | | 43.9 | | |
| HCM LOS | | | | | | | C | | | E | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 64 | 552 | 498 | - | - | 730 | - | - | 20 | 392 |
| HCM Lane V/C Ratio | 0.221 | 0.553 | 0.022 | - | - | 0.007 | - | - | 0.109 | 0.031 |
| HCM Control Delay (s) | 76.5 | 19.3 | 12.4 | - | - | 10 | - | - | 205.9 | 14.5 |
| HCM Lane LOS | F | C | B | - | - | A | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.8 | 3.4 | 0.1 | - | - | 0 | - | - | 0.3 | 0.1 |

HCM 6th TWSC

3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho Plus Construction PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | | | | ↖ | | | ↖ | |
| Traffic Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 565 | 80 | 15 | 177 | 0 |
| Future Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 565 | 80 | 15 | 177 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 16 | 0 | 406 | 0 | 0 | 0 | 0 | 601 | 85 | 16 | 188 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 864 | 906 | 188 | - | 0 | 0 | 686 | 0 | 0 |
| Stage 1 | 220 | 220 | - | - | - | - | - | - | - |
| Stage 2 | 644 | 686 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.41 | 6.51 | 6.21 | - | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | - | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 326 | 277 | 857 | 0 | - | - | 912 | - | 0 |
| Stage 1 | 819 | 723 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 525 | 449 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 319 | 0 | 857 | - | - | - | 912 | - | - |
| Mov Cap-2 Maneuver | 319 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 819 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 515 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 13.1 | 0 | 0.7 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 319 | 857 | 912 | - |
| HCM Lane V/C Ratio | - | - | 0.05 | 0.474 | 0.017 | - |
| HCM Control Delay (s) | - | - | 16.9 | 12.9 | 9 | 0 |
| HCM Lane LOS | - | - | C | B | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 2.6 | 0.1 | - |

HCM 6th TWSC

4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho Plus Construction PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | ↔ | | ↔ | ↔ | | ↔ | ↔ |
| Traffic Vol, veh/h | 11 | 7 | 107 | 29 | 6 | 168 | 40 | 452 | 9 | 22 | 519 | 19 |
| Future Vol, veh/h | 11 | 7 | 107 | 29 | 6 | 168 | 40 | 452 | 9 | 22 | 519 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 12 | 7 | 113 | 31 | 6 | 177 | 42 | 476 | 9 | 23 | 546 | 20 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1248 | 1161 | 546 | 1222 | 1172 | 476 | 566 | 0 | 0 | 485 | 0 | 0 |
| Stage 1 | 592 | 592 | - | 560 | 560 | - | - | - | - | - | - | - |
| Stage 2 | 656 | 569 | - | 662 | 612 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 151 | 196 | 540 | 157 | 193 | 591 | 1011 | - | - | 1083 | - | - |
| Stage 1 | 494 | 496 | - | 515 | 512 | - | - | - | - | - | - | - |
| Stage 2 | 456 | 507 | - | 453 | 485 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 96 | 179 | 540 | 112 | 176 | 591 | 1011 | - | - | 1083 | - | - |
| Mov Cap-2 Maneuver | 96 | 179 | - | 112 | 176 | - | - | - | - | - | - | - |
| Stage 1 | 466 | 481 | - | 486 | 483 | - | - | - | - | - | - | - |
| Stage 2 | 297 | 478 | - | 342 | 470 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 17.5 | | 19.7 | | 0.7 | | 0.3 | |
| HCM LOS | C | | C | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1011 | - | - | 117 | 540 | 119 | 591 | 1083 | - | - |
| HCM Lane V/C Ratio | 0.042 | - | - | 0.162 | 0.209 | 0.31 | 0.299 | 0.021 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 41.6 | 13.4 | 48.3 | 13.7 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | E | B | E | B | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.6 | 0.8 | 1.2 | 1.3 | 0.1 | - | - |

Synchro Analyses for
Project Conditions During Construction
(including shuttle buses)

SimTraffic Simulation Summary
Existing AM

Hydrostor Pecho Plus Construction AM Conditions

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|------|------|------|------|------|------|
| Start Time | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 |
| End Time | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 3663 | 3595 | 3678 | 3565 | 3583 | 3617 |
| Vehs Exited | 3663 | 3606 | 3682 | 3553 | 3583 | 3619 |
| Starting Vehs | 51 | 54 | 47 | 56 | 44 | 49 |
| Ending Vehs | 51 | 43 | 43 | 68 | 44 | 46 |
| Travel Distance (mi) | 1403 | 1381 | 1405 | 1368 | 1375 | 1386 |
| Travel Time (hr) | 53.9 | 51.0 | 55.5 | 52.2 | 51.7 | 52.8 |
| Total Delay (hr) | 11.3 | 9.1 | 12.9 | 10.5 | 10.1 | 10.8 |
| Total Stops | 884 | 918 | 913 | 940 | 954 | 923 |
| Fuel Used (gal) | 45.7 | 45.1 | 46.6 | 44.8 | 45.1 | 45.5 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 6:45 |
| End Time | 7:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 7:00 |
| End Time | 7:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 827 | 843 | 832 | 823 | 771 | 820 |
| Vehs Exited | 829 | 853 | 841 | 829 | 783 | 826 |
| Starting Vehs | 51 | 54 | 47 | 56 | 44 | 49 |
| Ending Vehs | 49 | 44 | 38 | 50 | 32 | 38 |
| Travel Distance (mi) | 320 | 327 | 323 | 323 | 299 | 318 |
| Travel Time (hr) | 11.3 | 11.4 | 11.3 | 11.4 | 10.4 | 11.1 |
| Total Delay (hr) | 1.6 | 1.4 | 1.6 | 1.5 | 1.3 | 1.5 |
| Total Stops | 184 | 211 | 187 | 187 | 195 | 194 |
| Fuel Used (gal) | 10.1 | 10.5 | 10.3 | 10.3 | 9.6 | 10.1 |

SimTraffic Simulation Summary

Existing AM

Hydrostor Pecho Plus Construction AM Conditions

Interval #2 Information Recording

Start Time 7:15

End Time 7:30

Total Time (min) 15

Volumes adjusted by PHF, Growth Factors.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1093 | 1100 | 1087 | 1041 | 1116 | 1090 |
| Vehs Exited | 1070 | 1048 | 1042 | 1028 | 1067 | 1050 |
| Starting Vehs | 49 | 44 | 38 | 50 | 32 | 38 |
| Ending Vehs | 72 | 96 | 83 | 63 | 81 | 78 |
| Travel Distance (mi) | 407 | 409 | 398 | 391 | 413 | 404 |
| Travel Time (hr) | 17.9 | 16.1 | 18.2 | 17.2 | 17.6 | 17.4 |
| Total Delay (hr) | 5.5 | 3.7 | 6.1 | 5.2 | 5.0 | 5.1 |
| Total Stops | 303 | 309 | 292 | 345 | 366 | 325 |
| Fuel Used (gal) | 13.8 | 13.6 | 13.8 | 13.6 | 14.2 | 13.8 |

