

Appendix C

Signalized Intersection Analysis Adjustments

Project: Mission Valley Community Plan Update

Analyst: Phuong Nguyen, PE

Existing Geometrics:

Intersection 1: I-5 SB Ramps / Sea World Drive



Description of issue:

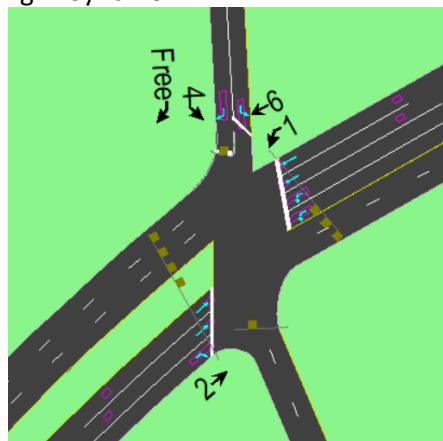
The southbound right-turn movement (SBR) for this intersection have a signal head that turn red whenever the eastbound pedestrian phase is activate. However due to the lack of pedestrians along this area, the pedestrian phase rarely activates. This results in the SBR acting similar to a free movement. Setting the intersection as “yield” or “permissive” results in failing LOS F during the PM peak hour, which does not reflect field conditions.

Solution:

- Set SBR to “free” to reflect field conditions

Date of confirmation from Trafficware: 5/2016

Intersection Geometrics & Phasing in Synchro:



Project: Mission Valley Community Plan Update

Analyst: Phuong Nguyen, PE

Existing Geometrics:

Intersection 8: Napa Street / Friars Road



Description of issue:

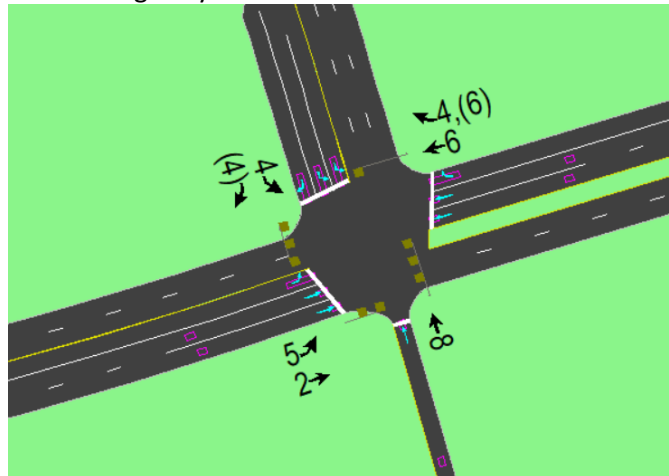
The signal timing for this intersection indicates that there is an exclusive pedestrian only phase. HCM 2010 / NEMA does not support pedestrian only phase or hold phase.

Solution:

- A dummy northbound connection was created and assign phase 8 (split phasing) to mimic the pedestrian only phase.

Date of confirmation from Trafficware: 5/2016

Intersection Geometrics & Phasing in Synchro:



Project: Mission Valley Community Plan Update

Analyst: Phuong Nguyen, PE

Existing Geometrics:

Intersection 25: Friars Road EB / Mission Village Drive



Description of issue:

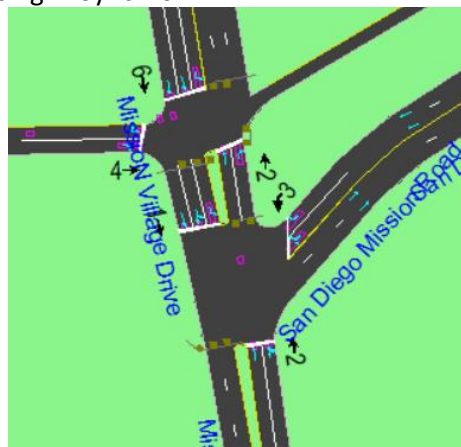
This actuated-uncoordinated intersection is clustered with the intersection of Mission Village Drive / San Diego Mission Road. HCM 2010 / NEMA does not allow clustered intersections.

Solution:

- The two intersections were “unclustered” and optimized together so that they have the same cycle length and their off-set mimics the clustered effect.

Date of confirmation from Trafficware: 5/2016

Intersection Geometrics & Phasing in Synchro:



Project: Mission Valley Community Plan Update

Analyst: Phuong Nguyen, PE

Existing Geometrics:

Intersection 42: Qualcomm Way & Camino De La Reina and Intersection 52: Qualcomm Way & I-8 WB Off-Ramp



Description of issue:

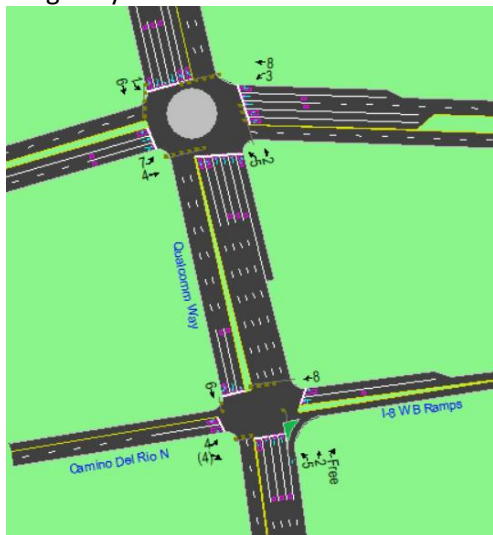
The intersection of Qualcomm Way & Camino De La Reina is clustered with the intersection of Qualcomm Way & I-8 WB Off-Ramp. Both intersections are under the jurisdiction of the City of San Diego.

