

As indicated within Table 3, the intersection would operate at a good level of service. Shifting the parking lot location would not create an impact at the Highland Avenue and Business Center Drive intersection.

As a result, shifting of the parking facility at the proposed Duarte Station would not create a significant impact at the analyzed study intersection. The intersection would operate at good level of service (LOS B or better) under the future 2030 buildout year.

The level of service worksheets for Option 2 are provided within Attachment B.

**ATTACHMENT A  
OPTION I  
LEVEL OF SERVICE WORKSHEETS**

OPTION 1
SCENARIO A

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.521
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 30 Level Of Service: A
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume categories and 13 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 13 columns and 5 rows for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 13 columns and 4 rows for Vol/Sat, Crit Volume, Crit Moves, and other metrics.

\*\*\*\*\*

OPTION 1
SCENARIO A

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*
Cycle (sec): 100 Critical Vol./Cap.(X): 0.444
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume categories and 13 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 13 columns and 5 rows showing saturation flow rates and adjustments.

Capacity Analysis Module: Table with 13 columns and 4 rows showing capacity analysis metrics like Vol/Sat, Crit Volume, and Crit Moves.

OPTION 1
SCENARIO B

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.521
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 30 Level Of Service: A
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns for various volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 13 columns for saturation flow factors like Sat/Lane, Adjustment, Lanes, etc.

Capacity Analysis Module: Table with 13 columns for capacity analysis factors like Vol/Sat, Crit Volume, Crit Moves.

\*\*\*\*\*

OPTION 1
SCENARIO B

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.427
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume categories and 13 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 13 columns and 5 rows for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 13 columns and 4 rows for Vol/Sat, Crit Volume, and Crit Moves.

\*\*\*\*\*

**ATTACHMENT B  
OPTION 2  
LEVEL OF SERVICE WORKSHEETS**

OPTION 2
SCENARIO A

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.669
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 56 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume categories and 13 rows of adjustment factors.

Saturation Flow Module: Table with 13 columns and 5 rows showing saturation flow rates and adjustments.

Capacity Analysis Module: Table with 13 columns and 4 rows showing capacity analysis metrics.

\*\*\*\*\*



OPTION 2
SCENARIO A

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*
Cycle (sec): 100 Critical Vol./Cap.(X): 0.518
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different volume categories and 12 rows of adjustment factors.

Saturation Flow Module: Table with 12 columns and 4 rows showing saturation flow and adjustment factors.

Capacity Analysis Module: Table with 12 columns and 4 rows showing capacity analysis metrics.

\*\*\*\*\*

OPTION 2
SCENARIO B

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.669
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 56 Level Of Service: B
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 13 columns representing different volume categories and 13 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 13 columns and 5 rows showing saturation flow rates and adjustments.

Capacity Analysis Module: Table with 13 columns and 4 rows showing capacity analysis metrics like Vol/Sat, Crit Volume, etc.

\*\*\*\*\*

OPTION 2
SCENARIO B

Level of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Highland Ave & Bus Center Dr
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.499
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level of Service: A
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different volume categories and 12 rows of adjustment factors.

Saturation Flow Module: Table with 12 columns representing saturation flow and 4 rows of adjustment factors.

Capacity Analysis Module: Table with 12 columns representing capacity analysis and 4 rows of critical values.

\*\*\*\*\*

## **Appendix E: Metro Traction Power Load-Flow Study Report**



**METRO GOLD LINE  
FOOTHILL EXTENSION – SEGMENT 1  
TRACTION POWER LOAD-FLOW STUDY  
REPORT**

**Wayside Traction Power Engineering**

**284 S. Santa Fe**

**Los Angeles, CA 90012**

**June 10, 2011**



**Metro**

**REVISION RECORD**

Revision no.	Revision Date	Page(s) Affected	Comments
0	July 5, 2010	All	Initial Issue
1	December 28, 2010	All	Updated alignment and TPSS data
2	March 6, 2011	All	Add 2 more substations
3	June 10, 2011	All	Presents results if additional TPSS were not provided

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