Interval #3 Information Recording

Start Time 7:30

End Time 7:45

Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 877 | 799 | 868 | 827 | 842 | 842 |
| Vehs Exited | 899 | 860 | 907 | 846 | 880 | 876 |
| Starting Vehs | 72 | 96 | 83 | 63 | 81 | 78 |
| Ending Vehs | 50 | 35 | 44 | 44 | 43 | 39 |
| Travel Distance (mi) | 344 | 320 | 342 | 321 | 335 | 332 |
| Travel Time (hr) | 13.0 | 12.2 | 13.5 | 11.7 | 12.3 | 12.5 |
| Total Delay (hr) | 2.5 | 2.4 | 3.2 | 1.8 | 2.3 | 2.4 |
| Total Stops | 213 | 203 | 225 | 210 | 189 | 211 |
| Fuel Used (gal) | 11.2 | 10.6 | 11.6 | 10.5 | 10.8 | 10.9 |

Interval #4 Information Recording

Start Time 7:45

End Time 8:00

Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 866 | 853 | 891 | 874 | 854 | 869 |
| Vehs Exited | 865 | 845 | 892 | 850 | 853 | 860 |
| Starting Vehs | 50 | 35 | 44 | 44 | 43 | 39 |
| Ending Vehs | 51 | 43 | 43 | 68 | 44 | 46 |
| Travel Distance (mi) | 332 | 326 | 342 | 333 | 327 | 332 |
| Travel Time (hr) | 11.7 | 11.4 | 12.4 | 11.9 | 11.4 | 11.8 |
| Total Delay (hr) | 1.7 | 1.6 | 2.0 | 1.8 | 1.5 | 1.7 |
| Total Stops | 184 | 195 | 209 | 198 | 204 | 197 |
| Fuel Used (gal) | 10.7 | 10.5 | 11.0 | 10.4 | 10.5 | 10.6 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|------|------|------|------|------|
| Denied Delay (hr) | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Denied Del/Veh (s) | 3.9 | 0.5 | 0.0 | 0.0 | 0.1 | 0.1 | 0.6 |
| Total Delay (hr) | 0.5 | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 0.8 |
| Total Del/Veh (s) | 14.9 | 5.6 | 1.4 | 2.6 | 12.1 | 7.5 | 3.8 |
| Stop Del/Veh (s) | 12.9 | 4.4 | 0.0 | 0.3 | 10.5 | 7.8 | 2.4 |
| Total Stops | 110 | 17 | 1 | 0 | 17 | 10 | 155 |
| Stop/Veh | 0.98 | 1.06 | 0.00 | 0.00 | 0.94 | 0.91 | 0.20 |

Queuing and Blocking Report

Existing AM

Hydrostor Pecho Plus Construction AM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | NB | SB |
|-----------------------|----|-----|-----|----|
| Directions Served | L | TR | LT | TR |
| Maximum Queue (ft) | 53 | 148 | 18 | 57 |
| Average Queue (ft) | 35 | 35 | 1 | 21 |
| 95th Queue (ft) | 55 | 98 | 8 | 49 |
| Link Distance (ft) | | 828 | 189 | 56 |
| Upstream Blk Time (%) | | | | 1 |
| Queuing Penalty (veh) | | | | 0 |
| Storage Bay Dist (ft) | 25 | | | |
| Storage Blk Time (%) | 25 | 2 | | |
| Queuing Penalty (veh) | 4 | 2 | | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho Plus Construction AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↘ | ↑↑ | ↗ | ↘ | ↑↑ | ↗ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 9 | 1016 | 139 | 2 | 853 | 1 | 12 | 0 | 38 | 5 | 0 | 13 |
| Future Vol, veh/h | 9 | 1016 | 139 | 2 | 853 | 1 | 12 | 0 | 38 | 5 | 0 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 1104 | 151 | 2 | 927 | 1 | 13 | 0 | 41 | 5 | 0 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 928 | 0 | 0 | 1255 | 0 | 0 | 1592 | 2056 | 552 | 1503 | 2206 | 464 |
| Stage 1 | - | - | - | - | - | - | 1124 | 1124 | - | 931 | 931 | - |
| Stage 2 | - | - | - | - | - | - | 468 | 932 | - | 572 | 1275 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 733 | - | - | 550 | - | - | 72 | 55 | 477 | 84 | 44 | 545 |
| Stage 1 | - | - | - | - | - | - | 219 | 279 | - | 287 | 344 | - |
| Stage 2 | - | - | - | - | - | - | 545 | 343 | - | 472 | 236 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 733 | - | - | 550 | - | - | 69 | 54 | 477 | 76 | 43 | 545 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 69 | 54 | - | 76 | 43 | - |
| Stage 1 | - | - | - | - | - | - | 216 | 275 | - | 283 | 343 | - |
| Stage 2 | - | - | - | - | - | - | 529 | 342 | - | 425 | 233 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|----|------|------|
| HCM Control Delay, s | 0.1 | 0 | 26.7 | 24.1 |
| HCM LOS | | | D | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 69 | 477 | 733 | - | - | 550 | - | - | 76 | 545 |
| HCM Lane V/C Ratio | 0.189 | 0.087 | 0.013 | - | - | 0.004 | - | - | 0.072 | 0.026 |
| HCM Control Delay (s) | 69 | 13.3 | 10 | - | - | 11.6 | - | - | 56 | 11.8 |
| HCM Lane LOS | F | B | A | - | - | B | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.6 | 0.3 | 0 | - | - | 0 | - | - | 0.2 | 0.1 |

HCM 6th TWSC

3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho Plus Construction AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | | | | ↖ | | | ↖ | |
| Traffic Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 581 | 226 | 84 | 56 | 0 |
| Future Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 581 | 226 | 84 | 56 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 23 | 0 | 473 | 0 | 0 | 0 | 0 | 735 | 286 | 106 | 71 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 1161 | 1304 | 71 | - | 0 | 0 | 1021 | 0 | 0 |
| Stage 1 | 283 | 283 | - | - | - | - | - | - | - |
| Stage 2 | 878 | 1021 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 216 | 160 | 991 | 0 | - | - | 680 | - | 0 |
| Stage 1 | 765 | 677 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 406 | 314 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 181 | 0 | 991 | - | - | - | 680 | - | - |
| Mov Cap-2 Maneuver | 181 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 765 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 340 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.6 | 0 | 6.8 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 181 | 991 | 680 | - |
| HCM Lane V/C Ratio | - | - | 0.126 | 0.478 | 0.156 | - |
| HCM Control Delay (s) | - | - | 27.7 | 11.9 | 11.3 | 0 |
| HCM Lane LOS | - | - | D | B | B | A |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 2.6 | 0.6 | - |

HCM 6th TWSC

4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho Plus Construction AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | ↔ | | ↔ | ↔ | | ↔ | ↔ |
| Traffic Vol, veh/h | 15 | 4 | 70 | 8 | 4 | 29 | 41 | 759 | 17 | 14 | 398 | 17 |
| Future Vol, veh/h | 15 | 4 | 70 | 8 | 4 | 29 | 41 | 759 | 17 | 14 | 398 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 5 | 91 | 10 | 5 | 38 | 53 | 986 | 22 | 18 | 517 | 22 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1678 | 1667 | 517 | 1704 | 1667 | 986 | 539 | 0 | 0 | 1008 | 0 | 0 |
| Stage 1 | 553 | 553 | - | 1092 | 1092 | - | - | - | - | - | - | - |
| Stage 2 | 1125 | 1114 | - | 612 | 575 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 75 | 96 | 558 | 72 | 96 | 301 | 1029 | - | - | 687 | - | - |
| Stage 1 | 517 | 514 | - | 260 | 291 | - | - | - | - | - | - | - |
| Stage 2 | 249 | 284 | - | 480 | 503 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 55 | 81 | 558 | 51 | 81 | 301 | 1029 | - | - | 687 | - | - |
| Mov Cap-2 Maneuver | 55 | 81 | - | 51 | 81 | - | - | - | - | - | - | - |
| Stage 1 | 456 | 494 | - | 229 | 257 | - | - | - | - | - | - | - |
| Stage 2 | 188 | 250 | - | 382 | 484 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 32.3 | | 39.1 | | 0.4 | | 0.3 | |
| HCM LOS | D | | E | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1029 | - | - | 59 | 558 | 58 | 301 | 687 | - | - |
| HCM Lane V/C Ratio | 0.052 | - | - | 0.418 | 0.163 | 0.269 | 0.125 | 0.026 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 104.3 | 12.7 | 88.5 | 18.7 | 10.4 | 0 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 1.6 | 0.6 | 0.9 | 0.4 | 0.1 | - | - |

SimTraffic Simulation Summary
Existing PM

Hydrostor Pecho Plus Construction PM Conditions

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|------|------|------|------|------|------|
| Start Time | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 |
| End Time | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 3671 | 3678 | 3791 | 3746 | 3604 | 3695 |
| Vehs Exited | 3684 | 3691 | 3796 | 3761 | 3608 | 3707 |
| Starting Vehs | 60 | 54 | 55 | 75 | 45 | 53 |
| Ending Vehs | 47 | 41 | 50 | 60 | 41 | 45 |
| Travel Distance (mi) | 1414 | 1417 | 1454 | 1442 | 1382 | 1422 |
| Travel Time (hr) | 52.2 | 51.5 | 53.3 | 54.6 | 49.6 | 52.3 |
| Total Delay (hr) | 8.4 | 7.7 | 8.0 | 10.0 | 7.0 | 8.2 |
| Total Stops | 1093 | 1103 | 1158 | 1051 | 1030 | 1086 |
| Fuel Used (gal) | 47.1 | 47.4 | 48.2 | 48.5 | 46.0 | 47.4 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 3:45 |
| End Time | 4:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 4:00 |
| End Time | 4:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 857 | 940 | 902 | 921 | 835 | 892 |
| Vehs Exited | 859 | 945 | 912 | 939 | 837 | 898 |
| Starting Vehs | 60 | 54 | 55 | 75 | 45 | 53 |
| Ending Vehs | 58 | 49 | 45 | 57 | 43 | 47 |
| Travel Distance (mi) | 331 | 363 | 348 | 359 | 323 | 345 |
| Travel Time (hr) | 11.8 | 13.1 | 12.9 | 14.0 | 11.2 | 12.6 |
| Total Delay (hr) | 1.5 | 1.8 | 2.0 | 2.9 | 1.3 | 1.9 |
| Total Stops | 239 | 280 | 290 | 267 | 203 | 255 |
| Fuel Used (gal) | 10.9 | 12.2 | 11.6 | 12.2 | 10.5 | 11.5 |

SimTraffic Simulation Summary
Existing PM

Hydrostor Pecho Plus Construction PM Conditions

Interval #2 Information Recording

| | |
|--|------|
| Start Time | 4:15 |
| End Time | 4:30 |
| Total Time (min) | 15 |
| Volumes adjusted by PHF, Growth Factors. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 1003 | 988 | 1034 | 990 | 1029 | 1008 |
| Vehs Exited | 1002 | 987 | 1017 | 985 | 1002 | 998 |
| Starting Vehs | 58 | 49 | 45 | 57 | 43 | 47 |
| Ending Vehs | 59 | 50 | 62 | 62 | 70 | 58 |
| Travel Distance (mi) | 382 | 377 | 390 | 379 | 391 | 384 |
| Travel Time (hr) | 14.9 | 13.9 | 14.4 | 15.1 | 14.4 | 14.6 |
| Total Delay (hr) | 3.0 | 2.3 | 2.2 | 3.4 | 2.4 | 2.7 |
| Total Stops | 339 | 316 | 313 | 248 | 294 | 302 |
| Fuel Used (gal) | 13.0 | 12.6 | 13.1 | 12.8 | 12.9 | 12.9 |

Interval #3 Information Recording

| | |
|---|------|
| Start Time | 4:30 |
| End Time | 4:45 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 907 | 826 | 942 | 899 | 860 | 885 |
| Vehs Exited | 913 | 831 | 957 | 910 | 878 | 897 |
| Starting Vehs | 59 | 50 | 62 | 62 | 70 | 58 |
| Ending Vehs | 53 | 45 | 47 | 51 | 52 | 45 |
| Travel Distance (mi) | 348 | 320 | 366 | 347 | 331 | 343 |
| Travel Time (hr) | 12.7 | 11.4 | 13.3 | 12.5 | 11.8 | 12.3 |
| Total Delay (hr) | 1.9 | 1.6 | 2.0 | 1.8 | 1.5 | 1.7 |
| Total Stops | 258 | 231 | 273 | 252 | 254 | 254 |
| Fuel Used (gal) | 11.6 | 10.4 | 12.2 | 11.6 | 11.1 | 11.4 |

Interval #4 Information Recording

| | |
|---|------|
| Start Time | 4:45 |
| End Time | 5:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 904 | 924 | 913 | 936 | 880 | 911 |
| Vehs Exited | 910 | 928 | 910 | 927 | 891 | 913 |
| Starting Vehs | 53 | 45 | 47 | 51 | 52 | 45 |
| Ending Vehs | 47 | 41 | 50 | 60 | 41 | 45 |
| Travel Distance (mi) | 353 | 357 | 349 | 356 | 337 | 350 |
| Travel Time (hr) | 12.9 | 13.1 | 12.7 | 13.1 | 12.2 | 12.8 |
| Total Delay (hr) | 2.0 | 2.1 | 1.8 | 1.9 | 1.7 | 1.9 |
| Total Stops | 257 | 276 | 282 | 284 | 279 | 276 |
| Fuel Used (gal) | 11.6 | 12.1 | 11.3 | 11.8 | 11.4 | 11.7 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBT | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|------|------|------|------|------|------|
| Denied Delay (hr) | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Denied Del/Veh (s) | 3.8 | 0.2 | 0.7 | 0.0 | 0.0 | 0.3 | 0.2 | 1.0 |
| Total Delay (hr) | 0.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.9 |
| Total Del/Veh (s) | 12.4 | 10.3 | 4.4 | 0.8 | 1.7 | 11.0 | 7.1 | 4.5 |
| Stop Del/Veh (s) | 10.0 | 6.5 | 2.7 | 0.0 | 0.3 | 9.5 | 7.6 | 3.2 |
| Total Stops | 194 | 2 | 15 | 0 | 0 | 28 | 15 | 254 |
| Stop/Veh | 0.98 | 1.00 | 1.00 | 0.00 | 0.00 | 0.90 | 0.83 | 0.33 |

Queuing and Blocking Report

Existing PM

Hydrostor Pecho Plus Construction PM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | SB |
|-----------------------|----|-----|----|
| Directions Served | L | TR | TR |
| Maximum Queue (ft) | 59 | 135 | 65 |
| Average Queue (ft) | 42 | 50 | 29 |
| 95th Queue (ft) | 56 | 105 | 58 |
| Link Distance (ft) | | 828 | 56 |
| Upstream Blk Time (%) | | | 2 |
| Queuing Penalty (veh) | | | 0 |
| Storage Bay Dist (ft) | 25 | | |
| Storage Blk Time (%) | 35 | 2 | |
| Queuing Penalty (veh) | 6 | 4 | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho Plus Construction PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↘ | ↑↑ | ↗ | ↘ | ↑↑ | ↗ | | ↘ | ↗ | | ↘ | ↗ |
| Traffic Vol, veh/h | 10 | 837 | 53 | 5 | 1288 | 4 | 13 | 0 | 77 | 2 | 0 | 11 |
| Future Vol, veh/h | 10 | 837 | 53 | 5 | 1288 | 4 | 13 | 0 | 77 | 2 | 0 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 910 | 58 | 5 | 1400 | 4 | 14 | 0 | 84 | 2 | 0 | 12 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 1404 | 0 | 0 | 968 | 0 | 0 | 1642 | 2346 | 455 | 1887 | 2400 | 700 |
| Stage 1 | - | - | - | - | - | - | 932 | 932 | - | 1410 | 1410 | - |
| Stage 2 | - | - | - | - | - | - | 710 | 1414 | - | 477 | 990 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 482 | - | - | 707 | - | - | 66 | 36 | 552 | 43 | 33 | 382 |
| Stage 1 | - | - | - | - | - | - | 287 | 343 | - | 145 | 203 | - |
| Stage 2 | - | - | - | - | - | - | 391 | 202 | - | 538 | 323 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 482 | - | - | 707 | - | - | 63 | 35 | 552 | 36 | 32 | 382 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 63 | 35 | - | 36 | 32 | - |
| Stage 1 | - | - | - | - | - | - | 280 | 335 | - | 142 | 202 | - |
| Stage 2 | - | - | - | - | - | - | 376 | 201 | - | 446 | 316 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|----|------|------|
| HCM Control Delay, s | 0.1 | 0 | 22.1 | 29.6 |
| HCM LOS | | | C | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 63 | 552 | 482 | - | - | 707 | - | - | 36 | 382 |
| HCM Lane V/C Ratio | 0.224 | 0.152 | 0.023 | - | - | 0.008 | - | - | 0.06 | 0.031 |
| HCM Control Delay (s) | 78 | 12.7 | 12.6 | - | - | 10.1 | - | - | 111.3 | 14.7 |
| HCM Lane LOS | F | B | B | - | - | B | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.8 | 0.5 | 0.1 | - | - | 0 | - | - | 0.2 | 0.1 |

HCM 6th TWSC

3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho Plus Construction PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | | | | ↖ | | | ↖ | |
| Traffic Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 482 | 80 | 48 | 177 | 0 |
| Future Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 482 | 80 | 48 | 177 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 16 | 0 | 406 | 0 | 0 | 0 | 0 | 513 | 85 | 51 | 188 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 846 | 888 | 188 | - | 0 | 0 | 598 | 0 | 0 |
| Stage 1 | 290 | 290 | - | - | - | - | - | - | - |
| Stage 2 | 556 | 598 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.41 | 6.51 | 6.21 | - | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | - | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 334 | 284 | 857 | 0 | - | - | 984 | - | 0 |
| Stage 1 | 762 | 674 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 576 | 492 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 315 | 0 | 857 | - | - | - | 984 | - | - |
| Mov Cap-2 Maneuver | 315 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 762 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 543 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 13.1 | 0 | 1.9 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 315 | 857 | 984 | - |
| HCM Lane V/C Ratio | - | - | 0.051 | 0.474 | 0.052 | - |
| HCM Control Delay (s) | - | - | 17 | 12.9 | 8.9 | 0 |
| HCM Lane LOS | - | - | C | B | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 2.6 | 0.2 | - |

HCM 6th TWSC

4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho Plus Construction PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 11 | 7 | 107 | 20 | 6 | 85 | 40 | 452 | 9 | 22 | 519 | 19 |
| Future Vol, veh/h | 11 | 7 | 107 | 20 | 6 | 85 | 40 | 452 | 9 | 22 | 519 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 12 | 7 | 113 | 21 | 6 | 89 | 42 | 476 | 9 | 23 | 546 | 20 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1204 | 1161 | 546 | 1222 | 1172 | 476 | 566 | 0 | 0 | 485 | 0 | 0 |
| Stage 1 | 592 | 592 | - | 560 | 560 | - | - | - | - | - | - | - |
| Stage 2 | 612 | 569 | - | 662 | 612 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 162 | 196 | 540 | 157 | 193 | 591 | 1011 | - | - | 1083 | - | - |
| Stage 1 | 494 | 496 | - | 515 | 512 | - | - | - | - | - | - | - |
| Stage 2 | 482 | 507 | - | 453 | 485 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 125 | 179 | 540 | 112 | 176 | 591 | 1011 | - | - | 1083 | - | - |
| Mov Cap-2 Maneuver | 125 | 179 | - | 112 | 176 | - | - | - | - | - | - | - |
| Stage 1 | 466 | 481 | - | 486 | 483 | - | - | - | - | - | - | - |
| Stage 2 | 381 | 478 | - | 342 | 470 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 16.4 | | 19.4 | | 0.7 | | 0.3 | |
| HCM LOS | C | | C | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1011 | - | - | 142 | 540 | 122 | 591 | 1083 | - | - |
| HCM Lane V/C Ratio | 0.042 | - | - | 0.133 | 0.209 | 0.224 | 0.151 | 0.021 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 34.2 | 13.4 | 42.8 | 12.2 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | D | B | E | B | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 0.8 | 0.8 | 0.5 | 0.1 | - | - |

Synchro Analyses for Project Conditions During Operations

SimTraffic Simulation Summary
Existing AM

Hydrostor Pecho ExPP AM Conditions

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|------|------|------|------|------|------|
| Start Time | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 | 6:45 |
| End Time | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 | 8:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 3260 | 3300 | 3271 | 3279 | 3194 | 3261 |
| Vehs Exited | 3263 | 3307 | 3294 | 3284 | 3198 | 3268 |
| Starting Vehs | 46 | 38 | 51 | 45 | 38 | 39 |
| Ending Vehs | 43 | 31 | 28 | 40 | 34 | 32 |
| Travel Distance (mi) | 1306 | 1324 | 1316 | 1319 | 1279 | 1309 |
| Travel Time (hr) | 48.0 | 45.1 | 44.7 | 46.5 | 43.8 | 45.6 |
| Total Delay (hr) | 11.2 | 7.7 | 7.6 | 9.4 | 7.7 | 8.7 |
| Total Stops | 692 | 705 | 697 | 678 | 675 | 689 |
| Fuel Used (gal) | 40.0 | 39.6 | 39.5 | 39.5 | 38.6 | 39.4 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 6:45 |
| End Time | 7:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 7:00 |
| End Time | 7:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|-----|------|------|------|-----|------|
| Vehs Entered | 746 | 787 | 774 | 784 | 747 | 765 |
| Vehs Exited | 751 | 787 | 787 | 790 | 746 | 773 |
| Starting Vehs | 46 | 38 | 51 | 45 | 38 | 39 |
| Ending Vehs | 41 | 38 | 38 | 39 | 39 | 38 |
| Travel Distance (mi) | 299 | 319 | 312 | 320 | 303 | 311 |
| Travel Time (hr) | 9.9 | 11.2 | 10.3 | 10.7 | 9.8 | 10.4 |
| Total Delay (hr) | 1.5 | 2.2 | 1.5 | 1.8 | 1.4 | 1.7 |
| Total Stops | 158 | 161 | 146 | 142 | 135 | 147 |
| Fuel Used (gal) | 9.0 | 9.6 | 9.2 | 9.4 | 8.9 | 9.2 |

SimTraffic Simulation Summary

Existing AM

Hydrostor Pecho ExPP AM Conditions

Interval #2 Information Recording

Start Time 7:15

End Time 7:30

Total Time (min) 15

Volumes adjusted by PHF, Growth Factors.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 983 | 918 | 962 | 914 | 1001 | 956 |
| Vehs Exited | 943 | 907 | 946 | 905 | 990 | 938 |
| Starting Vehs | 41 | 38 | 38 | 39 | 39 | 38 |
| Ending Vehs | 81 | 49 | 54 | 48 | 50 | 53 |
| Travel Distance (mi) | 380 | 356 | 379 | 361 | 390 | 373 |
| Travel Time (hr) | 14.8 | 12.5 | 13.6 | 14.5 | 14.8 | 14.0 |
| Total Delay (hr) | 4.0 | 2.3 | 2.7 | 4.2 | 3.6 | 3.4 |
| Total Stops | 240 | 211 | 246 | 239 | 245 | 233 |
| Fuel Used (gal) | 11.8 | 10.9 | 11.6 | 11.5 | 12.4 | 11.6 |

Interval #3 Information Recording

Start Time 7:30

End Time 7:45

Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|-----|------|
| Vehs Entered | 762 | 796 | 785 | 794 | 724 | 769 |
| Vehs Exited | 801 | 811 | 794 | 800 | 742 | 791 |
| Starting Vehs | 81 | 49 | 54 | 48 | 50 | 53 |
| Ending Vehs | 42 | 34 | 45 | 42 | 32 | 36 |
| Travel Distance (mi) | 315 | 327 | 318 | 319 | 296 | 315 |
| Travel Time (hr) | 11.9 | 10.7 | 10.7 | 10.7 | 9.8 | 10.7 |
| Total Delay (hr) | 3.0 | 1.5 | 1.7 | 1.7 | 1.5 | 1.9 |
| Total Stops | 145 | 160 | 163 | 159 | 152 | 156 |
| Fuel Used (gal) | 9.8 | 9.7 | 9.5 | 9.5 | 8.8 | 9.5 |

Interval #4 Information Recording

Start Time 7:45

End Time 8:00

Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|-----|------|
| Vehs Entered | 769 | 799 | 750 | 787 | 722 | 766 |
| Vehs Exited | 768 | 802 | 767 | 789 | 720 | 769 |
| Starting Vehs | 42 | 34 | 45 | 42 | 32 | 36 |
| Ending Vehs | 43 | 31 | 28 | 40 | 34 | 32 |
| Travel Distance (mi) | 312 | 321 | 307 | 319 | 289 | 310 |
| Travel Time (hr) | 11.5 | 10.7 | 10.2 | 10.6 | 9.3 | 10.5 |
| Total Delay (hr) | 2.8 | 1.7 | 1.7 | 1.7 | 1.3 | 1.8 |
| Total Stops | 149 | 173 | 142 | 138 | 143 | 150 |
| Fuel Used (gal) | 9.5 | 9.4 | 9.1 | 9.2 | 8.5 | 9.1 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|------|------|------|------|------|
| Denied Delay (hr) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Denied Del/Veh (s) | 4.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 |
| Total Delay (hr) | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.4 |
| Total Del/Veh (s) | 10.1 | 2.7 | 1.3 | 2.5 | 9.2 | 6.6 | 2.2 |
| Stop Del/Veh (s) | 8.2 | 2.3 | 0.0 | 0.3 | 7.6 | 7.0 | 0.8 |
| Total Stops | 40 | 15 | 0 | 0 | 13 | 11 | 79 |
| Stop/Veh | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.92 | 0.12 |

Queuing and Blocking Report
Existing AM

Hydrostor Pecho ExPP AM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | SB |
|-----------------------|----|-----|----|
| Directions Served | L | TR | TR |
| Maximum Queue (ft) | 50 | 57 | 50 |
| Average Queue (ft) | 24 | 16 | 17 |
| 95th Queue (ft) | 50 | 47 | 45 |
| Link Distance (ft) | | 828 | 56 |
| Upstream Blk Time (%) | | | 0 |
| Queuing Penalty (veh) | | | 0 |
| Storage Bay Dist (ft) | 25 | | |
| Storage Blk Time (%) | 8 | 1 | |
| Queuing Penalty (veh) | 1 | 0 | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho ExPP AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↖ | ↗ | ↘ | ↖ | ↗ | ↘ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 9 | 1016 | 14 | 7 | 779 | 1 | 12 | 0 | 10 | 5 | 0 | 13 |
| Future Vol, veh/h | 9 | 1016 | 14 | 7 | 779 | 1 | 12 | 0 | 10 | 5 | 0 | 13 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 1104 | 15 | 8 | 847 | 1 | 13 | 0 | 11 | 5 | 0 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 848 | 0 | 0 | 1119 | 0 | 0 | 1564 | 1988 | 552 | 1435 | 2002 | 424 |
| Stage 1 | - | - | - | - | - | - | 1124 | 1124 | - | 863 | 863 | - |
| Stage 2 | - | - | - | - | - | - | 440 | 864 | - | 572 | 1139 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 785 | - | - | 620 | - | - | 75 | 60 | 477 | 94 | 59 | 579 |
| Stage 1 | - | - | - | - | - | - | 219 | 279 | - | 316 | 370 | - |
| Stage 2 | - | - | - | - | - | - | 566 | 369 | - | 472 | 274 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 785 | - | - | 620 | - | - | 72 | 58 | 477 | 90 | 57 | 579 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 72 | 58 | - | 90 | 57 | - |
| Stage 1 | - | - | - | - | - | - | 216 | 275 | - | 312 | 365 | - |
| Stage 2 | - | - | - | - | - | - | 545 | 364 | - | 455 | 270 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 | | | 0.1 | | | 41.6 | | | 21.5 | | |
| HCM LOS | | | | | | | E | | | C | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 72 | 477 | 785 | - | - | 620 | - | - | 90 | 579 |
| HCM Lane V/C Ratio | 0.181 | 0.023 | 0.012 | - | - | 0.012 | - | - | 0.06 | 0.024 |
| HCM Control Delay (s) | 65.7 | 12.7 | 9.6 | - | - | 10.9 | - | - | 47.6 | 11.4 |
| HCM Lane LOS | F | B | A | - | - | B | - | - | E | B |
| HCM 95th %tile Q(veh) | 0.6 | 0.1 | 0 | - | - | 0 | - | - | 0.2 | 0.1 |

HCM 6th TWSC
 3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho ExPP AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | ↔ | | | | | ↔ | | | ↔ | |
| Traffic Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 573 | 226 | 10 | 50 | 0 |
| Future Vol, veh/h | 18 | 0 | 374 | 0 | 0 | 0 | 0 | 573 | 226 | 10 | 50 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 23 | 0 | 473 | 0 | 0 | 0 | 0 | 725 | 286 | 13 | 63 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 957 | 1100 | 63 | - | 0 | 0 | 1011 | 0 | 0 |
| Stage 1 | 89 | 89 | - | - | - | - | - | - | - |
| Stage 2 | 868 | 1011 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | - | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | - | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 286 | 212 | 1002 | 0 | - | - | 686 | - | 0 |
| Stage 1 | 934 | 821 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 411 | 317 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 280 | 0 | 1002 | - | - | - | 686 | - | - |
| Mov Cap-2 Maneuver | 280 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 934 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 403 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.1 | 0 | 1.7 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 280 | 1002 | 686 | - |
| HCM Lane V/C Ratio | - | - | 0.081 | 0.472 | 0.018 | - |
| HCM Control Delay (s) | - | - | 19 | 11.8 | 10.3 | 0 |
| HCM Lane LOS | - | - | C | B | B | A |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 2.6 | 0.1 | - |

HCM 6th TWSC
4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho ExPP AM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 15 | 4 | 70 | 10 | 4 | 21 | 41 | 759 | 7 | 8 | 398 | 17 |
| Future Vol, veh/h | 15 | 4 | 70 | 10 | 4 | 21 | 41 | 759 | 7 | 8 | 398 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 5 | 91 | 13 | 5 | 27 | 53 | 986 | 9 | 10 | 517 | 22 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 1650 | 1638 | 517 | 1688 | 1651 | 986 | 539 | 0 | 0 | 995 | 0 | 0 |
| Stage 1 | 537 | 537 | - | 1092 | 1092 | - | - | - | - | - | - | - |
| Stage 2 | 1113 | 1101 | - | 596 | 559 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 79 | 100 | 558 | 74 | 99 | 301 | 1029 | - | - | 695 | - | - |
| Stage 1 | 528 | 523 | - | 260 | 291 | - | - | - | - | - | - | - |
| Stage 2 | 253 | 288 | - | 490 | 511 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 62 | 87 | 558 | 53 | 86 | 301 | 1029 | - | - | 695 | - | - |
| Mov Cap-2 Maneuver | 62 | 87 | - | 53 | 86 | - | - | - | - | - | - | - |
| Stage 1 | 467 | 512 | - | 230 | 258 | - | - | - | - | - | - | - |
| Stage 2 | 200 | 255 | - | 397 | 500 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|----|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 29 | | 46.5 | | 0.4 | | 0.2 | |
| HCM LOS | D | | E | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1029 | - | - | 66 | 558 | 60 | 301 | 695 | - | - |
| HCM Lane V/C Ratio | 0.052 | - | - | 0.374 | 0.163 | 0.303 | 0.091 | 0.015 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 89 | 12.7 | 89.2 | 18.1 | 10.3 | 0 | - |
| HCM Lane LOS | A | A | - | F | B | F | C | B | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 1.4 | 0.6 | 1.1 | 0.3 | 0 | - | - |

SimTraffic Simulation Summary
Existing PM

Hydrostor Pecho ExPP PM Conditions

Summary of All Intervals

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|-------------------------|------|------|------|------|------|------|
| Start Time | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 | 3:45 |
| End Time | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 | 5:00 |
| Total Time (min) | 75 | 75 | 75 | 75 | 75 | 75 |
| Time Recorded (min) | 60 | 60 | 60 | 60 | 60 | 60 |
| # of Intervals | 5 | 5 | 5 | 5 | 5 | 5 |
| # of Recorded Intervals | 4 | 4 | 4 | 4 | 4 | 4 |
| Vehs Entered | 3503 | 3590 | 3544 | 3509 | 3411 | 3515 |
| Vehs Exited | 3508 | 3596 | 3544 | 3496 | 3417 | 3512 |
| Starting Vehs | 47 | 56 | 52 | 42 | 44 | 48 |
| Ending Vehs | 42 | 50 | 52 | 55 | 38 | 45 |
| Travel Distance (mi) | 1407 | 1445 | 1425 | 1414 | 1375 | 1413 |
| Travel Time (hr) | 50.0 | 52.2 | 60.5 | 48.4 | 47.2 | 51.6 |
| Total Delay (hr) | 10.8 | 11.8 | 20.7 | 9.1 | 9.0 | 12.3 |
| Total Stops | 919 | 991 | 935 | 882 | 852 | 916 |
| Fuel Used (gal) | 42.8 | 44.0 | 45.2 | 42.1 | 41.4 | 43.1 |

Interval #0 Information Seeding

| | |
|-------------------------------------|------|
| Start Time | 3:45 |
| End Time | 4:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors. | |
| No data recorded this interval. | |

Interval #1 Information Recording

| | |
|---|------|
| Start Time | 4:00 |
| End Time | 4:15 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 832 | 902 | 843 | 833 | 829 | 846 |
| Vehs Exited | 838 | 913 | 836 | 829 | 818 | 846 |
| Starting Vehs | 47 | 56 | 52 | 42 | 44 | 48 |
| Ending Vehs | 41 | 45 | 59 | 46 | 55 | 47 |
| Travel Distance (mi) | 333 | 367 | 336 | 334 | 335 | 341 |
| Travel Time (hr) | 11.3 | 12.7 | 13.4 | 10.9 | 11.0 | 11.8 |
| Total Delay (hr) | 1.9 | 2.4 | 4.0 | 1.7 | 1.7 | 2.3 |
| Total Stops | 239 | 254 | 211 | 199 | 194 | 217 |
| Fuel Used (gal) | 9.9 | 11.2 | 10.4 | 9.8 | 9.7 | 10.2 |

SimTraffic Simulation Summary
Existing PM

Hydrostor Pecho ExPP PM Conditions

Interval #2 Information Recording

| | |
|--|------|
| Start Time | 4:15 |
| End Time | 4:30 |
| Total Time (min) | 15 |
| Volumes adjusted by PHF, Growth Factors. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 988 | 947 | 914 | 937 | 958 | 949 |
| Vehs Exited | 971 | 938 | 913 | 924 | 971 | 942 |
| Starting Vehs | 41 | 45 | 59 | 46 | 55 | 47 |
| Ending Vehs | 58 | 54 | 60 | 59 | 42 | 52 |
| Travel Distance (mi) | 395 | 377 | 366 | 376 | 386 | 380 |
| Travel Time (hr) | 13.7 | 13.7 | 15.1 | 12.7 | 13.9 | 13.8 |
| Total Delay (hr) | 2.7 | 3.3 | 4.9 | 2.3 | 3.1 | 3.2 |
| Total Stops | 235 | 252 | 249 | 230 | 260 | 245 |
| Fuel Used (gal) | 11.9 | 11.5 | 11.5 | 11.1 | 11.9 | 11.6 |

Interval #3 Information Recording

| | |
|---|------|
| Start Time | 4:30 |
| End Time | 4:45 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 867 | 841 | 922 | 845 | 832 | 862 |
| Vehs Exited | 863 | 855 | 925 | 849 | 836 | 866 |
| Starting Vehs | 58 | 54 | 60 | 59 | 42 | 52 |
| Ending Vehs | 62 | 40 | 57 | 55 | 38 | 48 |
| Travel Distance (mi) | 348 | 340 | 373 | 343 | 335 | 348 |
| Travel Time (hr) | 13.1 | 12.9 | 15.7 | 11.7 | 11.6 | 13.0 |
| Total Delay (hr) | 3.4 | 3.3 | 5.3 | 2.1 | 2.3 | 3.3 |
| Total Stops | 226 | 228 | 230 | 218 | 203 | 222 |
| Fuel Used (gal) | 10.6 | 10.5 | 11.7 | 10.4 | 10.2 | 10.7 |

Interval #4 Information Recording

| | |
|---|------|
| Start Time | 4:45 |
| End Time | 5:00 |
| Total Time (min) | 15 |
| Volumes adjusted by Growth Factors, Anti PHF. | |

| Run Number | 1 | 2 | 3 | 4 | 5 | Avg |
|----------------------|------|------|------|------|------|------|
| Vehs Entered | 816 | 900 | 865 | 894 | 792 | 855 |
| Vehs Exited | 836 | 890 | 870 | 894 | 792 | 857 |
| Starting Vehs | 62 | 40 | 57 | 55 | 38 | 48 |
| Ending Vehs | 42 | 50 | 52 | 55 | 38 | 45 |
| Travel Distance (mi) | 331 | 361 | 349 | 361 | 320 | 344 |
| Travel Time (hr) | 12.1 | 12.9 | 16.3 | 13.1 | 10.7 | 13.0 |
| Total Delay (hr) | 2.8 | 2.9 | 6.5 | 3.0 | 1.9 | 3.4 |
| Total Stops | 219 | 257 | 245 | 235 | 195 | 230 |
| Fuel Used (gal) | 10.3 | 10.9 | 11.6 | 10.9 | 9.6 | 10.7 |

2: South Bay Blvd & SR 1 NB On-Ramp Performance by movement

| Movement | WBL | WBT | WBR | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|------|------|------|------|------|------|
| Denied Delay (hr) | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Denied Del/Veh (s) | 3.9 | 0.1 | 0.4 | 0.0 | 0.0 | 0.2 | 0.2 | 1.0 |
| Total Delay (hr) | 0.5 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.7 |
| Total Del/Veh (s) | 11.1 | 9.2 | 4.0 | 0.8 | 1.8 | 9.2 | 4.6 | 3.8 |
| Stop Del/Veh (s) | 8.8 | 4.6 | 2.7 | 0.0 | 0.6 | 7.7 | 4.9 | 2.6 |
| Total Stops | 166 | 2 | 15 | 0 | 0 | 25 | 14 | 222 |
| Stop/Veh | 0.99 | 1.00 | 1.07 | 0.00 | 0.00 | 0.93 | 0.93 | 0.32 |

Queuing and Blocking Report
Existing PM

Hydrostor Pecho ExPP PM Conditions

Intersection: 2: South Bay Blvd & SR 1 NB On-Ramp

| Movement | WB | WB | SB |
|-----------------------|----|-----|----|
| Directions Served | L | TR | TR |
| Maximum Queue (ft) | 59 | 121 | 61 |
| Average Queue (ft) | 41 | 43 | 24 |
| 95th Queue (ft) | 56 | 94 | 52 |
| Link Distance (ft) | | 828 | 56 |
| Upstream Blk Time (%) | | | 1 |
| Queuing Penalty (veh) | | | 0 |
| Storage Bay Dist (ft) | 25 | | |
| Storage Blk Time (%) | 30 | 2 | |
| Queuing Penalty (veh) | 5 | 3 | |

HCM 6th TWSC

1: Quintana Blvd/San Bernardo Creek Rd & SR 1

Hydrostor Pecho ExPP PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↘ | ↑↑ | ↗ | ↘ | ↑↑ | ↗ | | ↗ | ↗ | | ↗ | ↗ |
| Traffic Vol, veh/h | 10 | 837 | 18 | 10 | 1255 | 4 | 13 | 0 | 8 | 2 | 0 | 11 |
| Future Vol, veh/h | 10 | 837 | 18 | 10 | 1255 | 4 | 13 | 0 | 8 | 2 | 0 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 500 | - | 100 | 500 | - | 100 | - | - | 20 | - | - | 20 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 910 | 20 | 11 | 1364 | 4 | 14 | 0 | 9 | 2 | 0 | 12 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 1368 | 0 | 0 | 930 | 0 | 0 | 1636 | 2322 | 455 | 1863 | 2338 | 682 |
| Stage 1 | - | - | - | - | - | - | 932 | 932 | - | 1386 | 1386 | - |
| Stage 2 | - | - | - | - | - | - | 704 | 1390 | - | 477 | 952 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.54 | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.54 | 5.54 | - | 6.54 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 498 | - | - | 731 | - | - | 67 | 37 | 552 | 45 | 36 | 392 |
| Stage 1 | - | - | - | - | - | - | 287 | 343 | - | 151 | 209 | - |
| Stage 2 | - | - | - | - | - | - | 394 | 208 | - | 538 | 336 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 498 | - | - | 731 | - | - | 63 | 36 | 552 | 43 | 35 | 392 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 63 | 36 | - | 43 | 35 | - |
| Stage 1 | - | - | - | - | - | - | 281 | 335 | - | 148 | 206 | - |
| Stage 2 | - | - | - | - | - | - | 376 | 205 | - | 518 | 329 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 | | | 0.1 | | | 52.7 | | | 26.6 | | |
| HCM LOS | | | | | | | F | | | D | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h) | 63 | 552 | 498 | - | - | 731 | - | - | 43 | 392 |
| HCM Lane V/C Ratio | 0.224 | 0.016 | 0.022 | - | - | 0.015 | - | - | 0.051 | 0.031 |
| HCM Control Delay (s) | 78 | 11.6 | 12.4 | - | - | 10 | - | - | 93.1 | 14.5 |
| HCM Lane LOS | F | B | B | - | - | A | - | - | F | B |
| HCM 95th %tile Q(veh) | 0.8 | 0 | 0.1 | - | - | 0 | - | - | 0.2 | 0.1 |

HCM 6th TWSC
 3: South Bay Blvd & SR 1 SB Off-Ramp

Hydrostor Pecho ExPP PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | | | | ↖ | | | ↖ | |
| Traffic Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 425 | 80 | 15 | 171 | 0 |
| Future Vol, veh/h | 15 | 0 | 382 | 0 | 0 | 0 | 0 | 425 | 80 | 15 | 171 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 10 | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 16 | 0 | 406 | 0 | 0 | 0 | 0 | 452 | 85 | 16 | 182 | 0 |

| Major/Minor | Minor2 | | | Major1 | | | Major2 | | |
|----------------------|--------|-------|-------|--------|---|---|--------|---|---|
| Conflicting Flow All | 709 | 751 | 182 | - | 0 | 0 | 537 | 0 | 0 |
| Stage 1 | 214 | 214 | - | - | - | - | - | - | - |
| Stage 2 | 495 | 537 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.41 | 6.51 | 6.21 | - | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.41 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | - | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 402 | 341 | 863 | 0 | - | - | 1036 | - | 0 |
| Stage 1 | 824 | 727 | - | 0 | - | - | - | - | 0 |
| Stage 2 | 615 | 524 | - | 0 | - | - | - | - | 0 |
| Platoon blocked, % | | | | | | | | | |
| Mov Cap-1 Maneuver | 395 | 0 | 863 | - | - | - | 1036 | - | - |
| Mov Cap-2 Maneuver | 395 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 824 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 605 | 0 | - | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 12.9 | 0 | 0.7 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | EBLn2 | SBL | SBT |
|-----------------------|-----|-----|-------|-------|-------|-----|
| Capacity (veh/h) | - | - | 395 | 863 | 1036 | - |
| HCM Lane V/C Ratio | - | - | 0.04 | 0.471 | 0.015 | - |
| HCM Control Delay (s) | - | - | 14.5 | 12.8 | 8.5 | 0 |
| HCM Lane LOS | - | - | B | B | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 2.6 | 0 | - |

HCM 6th TWSC
 4: South Bay Blvd & Quintana Blvd

Hydrostor Pecho ExPP PM Conditions

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ | | ↖ | ↗ |
| Traffic Vol, veh/h | 11 | 7 | 107 | 10 | 6 | 28 | 40 | 452 | 11 | 16 | 519 | 19 |
| Future Vol, veh/h | 11 | 7 | 107 | 10 | 6 | 28 | 40 | 452 | 11 | 16 | 519 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 100 | - | - | 70 | - | - | 110 | - | - | 50 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mvmt Flow | 12 | 7 | 113 | 11 | 6 | 29 | 42 | 476 | 12 | 17 | 546 | 20 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 1164 | 1152 | 546 | 1210 | 1160 | 476 | 566 | 0 | 0 | 488 | 0 | 0 |
| Stage 1 | 580 | 580 | - | 560 | 560 | - | - | - | - | - | - | - |
| Stage 2 | 584 | 572 | - | 650 | 600 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.11 | 6.51 | 6.21 | 7.11 | 6.51 | 6.21 | 4.11 | - | - | 4.11 | - | - |
| Critical Hdwy Stg 1 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.11 | 5.51 | - | 6.11 | 5.51 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.509 | 4.009 | 3.309 | 3.509 | 4.009 | 3.309 | 2.209 | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver | 172 | 198 | 540 | 160 | 196 | 591 | 1011 | - | - | 1080 | - | - |
| Stage 1 | 502 | 502 | - | 515 | 512 | - | - | - | - | - | - | - |
| Stage 2 | 499 | 506 | - | 460 | 491 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 149 | 182 | 540 | 115 | 181 | 591 | 1011 | - | - | 1080 | - | - |
| Mov Cap-2 Maneuver | 149 | 182 | - | 115 | 181 | - | - | - | - | - | - | - |
| Stage 1 | 473 | 490 | - | 486 | 483 | - | - | - | - | - | - | - |
| Stage 2 | 441 | 477 | - | 350 | 480 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | | SB | | |
|----------------------|------|--|------|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 15.9 | | 20.3 | | 0.7 | | | 0.2 | | |
| HCM LOS | C | | C | | | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------|-------|-------|-------|-------|-----|-----|
| Capacity (veh/h) | 1011 | - | - | 160 | 540 | 133 | 591 | 1080 | - | - |
| HCM Lane V/C Ratio | 0.042 | - | - | 0.118 | 0.209 | 0.127 | 0.05 | 0.016 | - | - |
| HCM Control Delay (s) | 8.7 | 0 | - | 30.5 | 13.4 | 36 | 11.4 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | D | B | E | B | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 0.8 | 0.4 | 0.2 | 0 | - | - |