Solution:

- The two intersections were “unclustered” and optimized together so that they have the same cycle length and their off-set mimics the clustered effect.

Date of confirmation from Trafficware: 5/2016

Intersection Geometrics & Phasing in Synchro:

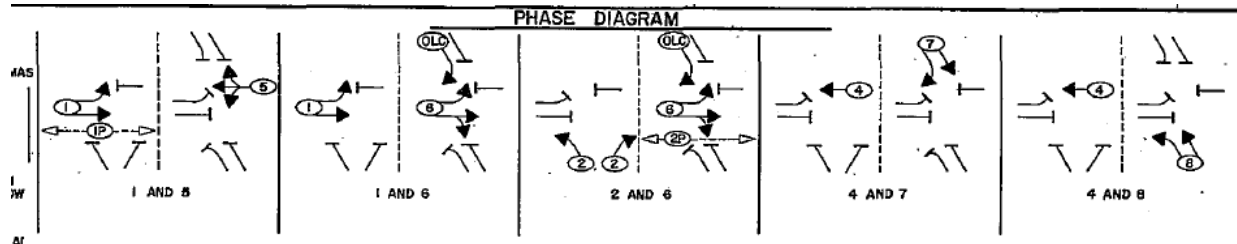


Project: Mission Valley Community Plan Update

Analyst: Phuong Nguyen, PE

Signal timing phasing (see below for geometrics):

Intersection 58: Mission Center Road & I-8 EB Ramps and Mission Center Road & Camino Del Rio South



Description of issue:

The intersection of Mission Center Road & I-8 EB Ramps is clustered with the intersection of Mission Center Road & Camino Del Rio South. Both intersections are under the jurisdiction of Caltrans.

Solution:

- The two intersections were “unclustered” and optimized together so that they have the same cycle length and their off-set mimic the clustered effect.
- Intersection phasing at each intersection were set so that they act in conjunction with each other, mimicking the phasing diagram provides above.

Date of confirmation from Trafficware: 5/2016

Intersection Geometrics & Phasing:



Project: Mission Valley Community Plan Update

Analyst: Phuong Nguyen, PE

Existing Geometrics:

Intersection 63: I-15 SB Off-Ramp & Camino Del Rio South and I-15 SB On-Ramp & Camino Del Rio South



Description of issue:

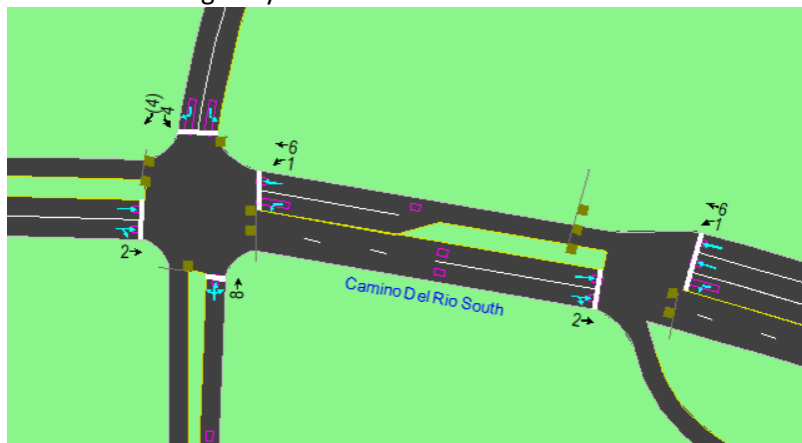
The intersection of I-15 SB Off-Ramp & Camino Del Rio South is clustered with the intersection of I-15 SB On-Ramp & Camino Del Rio South. Both intersections are under the jurisdiction of Caltrans.

Solution:

- The two intersections were “unclustered” and optimized together so that they have the same cycle length and their off-set mimic the clustered effect.

Date of confirmation from Trafficware: 5/2016

Intersection Geometrics & Phasing in Synchro:

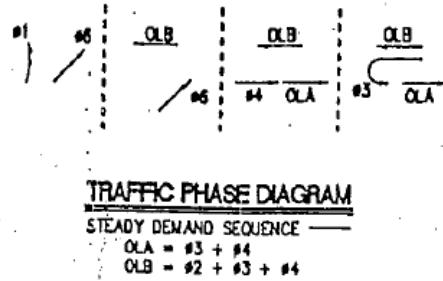


Project: Mission Valley Community Plan Update

Analyst: Phuong Nguyen, PE

Existing Geometrics:

Intersection 63: Fairmount Avenue & I-8 EB Off-Ramp



Description of issue:

The EBR movement at this intersection overlap with the NBT movement, the NB U-turn movement is protective and operate concurrently with the NBT movement. The NBT and SBT movement operate concurrently, except for when the EBR movement is overlapping with the NBT movement (the SBT movement stop at this point). The EBL movement is protective and operate independently of the other phases.

Solution:

- The NB U-turn movement was converted and assumed to be operating as a protective left turn movement.
- The EBR movement is converted to a free phase, as field observation show that this phase were allocated the majority of the time and operate similar to a “free” phase.
- Final intersection delay were compared to field observation to make sure that the result mimic field condition.

Date of confirmation from Trafficware: 5/2016

Intersection Geometrics & Phasing in Synchro:

