

Traffic Impact Assessment
General Plan Amendment & Zone Change
Proposed Commercial Development
SE Corner of Hosking Ave / S H St

Draft Report

Prepared for: Wingfoot Properties
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Prepared by:



1930 22nd Street
Bakersfield, CA 93301

Project Number: 18-188

Michael Todd Wood
RCE 64410



TABLE OF CONTENTS

1 INTRODUCTION	3
1.1 BACKGROUND	3
2 STUDY AREA	4
2.1 SITE LOCATION & STUDY AREA	4
2.2 EXISTING TRANSPORTATION NETWORK	4
3 SITE TRAFFIC DEVELOPMENT	7
3.1 SITE DESCRIPTION	7
3.2 TRIP GENERATION	7
3.3 SITE TRAFFIC DISTRIBUTION AND ASSIGNMENT	11
4 EXISTING AND FUTURE TRAFFIC CONDITIONS.....	13
4.1 EXISTING TRAFFIC VOLUMES	13
4.2 FUTURE 2035 TRAFFIC VOLUMES	13
5 TRANSPORTATION ANALYSIS	18
5.1 INTERSECTION LEVEL OF SERVICE ANALYSIS	18
5.2 DAILY LINK ANALYSIS	21
5.3 MITIGATION	21
6 CONCLUSIONS AND RECOMMENDATIONS.....	23
6.1 INTERSECTION LEVEL OF SERVICE ANALYSIS	23
6.2 DAILY LINK ANALYSIS	24
6.3 CONCLUSION	24
7 REFERENCES.....	25

LIST OF EXHIBITS

Figure 1 Site Location & Study Area.....	6
Figure 2 Site Plan and Access Locations	8
Figure 3 Project Peak Hour Traffic Volumes	12
Figure 4: 2018 Background Peak Hour Traffic Volumes	14
Figure 5: 2018 Background + Project Peak Hour Traffic Volumes	15
Figure 6: 2035 Background Peak Hour Traffic Volumes	16
Figure 7: 2035 Background Plus Project Peak Hour Traffic Volumes.....	17

LIST OF TABLES

Table 1: Site Trip Generation – AM and PM Peak Hours	9
Table 2: Site Trip Generation – Daily	10
Table 3: Primary Trip Distribution	11
Table 4: Level of Service Criteria – Unsignalized Intersections	18
Table 5: Level of Service Criteria – Signalized Intersections	19
Table 6: AM Peak Hour Unsignalized Intersection Level of Service	19
Table 7: PM Peak Hour Unsignalized Intersection Level of Service	19
Table 8: AM Peak Hour Signalized Intersection Level of Service	19
Table 9: PM Peak Hour Signalized Intersection Level of Service	20
Table 10: Roadway Capacity	21
Table 11: Future Intersection Improvements	22

LIST OF APPENDICES

Appendix: HCS7 Analysis Results.....	26
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1 INTRODUCTION

1. 1 Background

DeWalt Corporation (DeWalt) was retained by Wingfoot Properties to prepare the Traffic Impact Assessment (TIA) to evaluate the potential impact of a General Plan Amendment and Zone Change (GPA-ZC) for the proposed commercial development at the southeast quadrant of the intersection of Hosking Avenue and South H Street in the City of Bakersfield, California.

The site is approximately 13 gross acres of land legally described as the N ½ of the NW ¼ of Section 31, Township 30 South, Range 28 East, M.D.M., in the unincorporated area, County of Kern, State of California, according to the official plat thereof.

The proposed commercial development at full build-out is expected to include two fast food restaurants, a convenience store with a gas station and car wash, and mini storage.

Access to the site is proposed at two locations: at the existing Hosking Avenue to the north, and at the existing South H Street on the west on a new bridge over the canal.

The scope for this TIA was developed in association with the City of Bakersfield Traffic Department and included the analysis of seven signalized and one unsignalized intersection. Details of the analytical process and conclusions and recommendations are summarized in this report.

2 STUDY AREA

2.1 Site Location & Study Area

The site is located in the southeast quadrant of the intersection of Hosking Avenue and South H Street on approximately 13 acres of land, legally described as the N ½ of the NW ¼ of Section 31, Township 30 South, Range 28 East, M.D.M.

The site is currently undeveloped with no buildings or other structures. Access to the site is proposed at two locations: on Hosking Avenue to the north and on South H Street on the west on a new bridge over the Kern Island Canal.

Existing land uses in the vicinity of the site include single-family residential to the north, east, and south, and future commercial development to the west and northwest.

The analysis specifically includes seven signalized and one unsignalized intersection.

The site location and study area are illustrated on **Figure 1**.

2.2 Existing Transportation Network

The existing transportation network adjacent to the site consists of the following roadways:

- **Hosking Avenue** is an Arterial roadway which runs east-west along the north edge of the site, with connections at a grade separated interchange to SR 99 to the west and an at-grade signalized intersection to Union Avenue to the east. Hosking Avenue is generally a four lane roadway with a raised median and separate left and right turn lanes at main intersections. Hosking Avenue has been upgraded to its final design width for the westbound direction; it will also be widened to the same design on the eastbound direction adjacent to the site with the development. The posted speed limit on Hosking Avenue is 50 mph. Access is proposed to the site on Hosking Avenue east of South H Street.
- **South H Street** is an Arterial roadway which runs north-south along the west edge of the site with a signalized intersection at Hosking Avenue. South H Street is a two lane roadway within the study area with separate left turns at signalized intersections; it is also designated as a Class 3 Bike Route. The posted speed limit on South H Street is 50 mph. Access is proposed to the site on South H Street south of Hosking Avenue. The RTIF includes adding two lanes south of Panama Lane.
- **Berkshire Road** is a Collector roadway which runs east-west with a signalized intersection at South H Street. Berkshire Road is a two lane roadway with various stages of widening between South H Street and Union Avenue. The posted speed limit on Berkshire Road is 45 mph.
- **McKee Road** is a Collector roadway which runs east-west with a signalized intersection at South H Street. McKee Road is a two lane roadway with various stages of widening between South H Street and Union Avenue. The posted speed limit on McKee Road is 40 mph.
- **Wible Road** is an Arterial roadway which runs north-south west of State Route 99. Wible Road is a two-lane roadway within the study area, and operates as a four-lane roadway north of Berkshire Road. Wible Road intersects Hosking Avenue at a signalized intersection. The posted speed limit on Wible Road is 50 mph. The RTIF

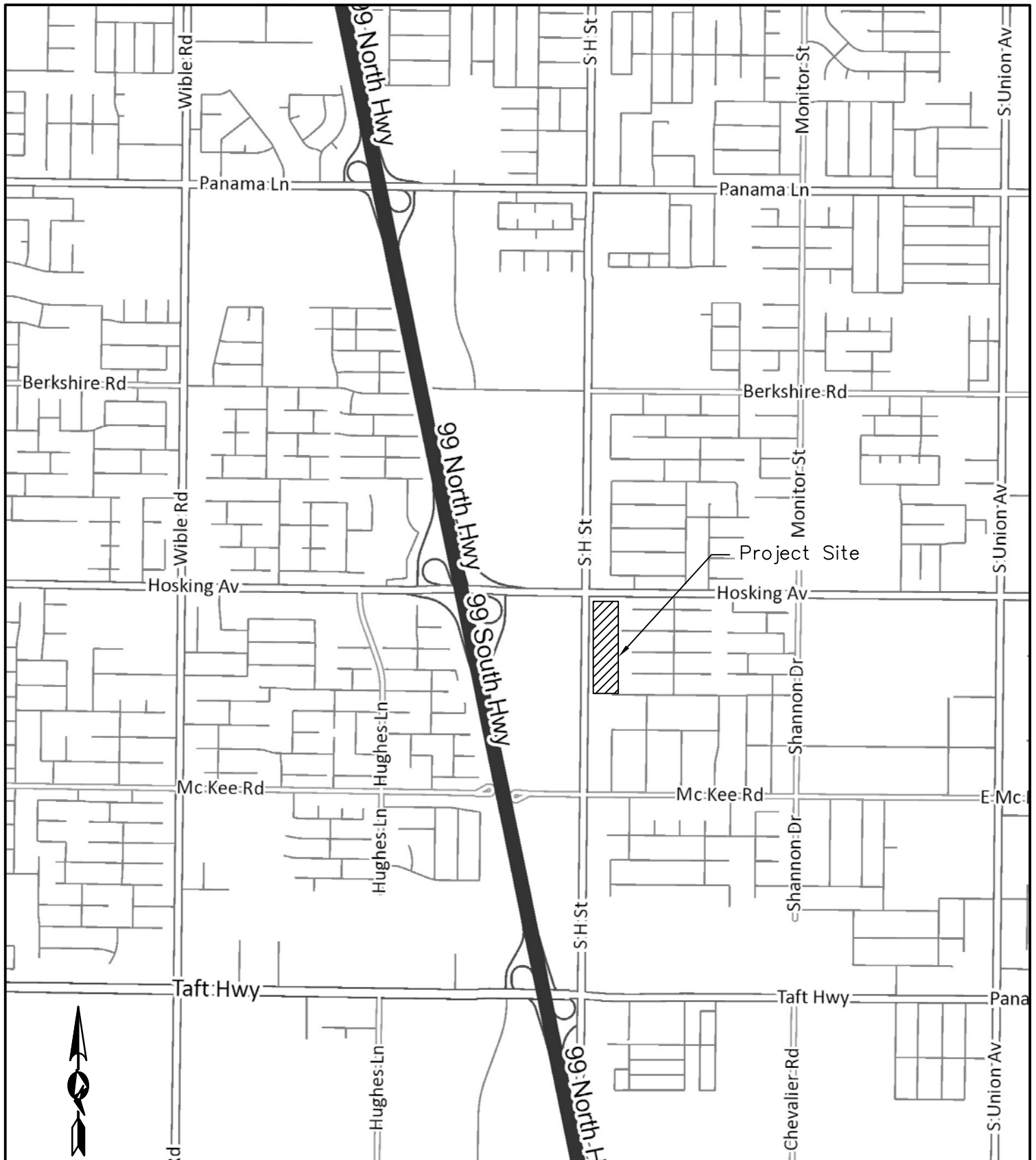
- includes adding two lanes south of Berkshire Road and installing traffic signals at McKee Road and Taft Highway.
- **Hughes Lane** is a Collector roadway which runs north-south just west of State Route 99. Hughes Lane is a two-lane roadway with a stop controlled T-intersection at Hosking Avenue. The posted speed limit on Hughes Lane is 40 mph. Previous studies have indicated, that signalization of the intersection is currently required based on existing Level of Service, the RTIF includes this improvement.
 - **Monitor Street** is a Collector roadway which runs north-south, east of the site. Monitor Street is a two-lane roadway at various stages of widening within the study area. Monitor Street intersects Hosking Avenue at a signalized intersection. The posted speed limit on Monitor Street is 40 mph.

LOCATION MAP

FIGURE 1



Traffic Study



Proposed Commercial Development
SE Corner of Hosking Ave & South H St

3 SITE TRAFFIC DEVELOPMENT

3.1 Site Description

The proposed commercial development at full build-out is expected to include 3000 ft² fast food restaurant with drive through, 1200 ft² fast food restaurant, 3000 ft² convenience store with a gas station with 16 fueling positions and car wash, and mini storage on the remaining 6.51 acres of the site.

Access to the site is proposed at two locations to existing roadways:

- Hosking Avenue on the north; and
- South H Street on the west on a new bridge over the Kern Island Canal.

Figure 2 illustrates the site plan and access locations.

3.2 Trip Generation

DeWalt Corporation based the site generated trips on the Institute of Transportation Engineers Trip Generation Manual, 9th Edition.

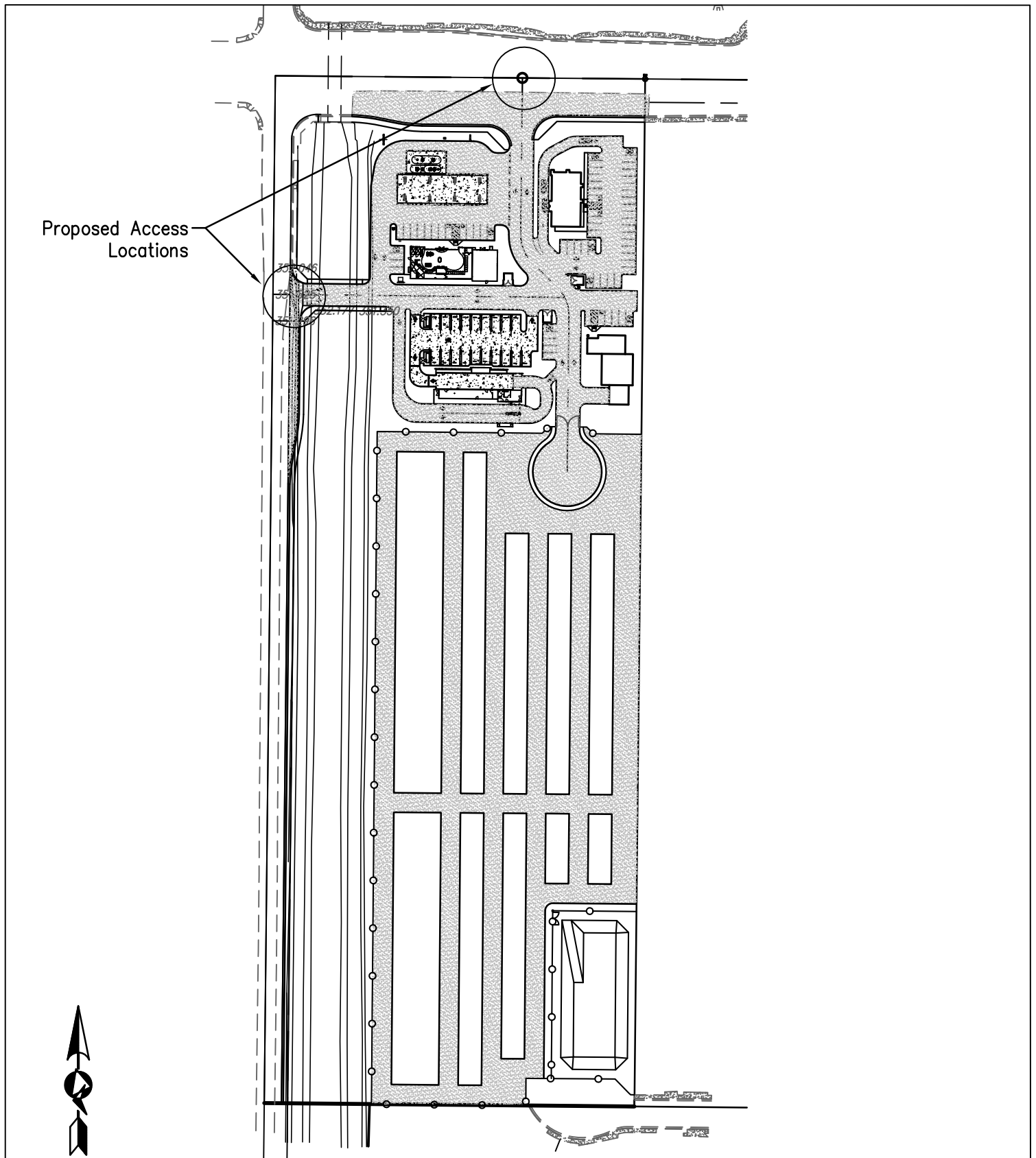
Not all of the traffic expected to be generated by the site will be “new” to the road network. Some of the site generated traffic will be drawn from ambient background traffic already passing the site on the road network as pass-by traffic. The pass-by component of the site generated traffic would be included as part of the driveway counts, but would not be considered as a net increase to the traffic passing by the site. The trips generated by the various retail uses will be separated into pass-by and primary trips. The rates are based on the City of Bakersfield Subdivision and Engineering Design Manual.

Based on the above, the trip generation for the site was calculated and the results of these calculations are summarized in **Table 1** for the AM and PM peak hours and **Table 2** for the Daily period.

SITE PLAN FIGURE 2



Traffic Study



Proposed Commercial Development
SE Corner of Hosking Ave & South H St

18-188

Table 1: Site Trip Generation – AM and PM Peak Hours

Peak Period	Use	Trip Rate	Number of Units	Trips In	Trips Out	Total Trips
AM	Fast food restaurant with drive through (ITE Land Use 934)	45.42 trips/1,000 ft ² (51% In/49% Out)	3,000 ft ²	69	67	136
	Fast food restaurant (ITE Land Use 933)	43.87 trips/1,000 ft ² (60% In/40% Out)	1,200 ft ²	32	21	53
	Convenience store with gas station and car wash (ITE Land Use 946)	11.84 trips/fueling pos. (51% In/49% Out)	16 fueling positions	97	93	189
	Mini storage (ITE Land Use 151)	2.58 trips/acre (45% In/55% Out)	6.51 acres	8	9	17
	<i>AM Total Site Generated Traffic</i>			205	190	395
	Pass-by Reduction for restaurants and convenience store/gas station/car wash		-40%	-76	-76	-151
	<i>AM Total External Primary Traffic</i>			130	114	244
PM	Fast food restaurant with drive through (ITE Land Use 934)	32.65 trips/1,000 ft ² (52% In/48% Out)	3,000 ft ²	51	47	98
	Fast food restaurant (ITE Land Use 933)	26.15 trips/1,000 ft ² (51% In/49% Out)	1,200 ft ²	16	15	31
	Convenience store with gas station and car wash (ITE Land Use 946)	13.86 trips/fueling pos. (51% In/49% Out)	16 fueling positions	133	109	222
	Mini storage (ITE Land Use 151)	3.57 trips/acre (50% In/50% Out)	6.51 acres	12	12	23
	<i>PM Total Site Generated Traffic</i>			192	183	374
	Pass-by Reduction for restaurants and convenience store/gas station/car wash		-40%	-70	-70	-140
	<i>PM Total External Primary Traffic</i>			121	112	234

Table 2: Site Trip Generation – Daily

Use	Rate	Number of Units	Total Trips
Fast food restaurant with drive through (ITE Land Use 934)	496.12 trips/1,000 ft ²	3,000 ft ²	1,488
Fast food restaurant (ITE Land Use 933)	716 trips/1,000 ft ²	1,200 ft ²	859
Convenience store with gas station and car wash (ITE Land Use 946)	152.84 trips/fueling pos.	16 fueling positions	2445
Mini storage (ITE Land Use 151)	35.43 trips/acre	6.51 acres	231
<i>Daily Total Site Generated Traffic</i>			5,024
Pass-by Reduction for restaurants and convenience store/gas station/car wash		-40%	-1,917
<i>Daily Total External Primary Traffic</i>			3,106

3.3 Site Traffic Distribution and Assignment

The expected primary trip generation for the proposed development was assigned to the network based on the location of residential developments with respect to the site and the potential draw from these developments based on the land use, access to the site, and other similar land uses in the vicinity. In addition the approved trip distributions presented in the adjacent lands TIAs were also reviewed to establish the trip distribution summarized in **Table 3**.

Table 3: Primary Trip Distribution

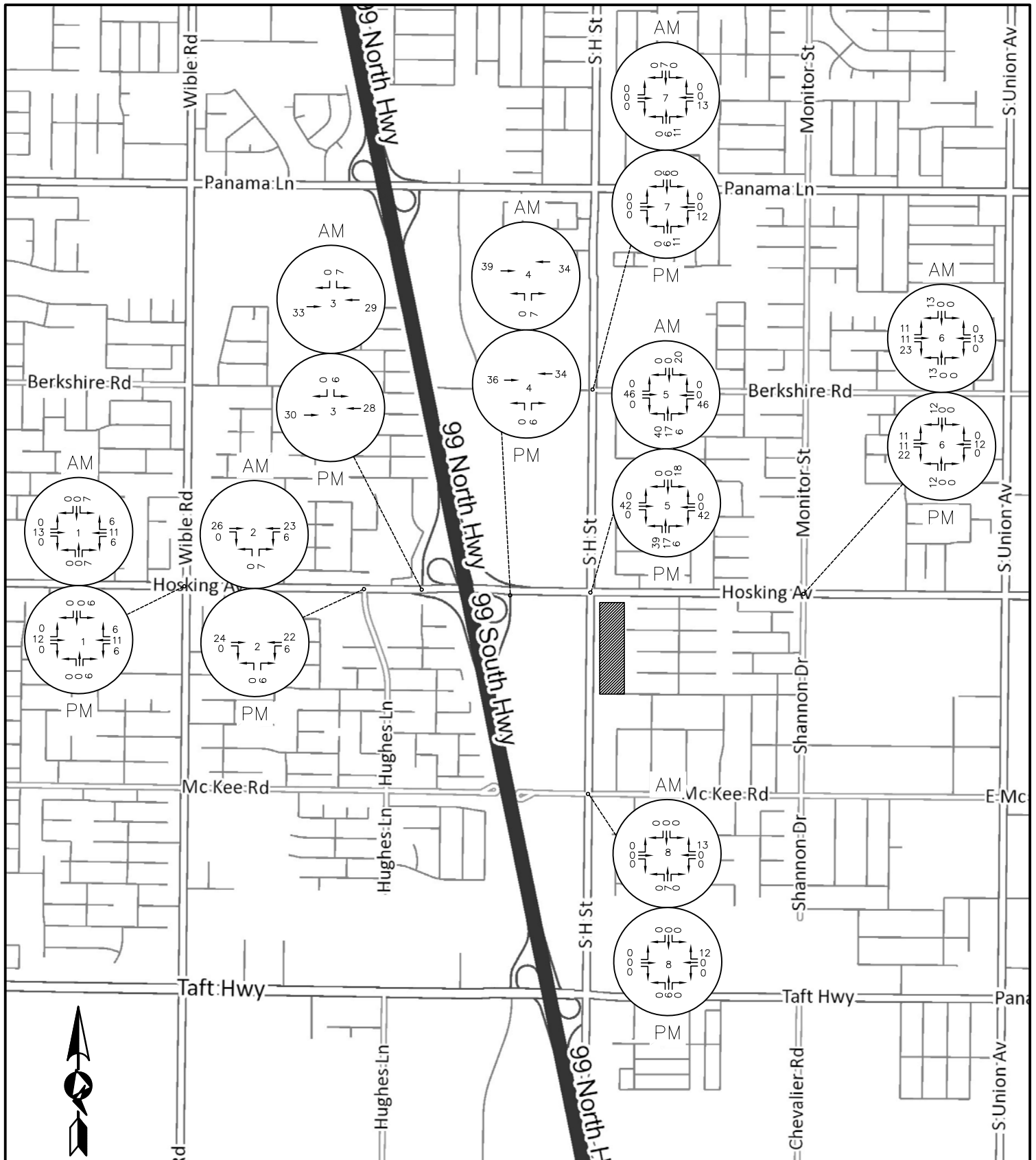
Direction	Distribution (%)
To/from the west on Hosking Avenue	35%
To/from the north on South H Street	15%
To/from the east on Hosking Avenue	35%
To/from the south on South H Street	15%

Using the above distribution, the site generated traffic was assigned to the adjacent transportation network. The resulting project generated peak hour traffic volumes are illustrated in **Figure 3**.

PROJECT PEAK HOUR TRAFFIC FIGURE 3



Traffic Study



4 EXISTING AND FUTURE TRAFFIC CONDITIONS

4.1 Existing Traffic Volumes

The 2018 base traffic volumes were sourced from the Traffic Study prepared by Ruettggers & Schuler for the lands at the SW Corner of the Hosking Avenue/ South H Street intersection. These traffic volumes were field measured on February 22, 2018. The City of Bakersfield approved the use of these counts for the use in this study. **Figure 4** illustrates the 2018 background weekday AM and PM peak hour traffic volumes. Existing 2018 plus project generated peak hour traffic volumes are shown in **Figure 5**.

4.2 Future 2035 Traffic Volumes

Background traffic is the traffic that would be present on the road system in the future years without consideration of the proposed development. This traffic is representative of ambient yearly growth on the roadways as well as other developments that have been approved for construction in the area or have future plans. With this in mind, the future background traffic volumes were comprised of traffic associated with typical growth on the adjacent road network and adjacent development generated traffic volumes.

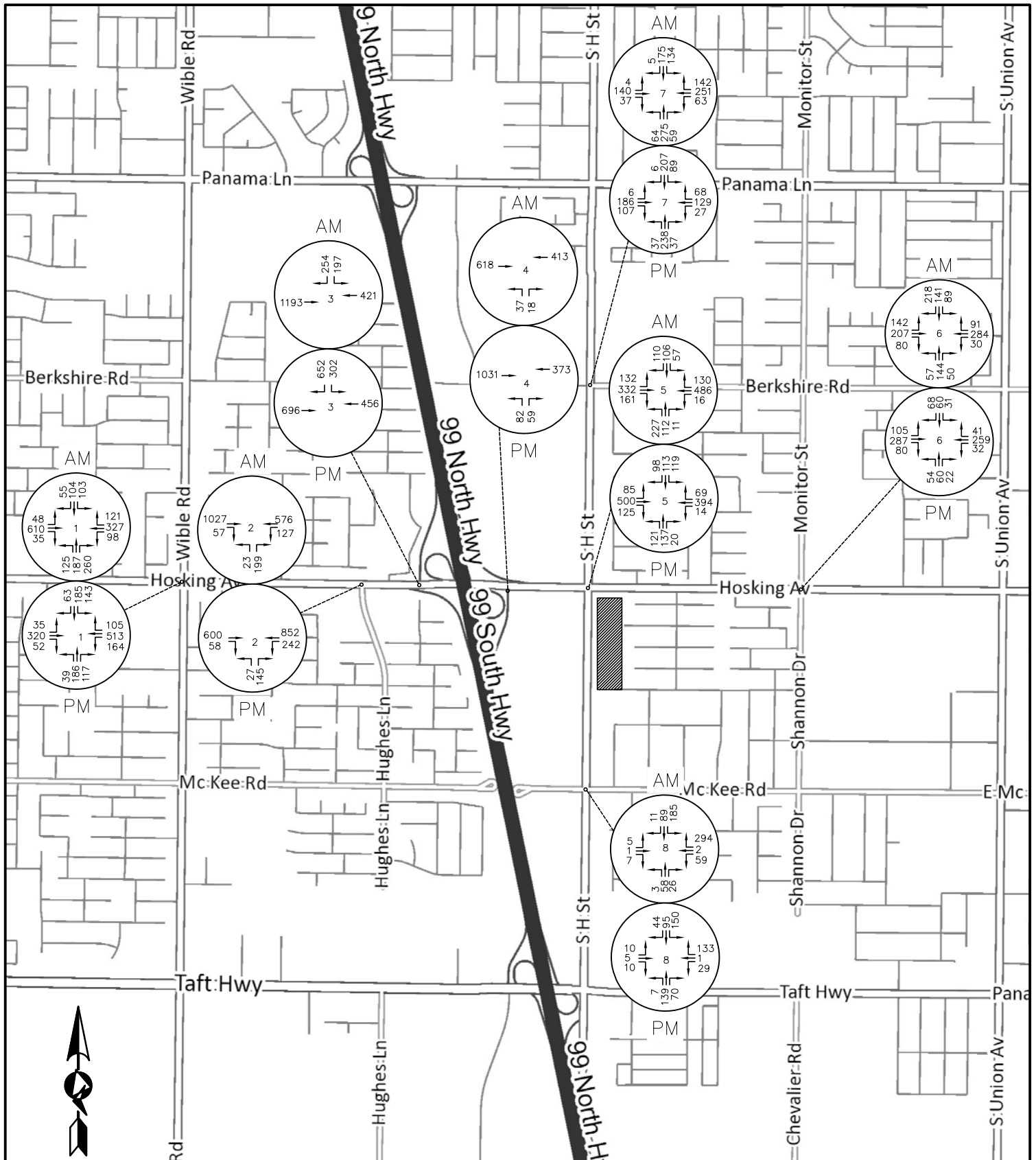
Available data was reviewed. Annual growth rates were estimated based on review of existing and future traffic volumes for 2035 from the Kern COG 2035 traffic model and proposed land use changes in the area. Project traffic from the traffic studies for the lands at the NW and SE corners of the Hosking Avenue/ South H Street intersection were also considered. To be consistent with previous reports, the background traffic for this development was taken as the latest 2035 forecast traffic from the TIA for the SE corner of the Hosking Avenue and South H Street which included the Bass Pro traffic in the NW corner of the intersection and the Point traffic at the SW corner of the intersection. **Figure 6** illustrates the 2035 background traffic volumes and **Figure 7** shows the 2035 background plus site generated traffic.

2018 PEAK HOUR TRAFFIC

FIGURE 4



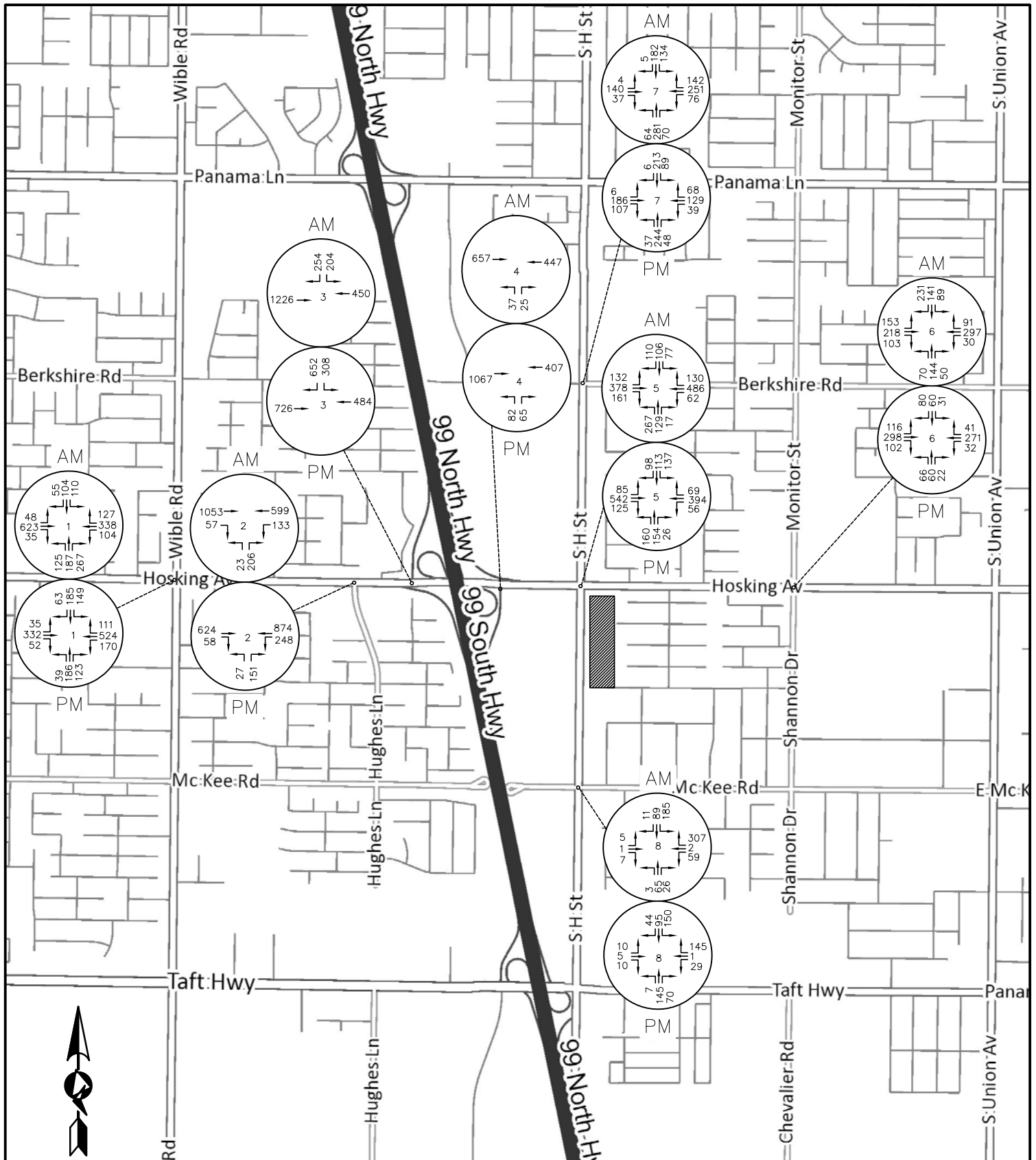
Traffic Study



2018 + PROJECT PEAK HOUR TRAFFIC FIGURE 5



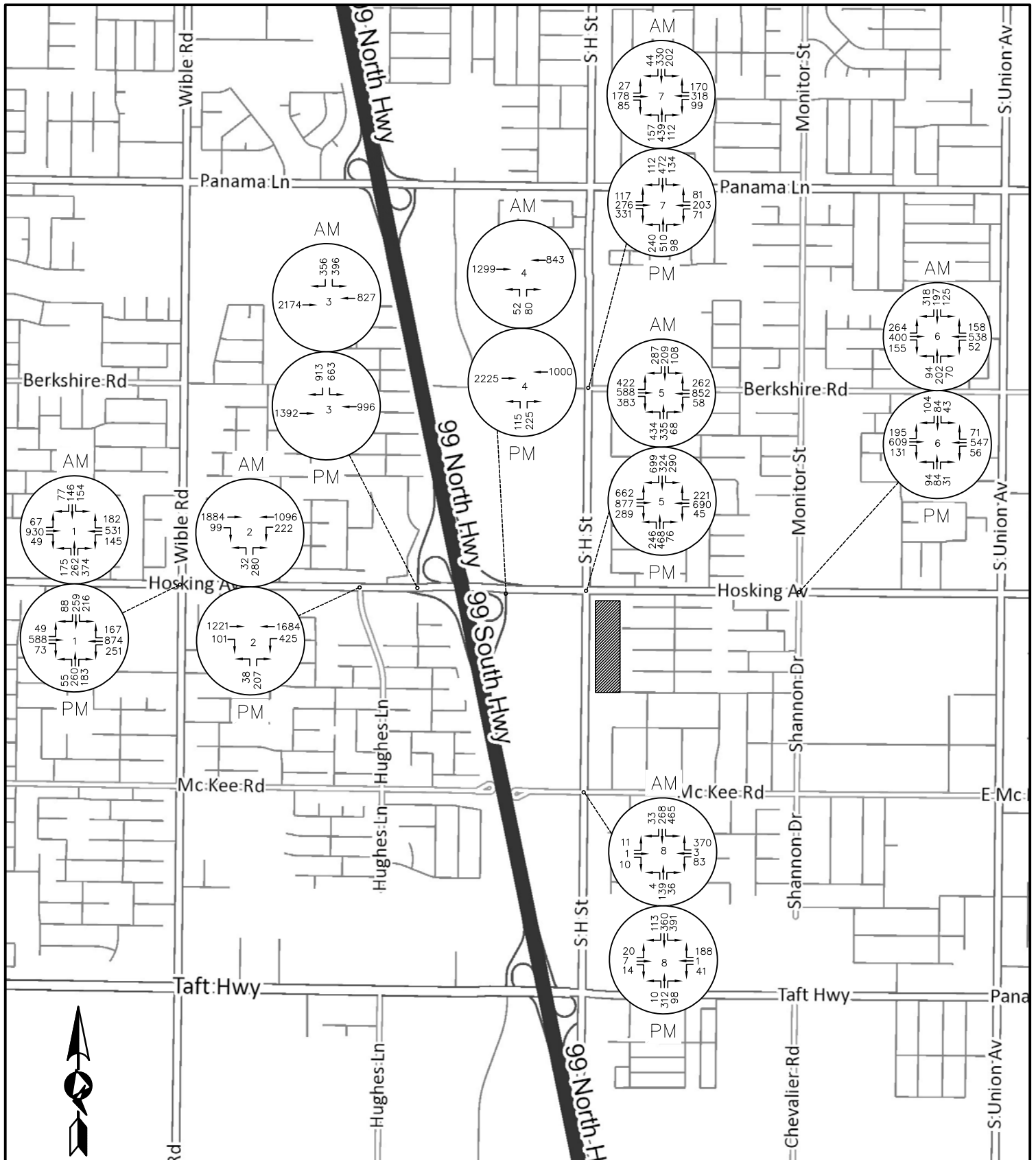
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2035 PEAK HOUR TRAFFIC FIGURE 6



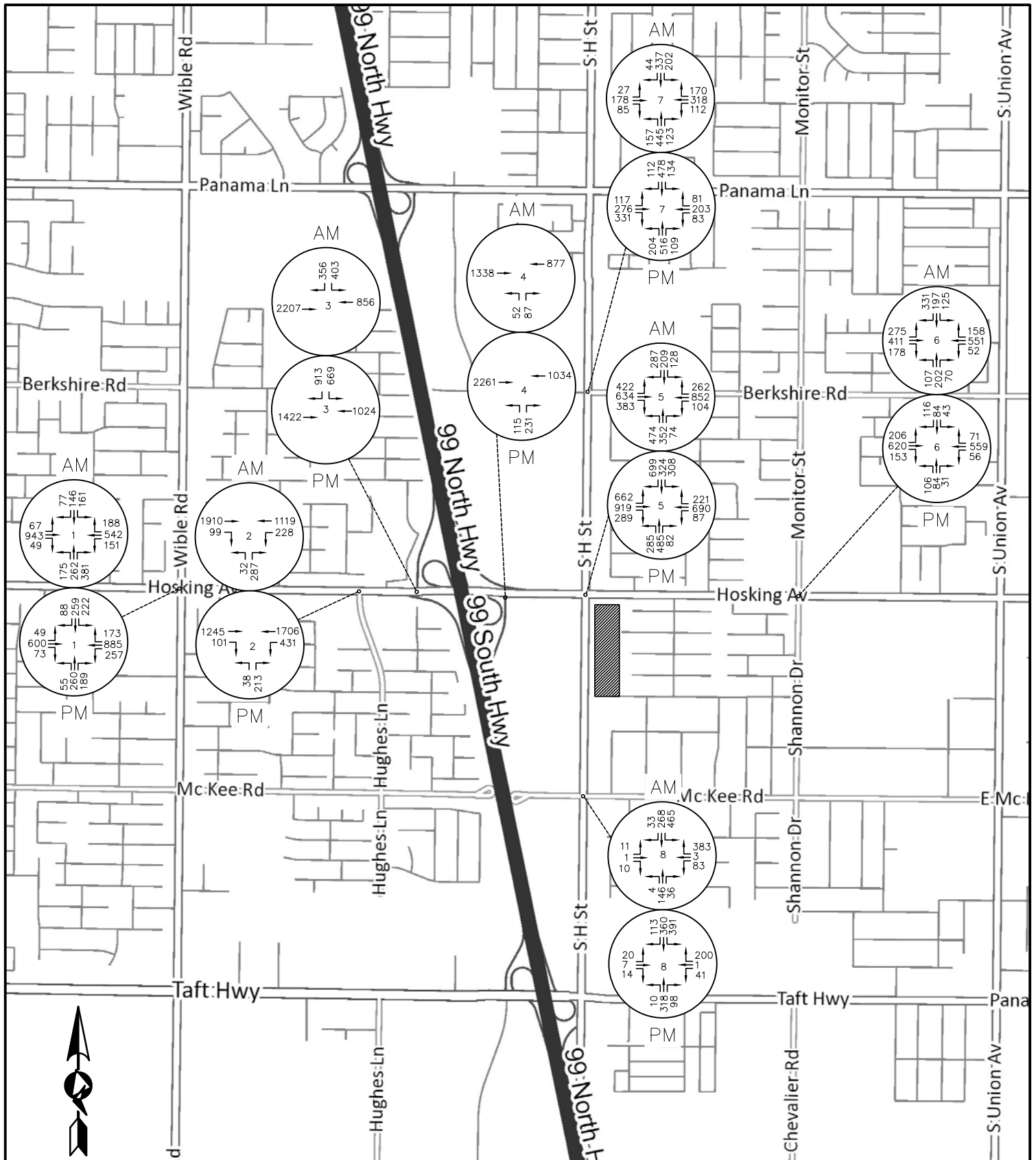
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2035 + PROJECT PEAK HOUR TRAFFIC FIGURE 7



Traffic Study



5 TRANSPORTATION ANALYSIS

5.1 Intersection Level of Service Analysis

A level of service analysis of the study area intersections was conducted using HCS7 software package based on the methods outlined in the *Transportation Research Board's 2010 Highway Capacity Manual*. These methods include analysis of both signalized and unsignalized intersections. The analysis was performed for the following AM and PM traffic scenarios:

- Existing (2018),
- Existing plus project (2018)
- Future background (2035)
- Future background plus project (2035)

In the signalized analysis individual critical movements are assessed based on proportion of utilized capacity (a volume to capacity or v/c ratio) and on delay (the level of service or LOS). The City of Bakersfield Standards for Traffic in the Subdivision and Engineering Design Manual states that a minimum level of service "C" is to be maintained.

The unsignalized analysis rates individual critical movements using a Level of Service (LOS) criterion. This is based on delay and grades of "A" through "F" are assigned based on increasing delay. A Level of Service of "A" represents ideal, free-flow conditions, and a LOS of "F" represents the failure of the critical movement. A LOS of "D" is generally acceptable as a basis for urban design.

Criteria for intersection LOS are shown in **Tables 4 and 5** below.

Table 4: Level of Service Criteria – Unsignalized Intersections

Average Control Delay (sec/veh)	Level of Service	General Description
≤ 10	A	Little or no delay
> 10 and ≤ 15	B	Short traffic delays
> 15 and ≤ 25	C	Average traffic delays
> 25 and ≤ 35	D	Long traffic delays
> 35 and ≤ 50	E	Very long traffic delays
> 50	F	Extreme delays

Table 5: Level of Service Criteria – Signalized Intersections

Average Control Delay (sec/veh)	Level of Service	General Description
≤ 10	A	Free flow
> 10 and ≤ 20	B	Stable flow – slight delays
> 20 and ≤ 35	C	Stable flow – acceptable delays
> 35 and ≤ 55	D	Approaching unstable flow - tolerable delay
> 55 and ≤ 80	E	Unstable flow – intolerable delay
> 80	F	Forced flow – congested and queues fail to clear

The HCS outputs are attached in the **Appendix** and the level of service for the study area intersections is summarized in **Tables 6 to 9** for the AM peak hour and PM peak hour.

Table 6: AM Peak Hour Unsignalized Intersection Level of Service

#	Intersection	Approach	2018	2018 + Project	2035	2035 + Project
2	Hughes Ln/Hosking Ave	northbound	E (36.7)	E (41.4)	F (113.4)	F (124.8)

Table 7: PM Peak Hour Unsignalized Intersection Level of Service

#	Intersection	Approach	2018	2018 + Project	2035	2035 + Project
2	Hughes Ln/Hosking Ave	northbound	C	C	F	F

Table 8: AM Peak Hour Signalized Intersection Level of Service

#	Intersection	2018	2018 + Project	2035	2035 + Project	2035 + Project w/ mitigation
1	Wible Rd/Hosking Ave	C	C	D (36.4)	D (37.4)	C ¹
2	Hughes Ln/Hosking Ave	B	B	C	D (35.0)	C ¹
3	SR 99 SB Ramps/Hosking Ave	B	B	B	B	n/a
4	SR 99 NB Ramps/Hosking Ave	A	A	A	A	n/a
5	South H St/Hosking Ave	C	C	C	C	n/a
6	Monitor St/Hosking Ave	C	C	D (39.7)	D (46.0)	C ¹
7	South H St/Berkshire Rd	C	C	C	C	n/a
8	South H St/McKee St	B	B	C	C	n/a

¹Mitigation details are summarized in **Table 11**.

Table 9: PM Peak Hour Signalized Intersection Level of Service

#	Intersection	2018	2018 + Project	2035	2035 + Project	2035 + Project w/ mitigation
1	Wible Rd/ Hosking Ave	C	C	D (39.2)	D (40.2)	C ¹
2	Hughes Ln/ Hosking Ave	B	B	C	C	C ¹
3	SR 99 SB Ramps/ Hosking Ave	C	C	C	C	n/a
4	SR 99 NB Ramps/ Hosking Ave	A	A	A	A	n/a
5	South H St/ Hosking Ave	C	C	C	C	n/a
6	Monitor St/ Hosking Ave	C	C	C	C	C ¹
7	South H St/ Berkshire Rd	C	C	C	C	n/a
8	South H St/ McKee St	C	C	C	C	n/a

¹Mitigation details are summarized in **Table 11**.

2018

Applying the exiting lane configurations and intersection controls, the 2018 background traffic analysis indicated that all the intersections are operating with LOS C or better with the exception of Hughes Lane and Hosking Avenue. Signals are planned at this location, and previous studies have shown that the signal is warranted applying the current traffic volumes. This intersection was also analyzed with signals applying the existing lane configurations.

For the 2018 post development traffic conditions, it is a requirement that the south side of Hosking Avenue be improved adjacent to the north boundary of the site to match the north side of Hosking Avenue. This improvement results in two eastbound through lanes through the intersection with South H Street and a separate northbound right turn lane from South H Street to Hosking Avenue.

Applying these improvements at the intersections of Hosking Avenue at South H Street and a signal at Hughes Lane, all the study area intersection will continue to operate with LOS C or better.

2035

The 2035 background traffic includes ambient traffic growth and traffic generated by future developments in the northwest and southwest corners of the South H Street and Hosking Avenue intersection. Based on the previous traffic studies in the study area, the South H Street and Hosking Avenue intersection will have the following lane configurations for the 2035 horizon year:

- Eastbound: two left turn lanes, three through lanes, and one right turn lane
- Northbound: two left turn lanes, three through lanes, and one right turn lane
- Westbound: two left turn lanes, three through lanes, and one right turn lane
- Southbound: two left turn lanes, three through lanes, and two right turn lanes.

The intersection analysis indicated that further mitigations will be required at three additional intersections to accommodate the 2035 background traffic projections to maintain or improve the operational level to LOS C or better.

5.2 Daily Link Analysis

The daily volume to capacity ratios for the study area roadway links were estimated and summarized in **Table 10**. Data from Kern COG was available for 2018 and 2035.

A volume to capacity ratio (v/c) greater than 0.80 corresponds to a LOS of less than C, as defined in the Highway Capacity Manual. The analysis indicated that all the study area roadways will remain at LOS C or better applying all the traffic scenarios.

Table 10: Roadway Capacity

Street	2018	2018+ Proj	2035 ADT	2035+ Proj	Existing Capacity	v/c 2018	v/c 2018+Proj	v/c 2035	v/c 2035+Proj
Hosking Ave: Wible Rd – SR 99	17,810	18,610	29,009	29,809	40000	0.45	0.47	0.73	0.75
Hosking Ave: SR 99 – S H St	n/a ¹	n/a	26,591	27,691	50000	-	-	0.53	0.55
Hosking Ave: S H St – Monitor St	16,198	17,298	20,548	21,648	40000	0.40	0.43	0.51	0.54
S H St: McKee Rd-Hosking Ave	6,251	6,751	7,800	8,300	40000	0.16	0.17	0.20	0.21
S H St: Hosking Ave – Panama Ln	8,535	9,035	8,879	9,379	40000	0.21	0.23	0.22	0.23

¹Latest data at this location was from 2007, therefore 2018 horizon year was not analyzed.

5.3 Mitigation

Mitigation at some of the study area intersections will be required by 2035 to maintain or improve the operational level of service to acceptable levels. The Regional Transportation Impact Fee (RTIF) Program is a fee imposed on new developments and contains a Regional Transportation Facilities List. This list includes the planned and funded improvements that are needed to maintain a level of service C or better for new growth or to prevent degradation of facilities which are currently operating at LOS C. **Table 11** summarizes the improvements required by the 2035 year.

Table 11: Future Intersection Improvements

#	Intersection	Total Improvements Required by 2035	Local Mitigation (Improvements not covered by RTIF or adjacent development)
1	Wible Rd/ Hosking Ave	1-EBL ¹ , 1-EBR 1-WBL ¹ 1-NBL, 1-NBT 1-SBL, 1-SBT	-
2	Hughes Ln/ Hosking Ave	Signal 1-EBT ¹ 1-NBL	-
6	Monitor St/ Hosking Ave	1-EBL ¹ 1-WBT, 1-WBR 1-NBT ¹ 1-SBT ¹	-

Note: EB=eastbound, WB=westbound, NB=northbound, SB=southbound, L= left turn lane, T=through lane, R=right turn lane

¹Striping only. Pavement is widened to accommodate additional lanes.

6 CONCLUSIONS AND RECOMMENDATIONS

This Traffic Impact Assessment (TIA) evaluated the potential impact of a General Plan Amendment and Zone Change (GPA-ZC) for the proposed commercial development at the southeast quadrant of the intersection of Hosking Avenue and South H Street.

Conclusions and recommendations were developed based on the analysis undertaken as part of this study. The conclusions and recommendations are summarized here and discussed in more detail in the main body of the report.

6.1 Intersection Level of Service Analysis

2018

Applying the existing lane configurations and intersection controls, the 2018 background traffic analysis indicated that all the intersections are operating with LOS C or better with the exception of Hughes Lane and Hosking Avenue. Signals are planned at this location, and previous studies have shown that the signal is warranted applying the current traffic volumes. This intersection was also analyzed with signals applying the existing lane configurations.

For the 2018 post development traffic conditions, it is a requirement that the south side of Hosking Avenue be improved adjacent to the north boundary of the site to match the north side of Hosking Avenue. This improvement results in two eastbound through lanes through the intersection with South H Street and a separate northbound right turn lane from South H Street to Hosking Avenue.

Applying these improvements at the intersections of Hosking Avenue at South H Street and a signal at Hughes Lane, all the study area intersection will continue to operate with LOS C or better.

2035

The 2035 background traffic includes ambient traffic growth and traffic generated by future developments in the northwest and southwest corners of the South H Street and Hosking Avenue intersection. Based on the previous traffic studies in the study area, the South H Street and Hosking Avenue intersection will have the following lane configurations for the 2035 horizon year:

- Eastbound: two left turn lanes, three through lanes, and one right turn lane
- Northbound: two left turn lanes, three through lanes, and one right turn lane
- Westbound: two left turn lanes, three through lanes, and one right turn lane
- Southbound: two left turn lanes, three through lanes, and two right turn lanes.

The intersection analysis indicated that further mitigations will be required at three additional intersections to accommodate the 2035 background traffic projections to maintain or improve the operational level to LOS C or better. These include Hosking Avenue

at Wible Road, Hughes Lane and Monitor Street. All these improvements are included in the RTIF or construction of adjacent developments.

6.2 Daily Link Analysis

All roadways within the project scope currently operate at acceptable levels of service and are expected to continue to do so in the future with the projected growth and with the addition of site generated traffic.

6.3 Conclusion

The analyses conducted in this report indicated that the proposed development can be accommodated on the adjacent transportation network with the mitigation measures described in **Table 11**. These improvements will be accomplished through improvements identified in the Regional Transportation Impact Fee Program as well as the improvements required on the project boundaries.

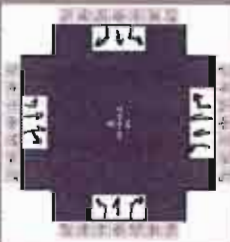
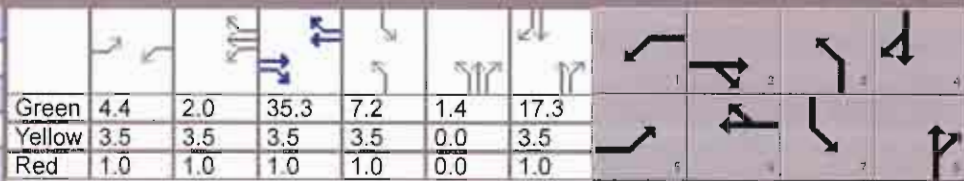
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5. Highway Capacity Manual, Special Report 209, Transportation Research Board, 2010
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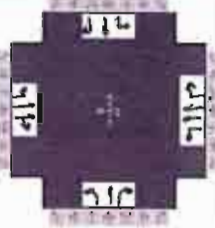
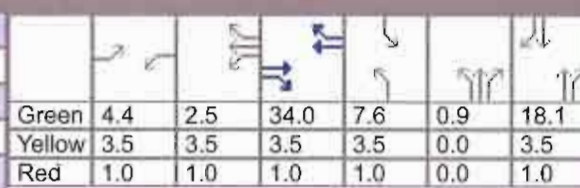
Appendix: HCS7 Analysis Results

Intersection 1
Hosking Avenue & Wible Road

HCS7 Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	DeWalt Corp				Duration, h	0.25										
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other									
Jurisdiction	City of Bakersfield		Time Period	AM Peak		PHF	0.92									
Urban Street	Hosking Ave		Analysis Year	2018 Background		Analysis Period	1> 7:00									
Intersection	Wible Rd		File Name	2018 AM background.xus												
Project Description	Commercial Dev. SE corner Hosking/S H															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					48	610	35	98	327	121	125	187	260	103	104	55
Signal Information																
Cycle, s	90.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	No	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
				Green	4.4	2.0	35.3	7.2	1.4	17.3						
				Yellow	3.5	3.5	3.5	3.5	0.0	3.5						
				Red	1.0	1.0	1.0	1.0	0.0	1.0						
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					5	2	1	6	3	8	7	4				
Case Number					2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phase Duration, s					8.9	39.8	15.4	46.3	13.0	23.1	11.7	21.8				
Change Period, (Y+R _c), s					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s					3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1				
Queue Clearance Time (g _s), s					4.6		10.7		8.7	17.5	7.6	6.7				
Green Extension Time (g _e), s					0.1	0.0	0.3	0.0	0.1	1.2	0.1	1.2				
Phase Call Probability					0.73		0.99		0.97	1.00	0.94	1.00				
Max Out Probability					0.00		0.00		0.01	0.00	0.00	0.00				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h					52	354	347	173	579	214	136	203	283	112	113	60
Adjusted Saturation Flow Rate (s), veh/h/ln					1781	1870	1834	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g _s), s					2.6	12.8	12.8	8.7	7.7	6.1	6.7	8.7	15.5	5.6	4.7	2.8
Cycle Queue Clearance Time (g _c), s					2.6	12.8	12.8	8.7	7.7	6.1	6.7	8.7	15.5	5.6	4.7	2.8
Green Ratio (g/C)					0.05	0.39	0.39	0.12	0.46	0.46	0.09	0.21	0.21	0.08	0.19	0.19
Capacity (c), veh/h					87	734	720	215	1654	736	169	387	328	142	359	304
Volume-to-Capacity Ratio (X)					0.603	0.482	0.483	0.808	0.350	0.291	0.804	0.525	0.861	0.788	0.315	0.196
Back of Queue (Q), ft/ln (50 th percentile)					29.1	140.5	136	106.1	68.1	49	75.2	95.2	148.1	62.7	51.3	26.5
Back of Queue (Q), veh/ln (50 th percentile)					1.1	5.5	5.4	4.2	2.7	1.9	3.0	3.7	5.8	2.5	2.0	1.0
Queue Storage Ratio (RQ) (50 th percentile)					0.13	0.00	0.00	0.47	0.00	0.16	0.33	0.00	0.47	0.28	0.00	0.08
Uniform Delay (d ₁), s/veh					42.0	20.5	20.5	43.3	11.8	11.2	39.9	31.7	34.4	40.7	31.3	30.5
Incremental Delay (d ₂), s/veh					2.5	2.3	2.3	2.7	0.6	1.0	3.4	0.4	2.6	3.6	0.2	0.1
Initial Queue Delay (d ₃), s/veh					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh					44.5	22.7	22.8	45.9	12.3	12.2	43.3	32.1	37.0	44.3	31.4	30.6
Level of Service (LOS)					D	C	C	D	B	B	D	C	D	D	C	C
Approach Delay, s/veh / LOS					24.3		C	18.3		B	36.8		D	36.3		D
Intersection Delay, s/veh / LOS					26.4						C					
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.10		B	2.09		B	2.44		B	2.29		B
Bicycle LOS Score / LOS					1.11		A	0.98		A	1.51		B	0.96		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information											
Agency	DeWalt Corp					Duration, h	0.25								
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other								
Jurisdiction	City of Bakersfield		Time Period	AM Peak		PHF	0.92								
Urban Street	Hosking Ave		Analysis Year	2018 Background + Project		Analysis Period	1> 7:00								
Intersection	Wible Rd		File Name	2018 AM post development.xus											
Project Description		Commercial Dev. SE corner Hosking/S H													
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				48	623	35	104	338	127	125	187	267	110	104	55
Signal Information															
Cycle, s	90.0	Reference Phase	2	Green	4.4	2.5	34.0	7.6	0.9	18.1					
Offset, s	0	Reference Point	End	Yellow	3.5	3.5	3.5	3.5	0.0	3.5					
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	1.0	0.0	1.0					
Force Mode	Fixed	Simult. Gap N/S	On												
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phase Duration, s				8.9	38.5	15.9	45.4	13.0	23.6	12.1	22.6				
Change Period, (Y+R), s				4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s				3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1				
Queue Clearance Time (g s), s				4.6		11.2		8.7	17.9	7.9	6.6				
Green Extension Time (g e), s				0.1	0.0	0.3	0.0	0.1	1.2	0.1	1.2				
Phase Call Probability				0.73		0.99		0.97	1.00	0.95	1.00				
Max Out Probability				0.00		0.00		0.01	0.00	0.00	0.00				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h				52	361	354	183	594	223	136	203	290	120	113	60
Adjusted Saturation Flow Rate (s), veh/h/ln				1781	1870	1835	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g s), s				2.6	13.4	13.4	9.2	8.1	6.5	6.7	8.6	15.9	5.9	4.6	2.8
Cycle Queue Clearance Time (g c), s				2.6	13.4	13.4	9.2	8.1	6.5	6.7	8.6	15.9	5.9	4.6	2.8
Green Ratio (g/C)				0.05	0.38	0.38	0.13	0.45	0.45	0.09	0.21	0.21	0.08	0.20	0.20
Capacity (c), veh/h				87	706	692	225	1620	721	169	396	336	151	377	320
Volume-to-Capacity Ratio (X)				0.603	0.511	0.512	0.813	0.367	0.309	0.804	0.513	0.864	0.793	0.300	0.187
Back of Queue (Q), ft/ln (50 th percentile)				29.1	149.3	144.9	112.6	72.1	52.7	75.2	94.4	151.9	66.6	50.5	26.1
Back of Queue (Q), veh/ln (50 th percentile)				1.1	5.9	5.8	4.4	2.8	2.1	3.0	3.7	6.0	2.6	2.0	1.0
Queue Storage Ratio (RQ) (50 th percentile)				0.13	0.00	0.00	0.50	0.00	0.17	0.33	0.00	0.48	0.30	0.00	0.08
Uniform Delay (d 1), s/veh				42.0	21.6	21.6	43.3	12.3	11.7	39.9	31.4	34.2	40.4	30.5	29.8
Incremental Delay (d 2), s/veh				2.5	2.6	2.7	2.6	0.6	1.1	3.4	0.4	2.6	3.5	0.2	0.1
Initial Queue Delay (d 3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh				44.5	24.3	24.3	46.0	12.9	12.8	43.3	31.7	36.8	44.0	30.7	29.9
Level of Service (LOS)				D	C	C	D	B	B	D	C	D	D	C	C
Approach Delay, s/veh / LOS				25.7	C		18.9	B		36.6	D		36.0	D	
Intersection Delay, s/veh / LOS				26.8						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.10	B		2.09	B		2.44	B		2.29	B	
Bicycle LOS Score / LOS				1.12	A		1.00	A		1.53	B		0.97	A	

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	AM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2035 Background
Urban Street	Hosking Ave	File Name	2035 AM background.xus
Intersection	Wible Rd		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	67	930	49	145	531	182	175	262	374	154	146	77

Signal Information

Cycle, s	90.0	Reference Phase	2											
Offset, s	0	Reference Point	End	Green	5.0	6.0	30.5	10.1	0.4	15.5				
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	3.5	3.5	3.5	0.0	3.5				
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	1.0	0.0	1.0				

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.5	35.0	20.0	45.5	15.0	20.4	14.6	20.0
Change Period (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	5.6		16.3		11.5	17.9	10.3	8.9
Green Extension Time (g _e), s	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Phase Call Probability	0.84		1.00		0.99	1.00	0.98	1.00
Max Out Probability	0.00		1.00		1.00	1.00	1.00	0.28

Movement Group Results

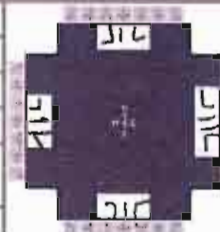
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	73	537	527	284	1039	356	190	285	407	167	159	84
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1837	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g_s), s	3.6	24.0	24.0	14.3	16.9	11.3	9.5	13.3	15.9	8.3	6.9	4.2
Cycle Queue Clearance Time (g_c), s	3.6	24.0	24.0	14.3	16.9	11.3	9.5	13.3	15.9	8.3	6.9	4.2
Green Ratio (g/C)	0.06	0.34	0.34	0.17	0.46	0.46	0.12	0.18	0.35	0.11	0.17	0.17
Capacity (c), veh/h	100	634	623	307	1621	722	208	330	552	201	322	273
Volume-to-Capacity Ratio (X)	0.732	0.847	0.847	0.925	0.641	0.493	0.915	0.864	0.736	0.835	0.493	0.307
Back of Queue (Q), ft/ln (50 th percentile)	41.3	307.1	298.2	240.7	132	81.9	157.2	190.9	194.3	119	76.5	38.9
Back of Queue (Q), veh/ln (50 th percentile)	1.6	12.1	11.9	9.5	5.2	3.2	6.2	7.5	7.6	4.7	3.0	1.5
Queue Storage Ratio (RQ) (50 th percentile)	0.18	0.00	0.00	1.07	0.00	0.26	0.70	0.00	0.62	0.53	0.00	0.12
Uniform Delay (d_1), s/veh	41.8	27.6	27.6	43.6	13.0	11.8	39.3	36.0	25.7	39.1	33.7	32.6
Incremental Delay (d_2), s/veh	3.8	13.2	13.4	29.4	1.7	2.1	39.0	19.6	4.5	22.4	0.4	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	45.7	40.8	41.0	73.0	14.8	13.9	78.3	55.6	30.2	61.5	34.1	32.8
Level of Service (LOS)	D	D	D	E	B	B	E	E	C	E	C	C
Approach Delay, s/veh / LOS	41.2	D		24.4		C	48.8	D		45.0	D	
Intersection Delay, s/veh / LOS	36.4						D					

Multimodal Results

	EB	WB	NB	SB
Pedestrian LOS Score / LOS	2.11	B	2.09	B
Bicycle LOS Score / LOS	1.43	A	1.26	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	AM Peak	PHF	0.92
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project	Analysis Period	1 > 7:00
Intersection	Wible Rd	File Name	2035 AM post development.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	67	943	49	151	542	188	175	262	381	161	146	77

Signal Information														
Cycle, s	90.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On	Green	5.0	6.0	30.5	10.5	15.5	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	3.5	3.5	0.0				
				Red	1.0	1.0	1.0	1.0	1.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.5	35.0	20.0	45.5	15.0	20.0	15.0	20.0
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _e), s	5.6		16.8		11.5	17.5	10.7	8.9
Green Extension Time (g _e), s	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Phase Call Probability	0.84		1.00		0.99	1.00	0.99	1.00
Max Out Probability	0.00		1.00		1.00	1.00	1.00	0.28

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	73	544	534	294	1054	366	190	285	414	175	159	84
Adjusted Saturation Flow Rate (s), veh/h/in	1781	1870	1837	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g _s), s	3.6	24.4	24.4	14.8	17.3	11.7	9.5	13.4	15.5	8.7	6.9	4.2
Cycle Queue Clearance Time (g _c), s	3.6	24.4	24.4	14.8	17.3	11.7	9.5	13.4	15.5	8.7	6.9	4.2
Green Ratio (g/C)	0.06	0.34	0.34	0.17	0.46	0.46	0.12	0.17	0.34	0.12	0.17	0.17
Capacity (c), veh/h	100	634	623	307	1621	722	208	322	546	208	322	273
Volume-to-Capacity Ratio (X)	0.732	0.858	0.858	0.958	0.650	0.507	0.915	0.884	0.759	0.842	0.493	0.307
Back of Queue (Q), ft/in (50 th percentile)	41.3	315	305.6	263.1	133.8	84	157.2	198.6	203.7	126.9	76.3	38.9
Back of Queue (Q), veh/in (50 th percentile)	1.6	12.4	12.2	10.4	5.3	3.3	6.2	7.8	8.0	5.0	3.0	1.5
Queue Storage Ratio (RQ) (50 th percentile)	0.18	0.00	0.00	1.17	0.00	0.27	0.70	0.00	0.65	0.56	0.00	0.12
Uniform Delay (d ₁), s/veh	41.8	27.7	27.7	44.0	13.1	11.8	39.3	36.4	26.2	38.9	33.7	32.6
Incremental Delay (d ₂), s/veh	3.8	14.1	14.3	36.6	1.8	2.2	39.0	23.2	5.5	24.4	0.4	0.2
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	45.7	41.8	42.0	80.6	14.8	14.0	78.3	59.6	31.7	63.3	34.1	32.8
Level of Service (LOS)	D	D	D	F	B	B	E	E	C	E	C	C
Approach Delay, s/veh / LOS	42.1		D	25.9		C	50.6		D	46.1		D
Intersection Delay, s/veh / LOS	37.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.11	B	2.09	B	2.45	B	2.29	B
Bicycle LOS Score / LOS	1.44	A	1.28	A	1.95	B	1.18	A

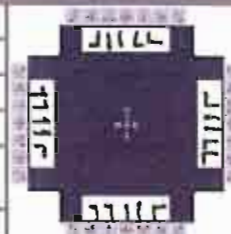
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	AM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2035 Background + Project
Urban Street	Hosking Ave	File Name	2035 AM post development mitigated.xus
Intersection	Wible Rd		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1 > 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	67	943	49	151	542	188	175	262	381	161	146	77

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.5	40.4	14.6	45.5	11.4	24.0	11.0	23.6
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	3.8		9.6		6.8	21.5	6.4	6.0
Green Extension Time (g _e), s	0.1	0.0	0.5	0.0	0.1	0.0	0.1	1.9
Phase Call Probability	0.84		1.00		0.99	1.00	0.99	1.00
Max Out Probability	0.00		0.00		0.45	1.00	0.27	0.02

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	73	1025	53	294	1054	366	190	285	412	175	159	84
Adjusted Saturation Flow Rate (s _s), veh/h/in	1730	1781	1610	1730	1781	1585	1730	1781	1585	1730	1781	1585
Queue Service Time (g _s), s	1.8	21.9	1.9	7.6	17.1	11.6	4.8	6.1	19.5	4.4	3.3	4.0
Cycle Queue Clearance Time (g _c), s	1.8	21.9	1.9	7.6	17.1	11.6	4.8	6.1	19.5	4.4	3.3	4.0
Green Ratio (g/C)	0.06	0.40	0.40	0.11	0.46	0.46	0.08	0.22	0.33	0.07	0.21	0.21
Capacity (c), veh/h	193	1420	642	388	1621	722	266	772	521	250	755	336
Volume-to-Capacity Ratio (X)	0.377	0.722	0.083	0.757	0.650	0.507	0.716	0.369	0.790	0.701	0.210	0.249
Back of Queue (Q), ft/in (50 th percentile)	19.2	226.1	16.9	86.5	131	83.2	51.1	63.2	214.1	47.1	34.2	36.5
Back of Queue (Q), veh/in (50 th percentile)	0.8	8.9	0.7	3.4	5.2	3.3	2.0	2.5	8.4	1.9	1.3	1.4
Queue Storage Ratio (RQ) (50 th percentile)	0.09	0.00	0.00	0.38	0.00	0.26	0.23	0.00	0.68	0.21	0.00	0.12
Uniform Delay (d ₁), s/veh	41.0	22.8	16.8	43.1	12.8	11.7	40.6	30.0	27.4	40.8	29.2	29.5
Incremental Delay (d ₂), s/veh	0.5	3.2	0.3	1.0	1.8	2.2	1.4	0.1	7.4	1.3	0.1	0.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.4	26.0	17.1	44.1	14.6	13.9	41.9	30.1	34.8	42.1	29.3	29.6
Level of Service (LOS)	D	C	B	D	B	B	D	C	C	D	C	C
Approach Delay, s/veh / LOS	26.6	C		19.5	B		34.8	C		34.7	C	
Intersection Delay, s/veh / LOS	26.2						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.57	C		2.56	C		2.58	C		2.58	C	
Bicycle LOS Score / LOS	1.44	A		1.28	A		1.22	A		0.83	A	

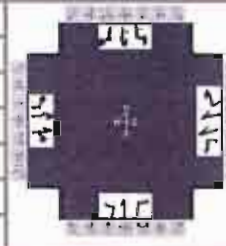
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp
Analyst	SK
Jurisdiction	City of Bakersfield
Urban Street	Hosking Ave
Intersection	Wible Rd
Project Description	Commercial Dev. SE corner Hosking/S H
Analysis Date	1/15/2019
Time Period	PM Peak
Analysis Year	2018 Background
File Name	2018 PM background.xus

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.94
Analysis Period	1> 4:30



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	35	320	52	164	513	105	39	186	117	143	185	63

Signal Information

Cycle, s	90.0	Reference Phase	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.1	41.2	18.2	51.2	8.4	16.7	13.9	22.2
Change Period (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s	3.8		13.4		4.1	11.2	9.5	10.5
Green Extension Time (g _e), s	0.0	0.0	0.4	0.0	0.0	1.0	0.1	1.0
Phase Call Probability	0.61		1.00		0.65	1.00	0.98	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.03	0.00

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	37	201	195	226	708	145	41	198	124	152	197	67
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1779	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g _s), s	1.8	6.4	6.5	11.4	10.2	4.1	2.1	9.2	6.6	7.5	8.5	3.2
Cycle Queue Clearance Time (g _c), s	1.8	6.4	6.5	11.4	10.2	4.1	2.1	9.2	6.6	7.5	8.5	3.2
Green Ratio (g/C)	0.04	0.41	0.41	0.15	0.52	0.52	0.04	0.14	0.14	0.10	0.20	0.20
Capacity (c), veh/h	72	763	726	271	1850	823	77	253	215	186	369	312
Volume-to-Capacity Ratio (X)	0.517	0.264	0.268	0.836	0.383	0.176	0.541	0.781	0.580	0.816	0.534	0.214
Back of Queue (Q), ft/ln (50 th percentile)	20.8	68.7	65.9	139.9	91	33.9	23.2	105.2	63.3	83.9	93.2	29.6
Back of Queue (Q), veh/ln (50 th percentile)	0.8	2.7	2.6	5.5	3.6	1.3	0.9	4.1	2.5	3.3	3.7	1.2
Queue Storage Ratio (RQ) (50 th percentile)	0.09	0.00	0.00	0.62	0.00	0.11	0.10	0.00	0.20	0.37	0.00	0.09
Uniform Delay (d ₁), s/veh	42.3	17.7	17.7	42.3	12.0	10.6	42.2	37.6	36.5	39.4	32.4	30.3
Incremental Delay (d ₂), s/veh	2.1	0.8	0.9	2.6	0.6	0.5	2.2	2.0	0.9	3.3	0.4	0.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.5	18.5	18.6	44.9	12.6	11.0	44.4	39.6	37.4	42.7	32.9	30.4
Level of Service (LOS)	D	B	B	D	B	B	D	D	D	D	C	C
Approach Delay, s/veh / LOS	20.8		C	19.2		B	39.4		D	36.1		D
Intersection Delay, s/veh / LOS	25.8						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.10		B	2.08		B	2.45		B	2.29		B
Bicycle LOS Score / LOS	0.84		A	1.17		A	1.09		A	1.17		A

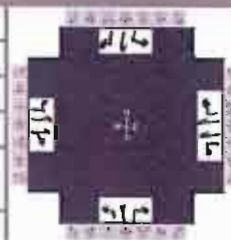
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	PM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2018 Background + Project
Urban Street	Hosking Ave	File Name	2018 PM post development.xus
Intersection	Wible Rd		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.94
Analysis Period	1> 4:30



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	35	332	52	170	524	111	39	186	123	149	185	63

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.1	40.4	18.6	50.9	8.4	16.7	14.3	22.6
Change Period, (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _e), s	3.8		13.8		4.1	11.2	9.8	10.5
Green Extension Time (g _e), s	0.0	0.0	0.4	0.0	0.0	1.0	0.1	1.0
Phase Call Probability	0.61		1.00		0.65	1.00	0.98	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.05	0.00

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	37	208	201	235	725	153	41	198	131	159	197	67
Adjusted Saturation Flow Rate (s), veh/h/in	1781	1870	1782	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g _s), s	1.8	6.8	6.9	11.8	10.6	4.4	2.1	9.2	7.0	7.8	8.5	3.2
Cycle Queue Clearance Time (g _e), s	1.8	6.8	6.9	11.8	10.6	4.4	2.1	9.2	7.0	7.8	8.5	3.2
Green Ratio (g/C)	0.04	0.40	0.40	0.16	0.52	0.52	0.04	0.14	0.14	0.11	0.20	0.20
Capacity (c), veh/h	72	746	711	280	1836	817	77	254	215	193	376	319
Volume-to-Capacity Ratio (X)	0.517	0.278	0.283	0.840	0.395	0.188	0.541	0.780	0.609	0.820	0.523	0.210
Back of Queue (Q), ft/in (50 th percentile)	20.8	73	69.9	146	95.2	36.6	23.2	104.9	66.8	88.7	92.8	29.4
Back of Queue (Q), veh/in (50 th percentile)	0.8	2.9	2.8	5.7	3.7	1.4	0.9	4.1	2.6	3.5	3.7	1.2
Queue Storage Ratio (RQ) (50 th percentile)	0.09	0.00	0.00	0.65	0.00	0.12	0.10	0.00	0.21	0.39	0.00	0.09
Uniform Delay (d ₁), s/veh	42.3	18.3	18.3	42.3	12.3	10.8	42.2	37.6	36.6	39.3	32.1	30.0
Incremental Delay (d ₂), s/veh	2.1	0.9	1.0	2.5	0.6	0.5	2.2	2.0	1.0	4.5	0.4	0.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.5	19.2	19.3	44.8	12.9	11.3	44.4	39.6	37.7	43.7	32.5	30.1
Level of Service (LOS)	D	B	B	D	B	B	D	D	D	D	C	C
Approach Delay, s/veh / LOS	21.4	C		19.5	B		39.4	D		36.3	D	
Intersection Delay, s/veh / LOS	26.0						C					

Multimodal Results

	EB	WB	NB	SB
Pedestrian LOS Score / LOS	2.10	B	2.45	B
Bicycle LOS Score / LOS	0.86	A	1.10	A

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp
Analyst	SK
Jurisdiction	City of Bakersfield
Urban Street	Hosking Ave
Intersection	Wible Rd
Project Description	Commercial Dev. SE corner Hosking/S H

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.94
Analysis Period	1> 7:00
File Name	2035 PM background.xus



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	49	588	73	251	874	167	55	260	183	216	259	88

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.9	25.0	27.1	43.2	9.1	20.0	17.9	28.8
Change Period, (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s	4.6		23.1		4.9	14.9	13.3	13.3
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.0	0.6	0.1	1.4
Phase Call Probability	0.73		1.00		0.77	1.00	1.00	1.00
Max Out Probability	0.00		1.00		0.00	1.00	1.00	0.01

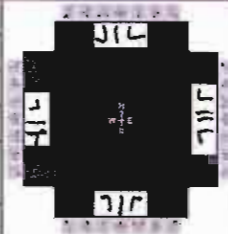
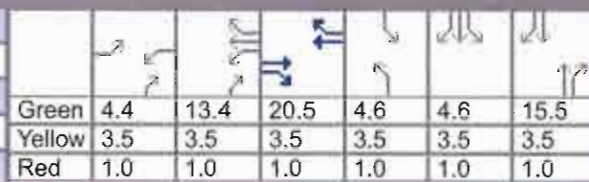
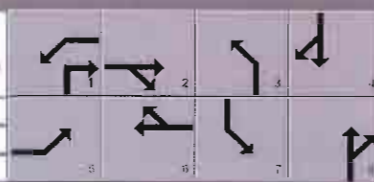
Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	52	358	345	422	1470	281	59	277	195	230	276	94
Adjusted Saturation Flow Rate (s), veh/h/in	1781	1870	1798	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g _s), s	2.6	16.5	16.5	21.1	35.3	8.9	2.9	12.9	7.3	11.3	11.3	4.1
Cycle Queue Clearance Time (g _c), s	2.6	16.5	16.5	21.1	35.3	8.9	2.9	12.9	7.3	11.3	11.3	4.1
Green Ratio (g/C)	0.05	0.23	0.23	0.25	0.43	0.43	0.05	0.17	0.42	0.15	0.27	0.27
Capacity (c), veh/h	87	426	409	447	1532	682	91	323	671	265	505	428
Volume-to-Capacity Ratio (X)	0.603	0.840	0.843	0.945	0.960	0.412	0.641	0.857	0.290	0.867	0.545	0.219
Back of Queue (Q), ft/in (50 th percentile)	29.1	230.7	221.3	319.6	319.5	68.8	32.8	175.2	61.4	152.8	121.8	37.3
Back of Queue (Q), veh/in (50 th percentile)	1.1	9.1	8.9	12.6	12.6	2.7	1.3	6.9	2.4	6.0	4.8	1.5
Queue Storage Ratio (RQ) (50 th percentile)	0.13	0.00	0.00	1.42	0.00	0.22	0.15	0.00	0.19	0.68	0.00	0.12
Uniform Delay (d ₁), s/veh	42.0	33.2	33.2	38.0	18.6	12.8	41.9	36.2	17.1	37.4	28.1	25.5
Incremental Delay (d ₂), s/veh	2.5	17.8	18.7	25.0	13.1	1.5	2.8	15.0	0.1	18.2	0.4	0.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.5	51.0	51.9	63.0	31.8	14.3	44.7	51.1	17.1	55.7	28.5	25.6
Level of Service (LOS)	D	D	D	E	C	B	D	D	B	E	C	C
Approach Delay, s/veh / LOS	51.0	D		35.6	D		37.9	D		38.5	D	
Intersection Delay, s/veh / LOS	39.2						D					

Multimodal Results

	EB	WB	NB	SB
Pedestrian LOS Score / LOS	2.12 / B	2.10 / B	2.45 / B	2.28 / B
Bicycle LOS Score / LOS	1.11 / A	1.62 / B	1.36 / A	1.48 / A

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information									
Agency	DeWalt Corp					Duration, h	0.25								
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other								
Jurisdiction	City of Bakersfield		Time Period	PM Peak		PHF	0.94								
Urban Street	Hosking Ave		Analysis Year	2035 Background + Project		Analysis Period	1> 7:00								
Intersection	Wible Rd		File Name	2035 PM post development.xus											
Project Description		Commercial Dev. SE corner Hosking/S H													
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				49	600	73	257	885	173	55	260	189	222	259	88
Signal Information															
Cycle, s	90.0	Reference Phase	2	Green	4.4	13.4	20.5	4.6	4.6	15.5					
Offset, s	0	Reference Point	End	Yellow	3.5	3.5	3.5	3.5	3.5	3.5					
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	1.0	1.0	1.0					
Force Mode	Fixed	Simult. Gap N/S	On												
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phase Duration, s				8.9	25.0	26.8	42.9	9.1	20.0	18.2	29.1				
Change Period, (Y+R), s				4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s				3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0				
Queue Clearance Time (g _s), s				4.6		23.7		4.9	14.9	13.7	13.3				
Green Extension Time (g _e), s				0.0	0.0	0.0	0.0	0.0	0.6	0.1	1.4				
Phase Call Probability				0.73		1.00		0.77	1.00	1.00	1.00				
Max Out Probability				0.00		1.00		0.00	1.00	1.00	0.01				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h				52	364	351	431	1486	290	59	277	201	236	276	94
Adjusted Saturation Flow Rate (s), veh/h/ln				1781	1870	1799	1781	1781	1585	1781	1870	1585	1781	1870	1585
Queue Service Time (g _s), s				2.6	16.8	16.9	21.7	36.4	9.3	2.9	12.9	7.6	11.7	11.3	4.1
Cycle Queue Clearance Time (g _c), s				2.6	16.8	16.9	21.7	36.4	9.3	2.9	12.9	7.6	11.7	11.3	4.1
Green Ratio (g/C)				0.05	0.23	0.23	0.25	0.43	0.43	0.05	0.17	0.42	0.15	0.27	0.27
Capacity (c), veh/h				87	426	410	442	1521	677	91	322	666	271	511	433
Volume-to-Capacity Ratio (X)				0.603	0.856	0.858	0.977	0.977	0.429	0.641	0.860	0.302	0.871	0.539	0.216
Back of Queue (Q), ft/ln (50 th percentile)				29.1	239	229.4	348.6	338.5	71.2	32.8	177.1	64.4	159	121.4	37.2
Back of Queue (Q), veh/ln (50 th percentile)				1.1	9.4	9.2	13.7	13.3	2.8	1.3	7.0	2.5	6.3	4.8	1.5
Queue Storage Ratio (RQ) (50 th percentile)				0.13	0.00	0.00	1.55	0.00	0.23	0.15	0.00	0.20	0.71	0.00	0.12
Uniform Delay (d ₁), s/veh				42.0	33.3	33.4	38.6	18.8	12.9	41.9	36.2	17.3	37.3	27.9	25.3
Incremental Delay (d ₂), s/veh				2.5	19.3	20.2	32.2	15.8	1.6	2.8	15.8	0.1	19.3	0.3	0.1
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh				44.5	52.6	53.5	70.8	34.7	14.5	44.7	52.0	17.4	56.6	28.2	25.4
Level of Service (LOS)				D	D	D	E	C	B	D	D	B	E	C	C
Approach Delay, s/veh / LOS				52.5		D	39.1		D	38.2		D	36.9		D
Intersection Delay, s/veh / LOS				41.4						D					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.12		B	2.10		B	2.45		B	2.28		B
Bicycle LOS Score / LOS				1.12		A	1.64		B	1.37		A	1.49		A

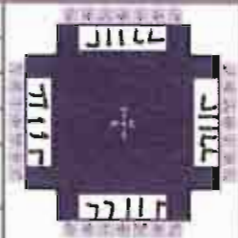
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	PM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2035 Background + Project
Urban Street	Hosking Ave	File Name	2035 PM post development mitigated.xus
Intersection	Wible Rd		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.94
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	49	600	73	257	885	173	55	260	189	222	259	88

Signal Information

Cycle, s	90.0	Reference Phase	2											
Offset, s	0	Reference Point	End	Green	4.4	5.2	36.9	4.6	3.7	12.7				
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	3.5	3.5	3.5	0.0	3.5				
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	1.0	0.0	1.0				

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.9	41.4	18.6	51.1	9.1	17.2	12.8	20.9
Change Period, (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s	3.3		13.1		3.5	11.2	8.0	8.2
Green Extension Time (g _e), s	0.1	0.0	0.9	0.0	0.1	1.6	0.3	1.7
Phase Call Probability	0.73		1.00		0.77	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	0.02	0.01	0.00

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	52	638	78	431	1486	290	59	277	201	236	276	94
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1781	1610	1730	1781	1585	1730	1781	1585	1730	1781	1585
Queue Service Time (g _s), s	1.3	11.6	2.7	11.1	29.4	8.6	1.5	6.5	9.2	6.0	6.2	4.6
Cycle Queue Clearance Time (g _c), s	1.3	11.6	2.7	11.1	29.4	8.6	1.5	6.5	9.2	6.0	6.2	4.6
Green Ratio (g/C)	0.05	0.41	0.41	0.16	0.52	0.52	0.05	0.14	0.30	0.09	0.18	0.18
Capacity (c), veh/h	168	1460	660	542	1845	821	177	504	473	318	649	289
Volume-to-Capacity Ratio (X)	0.310	0.437	0.118	0.797	0.806	0.354	0.330	0.549	0.425	0.743	0.425	0.324
Back of Queue (Q), ft/ln (50 th percentile)	13.8	115.5	24.5	130	245	66.7	15.5	68.7	82.6	63.1	64.3	43.1
Back of Queue (Q), veh/ln (50 th percentile)	0.5	4.5	1.0	5.1	9.6	2.6	0.6	2.7	3.3	2.5	2.5	1.7
Queue Storage Ratio (RQ) (50 th percentile)	0.06	0.00	0.00	0.58	0.00	0.21	0.07	0.00	0.26	0.28	0.00	0.14
Uniform Delay (d ₁), s/veh	41.4	19.1	16.5	42.0	15.0	10.7	41.2	36.0	25.4	39.8	32.6	32.0
Incremental Delay (d ₂), s/veh	0.4	1.0	0.4	0.8	3.1	1.0	0.4	0.3	0.2	1.3	0.2	0.2
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.7	20.0	16.8	42.9	18.1	11.7	41.6	36.3	25.6	41.1	32.8	32.2
Level of Service (LOS)	D	C	B	D	B	B	D	D	C	D	C	C
Approach Delay, s/veh / LOS	21.2		C	22.1		C	32.9		C	36.0		D
Intersection Delay, s/veh / LOS	25.4						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.56		C	2.55		C	2.59		C	2.59		C
Bicycle LOS Score / LOS	1.12		A	1.64		B	0.93		A	0.99		A

Intersection 2
Hosking Avenue & Hughes Lane

HCS7 Two-Way Stop-Control Report

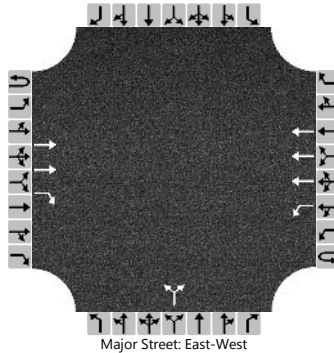
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2018
Time Analyzed	AM Peak
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			1027	57	0	127	576			23		199				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						138					241					
Capacity, c (veh/h)						323					344					
v/c Ratio						0.43					0.70					
95% Queue Length, Q ₉₅ (veh)						2.1					5.1					
Control Delay (s/veh)						24.2					36.7					
Level of Service (LOS)						C					E					
Approach Delay (s/veh)					4.4				36.7							
Approach LOS									E							

HCS7 Two-Way Stop-Control Report

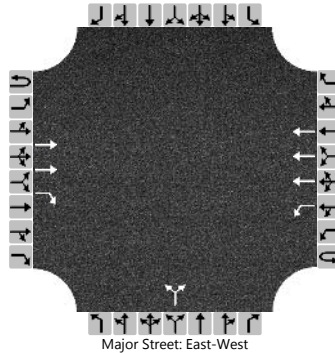
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2018
Time Analyzed	AM Peak + Project
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			1053	57	0	133	599			23		206				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					145					249						
Capacity, c (veh/h)					313					334						
v/c Ratio					0.46					0.74						
95% Queue Length, Q ₉₅ (veh)					2.3					5.7						
Control Delay (s/veh)					26.0					41.4						
Level of Service (LOS)					D					E						
Approach Delay (s/veh)					4.7				41.4							
Approach LOS									E							

HCS7 Two-Way Stop-Control Report

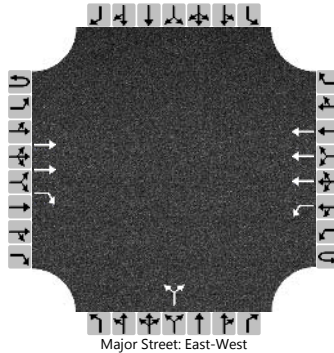
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2035
Time Analyzed	AM Peak
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			1884	99	0	222	1096			32		280				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						241					339					
Capacity, c (veh/h)						106										
v/c Ratio						2.29										
95% Queue Length, Q ₉₅ (veh)						21.2										
Control Delay (s/veh)						673.1										
Level of Service (LOS)						F										
Approach Delay (s/veh)					113.4											
Approach LOS																

HCS7 Two-Way Stop-Control Report

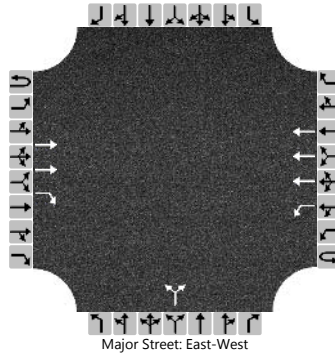
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2035
Time Analyzed	AM Peak + Project
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			1910	99	0	228	1119			32		287				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

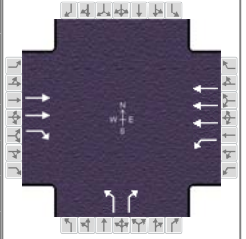
Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						248					347					
Capacity, c (veh/h)						102										
v/c Ratio						2.43										
95% Queue Length, Q ₉₅ (veh)						22.4										
Control Delay (s/veh)						737.5										
Level of Service (LOS)						F										
Approach Delay (s/veh)					124.8											
Approach LOS																

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	AM Peak	PHF	0.92
Urban Street	Hosking Ave	Analysis Year	2018 Background	Analysis Period	1> 7:00
Intersection	Hughes Ln	File Name	2018 AM background.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1027	57	127	576		23		199			

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On	Green	12.5	49.7	14.3	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0	
				Red	1.0	1.0	1.0	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		54.2	17.0	71.2		18.8		
Change Period, ($Y+R_c$), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g_s), s			12.2			14.0		
Green Extension Time (g_e), s		0.0	0.3	0.0		0.4		
Phase Call Probability			0.99			1.00		
Max Out Probability			0.00			0.00		

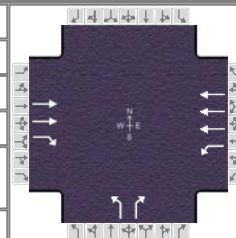
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		1002	56	208	941		25		216			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g_s), s		18.8	2.7	10.2	4.5		1.1		12.0			
Cycle Queue Clearance Time (g_c), s		18.8	2.7	10.2	4.5		1.1		12.0			
Green Ratio (g/C)		0.55	0.55	0.14	0.74		0.16		0.16			
Capacity (c), veh/h		1967	875	247	3775		283		252			
Volume-to-Capacity Ratio (X)		0.509	0.064	0.841	0.249		0.088		0.858			
Back of Queue (Q), ft/ln (50 th percentile)		204	23.5	115.4	28.4		11.6		119.7			
Back of Queue (Q), veh/ln (50 th percentile)		8.0	0.9	4.5	1.1		0.5		4.7			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.11	0.58	0.00		0.00		0.00			
Uniform Delay (d_1), s/veh		17.4	18.0	38.0	3.1		32.3		36.8			
Incremental Delay (d_2), s/veh		0.7	0.1	2.7	0.1		0.0		3.3			
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		18.1	18.1	40.7	3.2		32.3		40.1			
Level of Service (LOS)		B	B	D	A		C		D			
Approach Delay, s/veh / LOS	18.1	B		10.0	A		39.3	D		0.0		
Intersection Delay, s/veh / LOS	16.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	0.64	A	2.47	B	2.47	B
Bicycle LOS Score / LOS	1.46	A	0.91	A		F		

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project
Intersection	Hughes Ln	File Name	2018 AM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1053	57	133	599		23		206			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	13.0	48.8	14.8	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
				Red	1.0	1.0	1.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		53.3	17.5	70.7		19.3		
Change Period, ($Y+R_c$), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g_s), s			12.7			14.4		
Green Extension Time (g_e), s		0.0	0.3	0.0		0.4		
Phase Call Probability			1.00			1.00		
Max Out Probability			0.00			0.00		

Movement Group Results

Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (ν), veh/h		1031	56	216	975		25		224			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g_s), s		19.9	2.7	10.7	5.1		1.1		12.4			
Cycle Queue Clearance Time (g_c), s		19.9	2.7	10.7	5.1		1.1		12.4			
Green Ratio (g/C)		0.54	0.54	0.14	0.74		0.16		0.16			
Capacity (c), veh/h		1930	859	256	3750		292		260			
Volume-to-Capacity Ratio (X)		0.534	0.065	0.844	0.260		0.086		0.862			
Back of Queue (Q), ft/ln (50 th percentile)		218.4	24.1	122.3	32.9		11.6		123.8			
Back of Queue (Q), veh/ln (50 th percentile)		8.6	1.0	4.8	1.3		0.5		4.9			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.11	0.61	0.00		0.00		0.00			
Uniform Delay (d_1), s/veh		18.5	18.6	38.4	3.4		31.9		36.6			
Incremental Delay (d_2), s/veh		0.8	0.1	2.7	0.2		0.0		3.3			
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		19.2	18.7	41.1	3.6		31.9		39.9			
Level of Service (LOS)		B	B	D	A		C		D			
Approach Delay, s/veh / LOS	19.2	B		10.4	B		39.1	D		0.0		
Intersection Delay, s/veh / LOS	17.0						B					

Multimodal Results

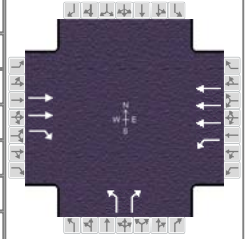
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.89	B		0.65	A		2.47	B		2.47	B	
Bicycle LOS Score / LOS	1.48	A		0.93	A			F				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background
Intersection	Hughes Ln	File Name	2035 AM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1884	99	222	1096		32		280			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	18.9	38.3	19.3	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
				Red	1.0	1.0	1.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		42.8	23.4	66.2		23.8		
Change Period, (Y+R _c), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g _s), s			18.7			18.8		
Green Extension Time (g _e), s		0.0	0.2	0.0		0.5		
Phase Call Probability			1.00			1.00		
Max Out Probability			1.00			0.10		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		1506	79	333	1644		35		304			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g _s), s		38.0	4.2	16.7	14.8		1.4		16.8			
Cycle Queue Clearance Time (g _c), s		38.0	4.2	16.7	14.8		1.4		16.8			
Green Ratio (g/C)		0.43	0.43	0.21	0.69		0.21		0.21			
Capacity (c), veh/h		1517	675	374	3495		381		339			
Volume-to-Capacity Ratio (X)		0.993	0.117	0.890	0.470		0.091		0.897			
Back of Queue (Q), ft/ln (50 th percentile)		502.8	40.2	239.8	120		15		192.5			
Back of Queue (Q), veh/ln (50 th percentile)		19.8	1.6	9.4	4.7		0.6		7.6			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.18	1.20	0.00		0.00		0.00			
Uniform Delay (d ₁), s/veh		33.0	25.7	40.7	7.6		28.4		34.4			
Incremental Delay (d ₂), s/veh		14.2	0.2	15.1	0.4		0.0		14.4			
Initial Queue Delay (d ₃), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		47.2	25.9	55.8	8.0		28.4		48.8			
Level of Service (LOS)		D	C	E	A		C		D			
Approach Delay, s/veh / LOS	46.1		D	16.1		B	46.7		D	0.0		
Intersection Delay, s/veh / LOS			30.9						C			

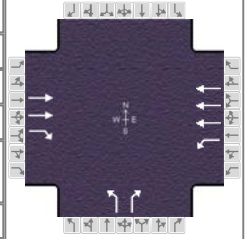
Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.91		B	0.66		A	2.47		B	2.47		B
Bicycle LOS Score / LOS	2.27		B	1.28		A			F			

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	Hughes Ln	File Name	2035 AM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1910	99	228	1119		32		287			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	19.3	37.5	19.7	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
				Red	1.0	1.0	1.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		42.0	23.8	65.8		24.2		
Change Period, (Y+R _c), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g _s), s			19.2			19.2		
Green Extension Time (g _e), s		0.0	0.2	0.0		0.5		
Phase Call Probability			1.00			1.00		
Max Out Probability			1.00			0.14		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		1535	80	342	1679		35		312			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g _s), s		37.5	4.2	17.2	15.9		1.4		17.2			
Cycle Queue Clearance Time (g _c), s		37.5	4.2	17.2	15.9		1.4		17.2			
Green Ratio (g/C)		0.42	0.42	0.21	0.68		0.22		0.22			
Capacity (c), veh/h		1483	660	383	3471		390		347			
Volume-to-Capacity Ratio (X)		1.035	0.121	0.894	0.484		0.089		0.900			
Back of Queue (Q), ft/ln (50 th percentile)		559.8	40.9	252	135.3		14.9		199.2			
Back of Queue (Q), veh/ln (50 th percentile)		22.0	1.6	9.9	5.3		0.6		7.8			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.19	1.26	0.00		0.00		0.00			
Uniform Delay (d ₁), s/veh		34.0	26.4	41.2	8.3		28.0		34.2			
Incremental Delay (d ₂), s/veh		25.5	0.2	16.4	0.4		0.0		15.3			
Initial Queue Delay (d ₃), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		59.6	26.5	57.6	8.7		28.1		49.5			
Level of Service (LOS)		F	C	E	A		C		D			
Approach Delay, s/veh / LOS	57.9	E		17.0	B		47.3	D		0.0		
Intersection Delay, s/veh / LOS			36.2						D			

Multimodal Results

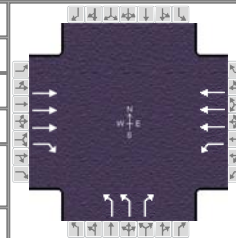
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.91	B		0.66	A		2.47	B		2.47	B	
Bicycle LOS Score / LOS	2.29	B		1.29	A			F				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	Hughes Ln	File Name	2035 AM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1910	99	228	1119		32		287			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	19.6	37.2	19.7	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
				Red	1.0	1.0	1.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		41.7	24.1	65.8		24.2		
Change Period, (Y+R _c), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g _s), s			19.2			19.2		
Green Extension Time (g _e), s		0.0	0.4	0.0		0.5		
Phase Call Probability			1.00			1.00		
Max Out Probability			0.05			0.13		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		1535	80	342	1679		35		312			
Adjusted Saturation Flow Rate (s), veh/h/ln		1698	1585	1781	1698		1730		1585			
Queue Service Time (g _s), s		24.8	4.2	17.2	15.9		0.7		17.2			
Cycle Queue Clearance Time (g _c), s		24.8	4.2	17.2	15.9		0.7		17.2			
Green Ratio (g/C)		0.41	0.41	0.22	0.68		0.22		0.22			
Capacity (c), veh/h		2108	656	387	3471		757		347			
Volume-to-Capacity Ratio (X)		0.728	0.121	0.883	0.484		0.046		0.900			
Back of Queue (Q), ft/ln (50 th percentile)		272.3	40.9	233.3	135.2		7.4		199.1			
Back of Queue (Q), veh/ln (50 th percentile)		10.7	1.6	9.2	5.3		0.3		7.8			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.19	1.17	0.00		0.00		0.00			
Uniform Delay (d ₁), s/veh		28.7	26.3	41.1	8.3		27.7		34.2			
Incremental Delay (d ₂), s/veh		1.4	0.2	9.4	0.4		0.0		15.2			
Initial Queue Delay (d ₃), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		30.1	26.5	50.5	8.7		27.8		49.4			
Level of Service (LOS)		C	C	D	A		C		D			
Approach Delay, s/veh / LOS	29.9	C		15.8	B		47.3	D		0.0		
Intersection Delay, s/veh / LOS	24.3						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.10	B		0.66	A		2.61	C		2.61	C	
Bicycle LOS Score / LOS	1.69	B		1.29	A			F				

HCS7 Two-Way Stop-Control Report

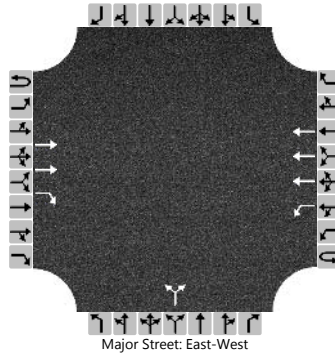
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2018
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			600	58	0	242	852			27		145				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						257					183					
Capacity, c (veh/h)						548					394					
v/c Ratio						0.47					0.46					
95% Queue Length, Q ₉₅ (veh)						2.5					2.4					
Control Delay (s/veh)						17.2					21.8					
Level of Service (LOS)						C					C					
Approach Delay (s/veh)					3.8				21.8							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

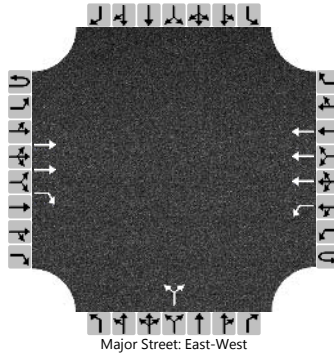
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2018
Time Analyzed	PM Peak + project
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			624	58	0	248	874			27		151				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						264					189					
Capacity, c (veh/h)						533					381					
v/c Ratio						0.49					0.50					
95% Queue Length, Q ₉₅ (veh)						2.7					2.7					
Control Delay (s/veh)						18.2					23.4					
Level of Service (LOS)						C					C					
Approach Delay (s/veh)					4.0				23.4							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

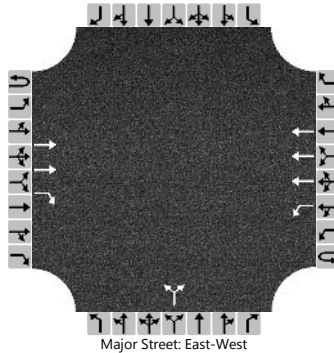
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2035
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			1221	101	0	425	1684			38		207				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						452					261					
Capacity, c (veh/h)						250										
v/c Ratio						1.81										
95% Queue Length, Q ₉₅ (veh)						30.7										
Control Delay (s/veh)						412.2										
Level of Service (LOS)						F										
Approach Delay (s/veh)					83.1											
Approach LOS																

HCS7 Two-Way Stop-Control Report

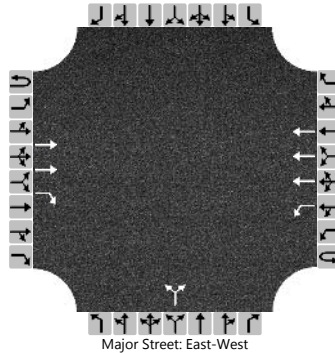
General Information

Analyst	SK
Agency/Co.	DeWalt Corporation
Date Performed	1/18/2019
Analysis Year	2035
Time Analyzed	PM Peak + Project
Intersection Orientation	East-West
Project Description	SE Corner of Hosking & S H

Site Information

Intersection	Hosking Ave/ Hughes Ln
Jurisdiction	City of Bakersfield
East/West Street	Hosking Ave
North/South Street	Hughes Ln
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	1	0	1	3	0		0	1	0		0	0	0
Configuration			T	R		L	T				LR					
Volume (veh/h)			1245	101	0	431	1706			38		213				
Percent Heavy Vehicles (%)					1	1				1		1				
Proportion Time Blocked						0.000				0.000		0.000				
Percent Grade (%)									0							
Right Turn Channelized	No															
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						5.3				6.4		7.1				
Critical Headway (sec)						5.32				5.72		7.12				
Base Follow-Up Headway (sec)						3.1				3.8		3.9				
Follow-Up Headway (sec)						3.11				3.81		3.91				

Delay, Queue Length, and Level of Service

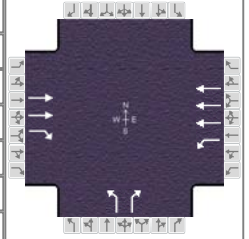
Flow Rate, v (veh/h)						459					267					
Capacity, c (veh/h)						243										
v/c Ratio						1.89										
95% Queue Length, Q ₉₅ (veh)						32.3										
Control Delay (s/veh)						447.8										
Level of Service (LOS)						F										
Approach Delay (s/veh)					90.3											
Approach LOS																

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background
Intersection	Hughes Ln	File Name	2018 PM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		600	58	242	852		27		145			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	17.1	48.7	10.7	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
				Red	1.0	1.0	1.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		53.2	21.6	74.8		15.2		
Change Period, (Y+R _c), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g _s), s			16.6			10.5		
Green Extension Time (g _e), s		0.0	0.5	0.0		0.3		
Phase Call Probability			1.00			0.99		
Max Out Probability			0.00			0.00		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		563	54	298	1050		29		154			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g _s), s		8.4	2.3	14.6	2.8		1.3		8.5			
Cycle Queue Clearance Time (g _c), s		8.4	2.3	14.6	2.8		1.3		8.5			
Green Ratio (g/C)		0.54	0.54	0.19	0.78		0.12		0.12			
Capacity (c), veh/h		1926	857	338	3977		213		189			
Volume-to-Capacity Ratio (X)		0.292	0.063	0.883	0.264		0.135		0.815			
Back of Queue (Q), ft/ln (50 th percentile)		82	20.2	156.6	13.5		14.2		86.3			
Back of Queue (Q), veh/ln (50 th percentile)		3.2	0.8	6.2	0.5		0.6		3.4			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.09	0.78	0.00		0.00		0.00			
Uniform Delay (d ₁), s/veh		12.6	15.9	34.5	1.3		35.5		38.7			
Incremental Delay (d ₂), s/veh		0.3	0.1	2.3	0.1		0.1		3.2			
Initial Queue Delay (d ₃), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		12.9	16.0	36.7	1.4		35.6		41.9			
Level of Service (LOS)		B	B	D	A		D		D			
Approach Delay, s/veh / LOS	13.2		B	9.2		A	40.9		D	0.0		
Intersection Delay, s/veh / LOS	13.1						B					

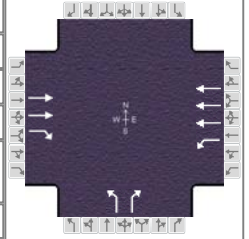
Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.89		B	0.63		A	2.47		B	2.47		B
Bicycle LOS Score / LOS	1.07		A	1.13		A			F			

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project
Intersection	Hughes Ln	File Name	2018 PM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		624	58	248	874		27		151			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	17.5	47.8	11.1	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
				Red	1.0	1.0	1.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		52.3	22.0	74.4		15.6		
Change Period, ($Y+R_c$), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g_s), s			17.1			10.9		
Green Extension Time (g_e), s		0.0	0.5	0.0		0.3		
Phase Call Probability			1.00			0.99		
Max Out Probability			0.00			0.00		

Movement Group Results

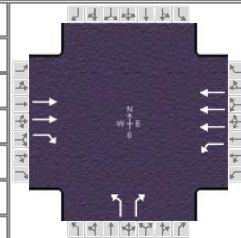
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		588	55	308	1084		29		161			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g_s), s		9.4	2.4	15.1	3.0		1.3		8.9			
Cycle Queue Clearance Time (g_c), s		9.4	2.4	15.1	3.0		1.3		8.9			
Green Ratio (g/C)		0.53	0.53	0.19	0.78		0.12		0.12			
Capacity (c), veh/h		1893	842	347	3956		220		196			
Volume-to-Capacity Ratio (X)		0.311	0.065	0.886	0.274		0.131		0.820			
Back of Queue (Q), ft/ln (50 th percentile)		94.3	21.5	163.4	15.1		14.1		89.8			
Back of Queue (Q), veh/ln (50 th percentile)		3.7	0.8	6.4	0.6		0.6		3.5			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.10	0.82	0.00		0.00		0.00			
Uniform Delay (d_1), s/veh		14.0	17.1	34.2	1.4		35.1		38.5			
Incremental Delay (d_2), s/veh		0.4	0.1	3.3	0.1		0.1		3.2			
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		14.3	17.3	37.5	1.5		35.2		41.7			
Level of Service (LOS)		B	B	D	A		D		D			
Approach Delay, s/veh / LOS	14.6	B		9.5	A		40.7	D		0.0		
Intersection Delay, s/veh / LOS	13.6						B					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.89	B		0.63	A		2.47	B		2.47	B	
Bicycle LOS Score / LOS	1.09	A		1.14	A			F				

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94
Urban Street	Hosking Ave	Analysis Year	2035 Background	Analysis Period	1> 7:00
Intersection	Hughes Ln	File Name	2035 PM background.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1221	101	425	1684		38		207			

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On	Green	26.4	35.5	14.6	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0	
				Red	1.0	1.0	1.0	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		40.0	30.9	70.9		19.1		
Change Period, ($Y+R_c$), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g_s), s			28.4			14.2		
Green Extension Time (g_e), s		0.0	0.0	0.0		0.4		
Phase Call Probability			1.00			1.00		
Max Out Probability			1.00			0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		970	80	538	2133		40		220			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g_s), s		22.3	4.2	26.4	16.4		1.8		12.2			
Cycle Queue Clearance Time (g_c), s		22.3	4.2	26.4	16.4		1.8		12.2			
Green Ratio (g/C)		0.39	0.39	0.29	0.74		0.16		0.16			
Capacity (c), veh/h		1406	626	522	3760		288		257			
Volume-to-Capacity Ratio (X)		0.690	0.128	1.031	0.567		0.140		0.858			
Back of Queue (Q), ft/ln (50 th percentile)		259.5	40.9	430.5	102		18.9		121.6			
Back of Queue (Q), veh/ln (50 th percentile)		10.2	1.6	16.9	4.0		0.7		4.8			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.19	2.15	0.00		0.00		0.00			
Uniform Delay (d_1), s/veh		29.0	26.7	33.2	5.0		32.3		36.7			
Incremental Delay (d_2), s/veh		1.7	0.2	40.3	0.4		0.1		3.2			
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		30.6	26.9	73.5	5.4		32.4		39.9			
Level of Service (LOS)		C	C	F	A		C		D			
Approach Delay, s/veh / LOS	30.3	C		19.1	B		38.8	D		0.0		
Intersection Delay, s/veh / LOS	23.4						C					

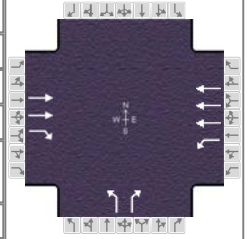
Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.91	B		0.64	A		2.47	B		2.47	B	
Bicycle LOS Score / LOS	1.65	B		1.72	B			F				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	Hughes Ln	File Name	2035 PM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1245	101	431	1706		38		213			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	26.0	35.5	14.9	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0		
				Red	1.0	1.0	1.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		40.0	30.5	70.6		19.4		
Change Period, (Y+R _c), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g _s), s			28.0			14.5		
Green Extension Time (g _e), s		0.0	0.0	0.0		0.4		
Phase Call Probability			1.00			1.00		
Max Out Probability			1.00			0.00		

Movement Group Results

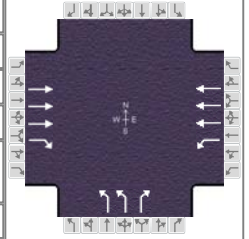
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		995	81	548	2167		40		227			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781	1585	1781	1698		1781		1585			
Queue Service Time (g _s), s		23.1	4.2	26.0	17.0		1.7		12.5			
Cycle Queue Clearance Time (g _c), s		23.1	4.2	26.0	17.0		1.7		12.5			
Green Ratio (g/C)		0.39	0.39	0.29	0.73		0.17		0.17			
Capacity (c), veh/h		1406	626	515	3740		296		263			
Volume-to-Capacity Ratio (X)		0.708	0.129	1.063	0.580		0.137		0.861			
Back of Queue (Q), ft/ln (50 th percentile)		271.8	41.4	460	107		18.8		125.7			
Back of Queue (Q), veh/ln (50 th percentile)		10.7	1.6	18.1	4.2		0.7		4.9			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.19	2.30	0.00		0.00		0.00			
Uniform Delay (d ₁), s/veh		29.9	26.9	33.5	5.2		32.0		36.5			
Incremental Delay (d ₂), s/veh		1.7	0.2	49.9	0.4		0.1		3.6			
Initial Queue Delay (d ₃), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		31.6	27.1	83.4	5.6		32.1		40.1			
Level of Service (LOS)		C	C	F	A		C		D			
Approach Delay, s/veh / LOS	31.3	C		21.3	C		38.9	D		0.0		
Intersection Delay, s/veh / LOS	25.1						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.91	B		0.65	A		2.47	B		2.47	B	
Bicycle LOS Score / LOS	1.67	B		1.74	B			F				

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project	Analysis Period	1> 7:00
Intersection	Hughes Ln	File Name	2035 PM post development mitigated.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1245	101	431	1706		38		213			

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On	Green	29.4	32.2	14.9	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	0.0	0.0	0.0	
				Red	1.0	1.0	1.0	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	2.0	4.0		9.0		
Phase Duration, s		36.7	33.9	70.6		19.4		
Change Period, (Y+R _c), s		4.5	4.5	4.5		4.5		
Max Allow Headway (MAH), s		0.0	3.1	0.0		3.3		
Queue Clearance Time (g _s), s			29.1			14.5		
Green Extension Time (g _e), s		0.0	0.3	0.0		0.4		
Phase Call Probability			1.00			1.00		
Max Out Probability			1.00			0.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (v), veh/h		995	81	548	2167		40		227			
Adjusted Saturation Flow Rate (s), veh/h/ln		1698	1585	1781	1698		1730		1585			
Queue Service Time (g_s), s		15.9	4.3	27.1	17.0		0.9		12.5			
Cycle Queue Clearance Time (g_c), s		15.9	4.3	27.1	17.0		0.9		12.5			
Green Ratio (g/C)		0.36	0.36	0.33	0.73		0.17		0.17			
Capacity (c), veh/h		1820	566	582	3739		575		263			
Volume-to-Capacity Ratio (X)		0.546	0.143	0.941	0.580		0.070		0.861			
Back of Queue (Q), ft/ln (50 th percentile)		180.2	42.7	358.5	107		9.3		125.6			
Back of Queue (Q), veh/ln (50 th percentile)		7.1	1.7	14.1	4.2		0.4		4.9			
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.19	1.79	0.00		0.00		0.00			
Uniform Delay (d_1), s/veh		30.1	28.5	32.0	5.2		31.7		36.5			
Incremental Delay (d_2), s/veh		1.0	0.5	16.0	0.4		0.0		3.5			
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (d), s/veh		31.1	28.9	48.0	5.6		31.7		40.1			
Level of Service (LOS)		C	C	D	A		C		D			
Approach Delay, s/veh / LOS	30.9	C		14.1		B	38.8	D		0.0		
Intersection Delay, s/veh / LOS	20.2						C					

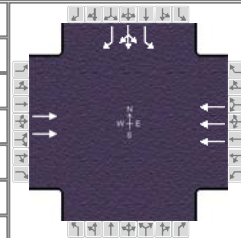
Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.11	B		0.65	A		2.61	C		2.61	C	
Bicycle LOS Score / LOS	1.28	A		1.74	B			F				

Intersection 3

Hosking Avenue & State Route 99 SB Ramp

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	DeWalt Corp			Duration, h	0.25	
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other	
Jurisdiction	City of Bakersfield	Time Period	AM Peak	PHF	0.92	
Urban Street	Hosking Ave	Analysis Year	2018 Background	Analysis Period	1> 7:00	
Intersection	SR 99 SB off-ramp	File Name	2018 AM background.xus			
Project Description	Commercial Dev. SE corner Hosking/S H					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1193			421					197	0	254

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On								

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		67.5		67.5				22.5
Change Period, (Y+R _c), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.3
Queue Clearance Time (g _s), s								17.2
Green Extension Time (g _e), s		0.0		0.0				0.8
Phase Call Probability								1.00
Max Out Probability								0.06

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7	4	14
Adjusted Flow Rate (v), veh/h		1218			873					214	0	276
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781	1900	1585
Queue Service Time (g _s), s		16.4			5.5					9.8	0.0	15.2
Cycle Queue Clearance Time (g _c), s		16.4			5.5					9.8	0.0	15.2
Green Ratio (g/C)		0.70			0.70					0.20	0.20	0.20
Capacity (c), veh/h		2495			3569					355	379	316
Volume-to-Capacity Ratio (X)		0.488			0.245					0.603	0.000	0.873
Back of Queue (Q), ft/ln (50 th percentile)		149.1			39.9					106.1	0	165.3
Back of Queue (Q), veh/ln (50 th percentile)		5.9			1.6					4.2	0.0	6.5
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00	0.00	0.00
Uniform Delay (d ₁), s/veh		8.0			4.8					32.8	0.0	34.9
Incremental Delay (d ₂), s/veh		0.6			0.2					0.6	0.0	9.7
Initial Queue Delay (d ₃), s/veh		0.0			0.0					0.0	0.0	0.0
Control Delay (d), s/veh		8.6			5.0					33.4	0.0	44.7
Level of Service (LOS)		A			A					C		D
Approach Delay, s/veh / LOS	8.6	A		5.0	A		0.0			39.7	D	
Intersection Delay, s/veh / LOS	13.3						B					

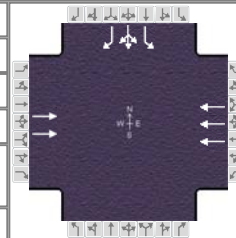
Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.34	A		1.85	B		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.56	B		0.74	A					1.30	A	

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project
Intersection	SR 99 SB off-ramp	File Name	2018 AM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1226			450					204	0	254

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	63.0	18.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		67.5		67.5				22.5
Change Period, ($Y+R_c$), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.3
Queue Clearance Time (g_s), s								17.2
Green Extension Time (g_e), s		0.0		0.0				0.8
Phase Call Probability								1.00
Max Out Probability								0.06

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7	4	14
Adjusted Flow Rate (v), veh/h		1255			915					222	0	276
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781	1900	1585
Queue Service Time (g_s), s		17.0			5.8					10.2	0.0	15.2
Cycle Queue Clearance Time (g_c), s		17.0			5.8					10.2	0.0	15.2
Green Ratio (g/C)		0.70			0.70					0.20	0.20	0.20
Capacity (c), veh/h		2494			3568					356	379	316
Volume-to-Capacity Ratio (X)		0.503			0.256					0.624	0.000	0.872
Back of Queue (Q), ft/ln (50 th percentile)		153.1			41.9					110.4	0	165.2
Back of Queue (Q), veh/ln (50 th percentile)		6.0			1.6					4.3	0.0	6.5
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00	0.00	0.00
Uniform Delay (d_1), s/veh		8.0			4.8					32.9	0.0	34.9
Incremental Delay (d_2), s/veh		0.6			0.2					0.7	0.0	9.7
Initial Queue Delay (d_3), s/veh		0.0			0.0					0.0	0.0	0.0
Control Delay (d), s/veh		8.6			5.0					33.6	0.0	44.6
Level of Service (LOS)		A			A					C		D
Approach Delay, s/veh / LOS	8.6	A		5.0	A		0.0			39.7	D	
Intersection Delay, s/veh / LOS	13.2						B					

Multimodal Results

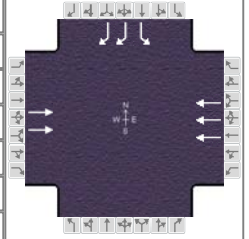
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.34	A		1.85	B		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.59	B		0.76	A					1.31	A	

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background
Intersection	SR 99 SB off-ramp	File Name	2035 AM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		2174			827					396		356

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	57.2	23.8	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		61.7		61.7				28.3
Change Period, (Y+R _c), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.2
Queue Clearance Time (g _s), s								23.1
Green Extension Time (g _e), s		0.0		0.0				0.7
Phase Call Probability								1.00
Max Out Probability								1.00

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7		14
Adjusted Flow Rate (v), veh/h		1810			1590					430		387
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781		1403
Queue Service Time (g _s), s		38.9			13.6					21.1		10.6
Cycle Queue Clearance Time (g _c), s		38.9			13.6					21.1		10.6
Green Ratio (g/C)		0.64			0.64					0.26		0.26
Capacity (c), veh/h		2265			3240					470		741
Volume-to-Capacity Ratio (X)		0.799			0.491					0.915		0.522
Back of Queue (Q), ft/ln (50 th percentile)		410.9			102.7					286.3		87.8
Back of Queue (Q), veh/ln (50 th percentile)		16.2			4.0					11.3		3.5
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00		0.00
Uniform Delay (d ₁), s/veh		19.1			7.5					32.1		28.3
Incremental Delay (d ₂), s/veh		0.7			0.5					19.8		0.2
Initial Queue Delay (d ₃), s/veh		0.0			0.0					0.0		0.0
Control Delay (d), s/veh		19.8			8.0					52.0		28.5
Level of Service (LOS)		B			A					D		C
Approach Delay, s/veh / LOS	19.8	B		8.0	A		0.0			40.9		D
Intersection Delay, s/veh / LOS	19.4						B					

Multimodal Results

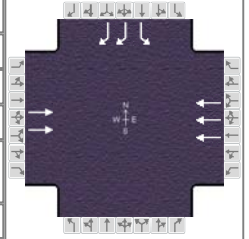
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	0.67	A		1.87	B		2.31	B		2.31		B
Bicycle LOS Score / LOS	2.44	B		0.98	A							F

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	SR 99 SB off-ramp	File Name	2035 AM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		2207			856					403		356

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	56.9	24.1	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		61.4		61.4				28.6
Change Period, ($Y+R_c$), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.2
Queue Clearance Time (g_s), s								23.5
Green Extension Time (g_e), s		0.0		0.0				0.6
Phase Call Probability								1.00
Max Out Probability								1.00

Movement Group Results

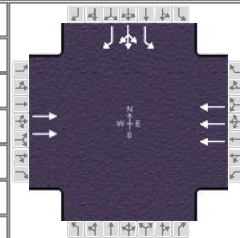
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7		14
Adjusted Flow Rate (v), veh/h		1795			1634					438		387
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781		1403
Queue Service Time (g_s), s		38.5			14.2					21.5		10.5
Cycle Queue Clearance Time (g_c), s		38.5			14.2					21.5		10.5
Green Ratio (g/C)		0.63			0.63					0.27		0.27
Capacity (c), veh/h		2253			3223					476		750
Volume-to-Capacity Ratio (X)		0.797			0.507					0.920		0.516
Back of Queue (Q), ft/ln (50 th percentile)		403.5			106.5					294.2		87.2
Back of Queue (Q), veh/ln (50 th percentile)		15.9			4.2					11.6		3.4
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00		0.00
Uniform Delay (d_1), s/veh		19.0			7.6					32.0		28.0
Incremental Delay (d_2), s/veh		0.4			0.5					20.8		0.2
Initial Queue Delay (d_3), s/veh		0.0			0.0					0.0		0.0
Control Delay (d), s/veh		19.5			8.1					52.8		28.2
Level of Service (LOS)		B			A					D		C
Approach Delay, s/veh / LOS	19.5	B		8.1	A		0.0			41.3		D
Intersection Delay, s/veh / LOS	19.4						B					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	0.67	A		1.87	B		2.31	B		2.31		B
Bicycle LOS Score / LOS	2.47	B		1.00	A							F

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	DeWalt Corp			Duration, h	0.25	
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other	
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94	
Urban Street	Hosking Ave	Analysis Year	2018 Background	Analysis Period	1> 4:30	
Intersection	SR 99 SB off-ramp	File Name	2018 PM background.xus			
Project Description	Commercial Dev. SE corner Hosking/S H					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		696			456					302	0	652

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On								

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		44.1		44.1				45.9
Change Period, (Y+R _c), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.3
Queue Clearance Time (g _s), s								39.8
Green Extension Time (g _e), s		0.0		0.0				1.6
Phase Call Probability								1.00
Max Out Probability								0.51

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7	4	14
Adjusted Flow Rate (v), veh/h		717			655					321	0	694
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781	1900	1585
Queue Service Time (g _s), s		12.8			7.2					10.7	0.0	37.8
Cycle Queue Clearance Time (g _c), s		12.8			7.2					10.7	0.0	37.8
Green Ratio (g/C)		0.44			0.44					0.46	0.46	0.46
Capacity (c), veh/h		1567			2242					819	874	729
Volume-to-Capacity Ratio (X)		0.457			0.292					0.392	0.000	0.952
Back of Queue (Q), ft/ln (50 th percentile)		130.2			68.3					104.2	0	425.5
Back of Queue (Q), veh/ln (50 th percentile)		5.1			2.7					4.1	0.0	16.8
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00	0.00	0.00
Uniform Delay (d ₁), s/veh		17.8			15.6					16.0	0.0	23.3
Incremental Delay (d ₂), s/veh		0.9			0.3					0.1	0.0	19.4
Initial Queue Delay (d ₃), s/veh		0.0			0.0					0.0	0.0	0.0
Control Delay (d), s/veh		18.7			15.9					16.1	0.0	42.7
Level of Service (LOS)		B			B					B		D
Approach Delay, s/veh / LOS	18.7	B		15.9	B		0.0			34.3	C	
Intersection Delay, s/veh / LOS	24.6						C					

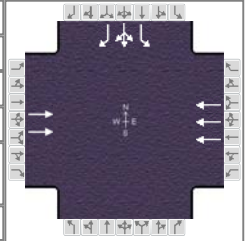
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.39	A	1.90	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.10	A	0.75	A			2.16	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project	Analysis Period	1> 4:30
Intersection	SR 99 SB off-ramp	File Name	2018 PM post development.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



The map shows a four-way intersection with a central north arrow. The streets are labeled: 'Hosking Ave' running horizontally and 'SR 99 SB off-ramp' running vertically. Traffic flow is indicated by arrows: Hosking Ave has two-way traffic, and SR 99 SB off-ramp has one-way traffic flowing south. The intersection is surrounded by a grid of streets, with 'Hosking Ave' and 'SR 99 SB off-ramp' being the primary thoroughfares.



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		726			484					308	0	652

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On	Green	39.6	41.4	0.0	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0	
				Red	1.0	1.0	0.0	0.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		44.1		44.1				45.9
Change Period, ($Y+R_c$), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.3
Queue Clearance Time (g_s), s								39.8
Green Extension Time (g_e), s		0.0		0.0				1.6
Phase Call Probability								1.00
Max Out Probability								0.51

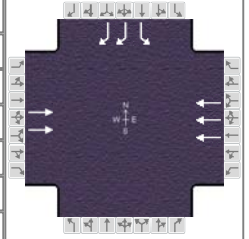
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7	4	14
Adjusted Flow Rate (v), veh/h		749			698					328	0	694
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781	1900	1585
Queue Service Time (g_s), s		13.7			7.7					11.0	0.0	37.8
Cycle Queue Clearance Time (g_c), s		13.7			7.7					11.0	0.0	37.8
Green Ratio (g/C)		0.44			0.44					0.46	0.46	0.46
Capacity (c), veh/h		1567			2242					819	874	729
Volume-to-Capacity Ratio (X)		0.478			0.312					0.400	0.000	0.951
Back of Queue (Q), ft/ln (50 th percentile)		141.3			72.9					106.8	0	425.4
Back of Queue (Q), veh/ln (50 th percentile)		5.6			2.9					4.2	0.0	16.7
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00	0.00	0.00
Uniform Delay (d_1), s/veh		18.4			15.6					16.1	0.0	23.3
Incremental Delay (d_2), s/veh		1.0			0.4					0.1	0.0	19.3
Initial Queue Delay (d_3), s/veh		0.0			0.0					0.0	0.0	0.0
Control Delay (d), s/veh		19.4			15.9					16.2	0.0	42.7
Level of Service (LOS)		B			B					B		D
Approach Delay, s/veh / LOS	19.4	B		15.9	B		0.0			34.2	C	
Intersection Delay, s/veh / LOS	24.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.39	A	1.90	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.12	A	0.77	A			2.17	B

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background
Intersection	SR 99 SB off-ramp	File Name	2035 PM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1392			996					663		913

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	41.4	39.6	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		45.9		45.9				44.1
Change Period, ($Y+R_c$), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.3
Queue Clearance Time (g_s), s								35.0
Green Extension Time (g_e), s		0.0		0.0				4.6
Phase Call Probability								1.00
Max Out Probability								0.13

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7		14
Adjusted Flow Rate (v), veh/h		1190			1700					705		969
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781		1403
Queue Service Time (g_s), s		27.3			22.5					33.0		26.6
Cycle Queue Clearance Time (g_c), s		27.3			22.5					33.0		26.6
Green Ratio (g/C)		0.46			0.46					0.44		0.44
Capacity (c), veh/h		1637			2342					784		1235
Volume-to-Capacity Ratio (X)		0.727			0.726					0.899		0.784
Back of Queue (Q), ft/ln (50 th percentile)		321.3			191					366.6		211.1
Back of Queue (Q), veh/ln (50 th percentile)		12.6			7.5					14.4		8.3
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00		0.00
Uniform Delay (d_1), s/veh		27.8			16.0					23.3		21.5
Incremental Delay (d_2), s/veh		2.0			1.8					8.0		1.5
Initial Queue Delay (d_3), s/veh		0.0			0.0					0.0		0.0
Control Delay (d), s/veh		29.8			17.8					31.3		23.1
Level of Service (LOS)		C			B					C		C
Approach Delay, s/veh / LOS	29.8	C		17.8	B		0.0			26.5	C	
Intersection Delay, s/veh / LOS	24.2						C					

Multimodal Results

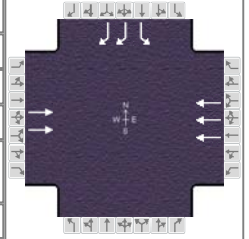
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	0.70	A		1.90	B		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.71	B		1.07	A							F

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	SR 99 SB off-ramp	File Name	2035 PM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1422			1024					669		913

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	41.1	39.9	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		8.0		8.0				9.0
Phase Duration, s		45.6		45.6				44.4
Change Period, ($Y+R_c$), s		4.5		4.5				4.5
Max Allow Headway (MAH), s		0.0		0.0				3.3
Queue Clearance Time (g_s), s								35.3
Green Extension Time (g_e), s		0.0		0.0				4.6
Phase Call Probability								1.00
Max Out Probability								0.14

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6					7		14
Adjusted Flow Rate (v), veh/h		1221			1744					712		969
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698					1781		1403
Queue Service Time (g_s), s		28.3			23.5					33.3		26.4
Cycle Queue Clearance Time (g_c), s		28.3			23.5					33.3		26.4
Green Ratio (g/C)		0.46			0.46					0.44		0.44
Capacity (c), veh/h		1625			2325					790		1245
Volume-to-Capacity Ratio (X)		0.752			0.750					0.901		0.779
Back of Queue (Q), ft/ln (50 th percentile)		334.7			198.6					370.6		209.5
Back of Queue (Q), veh/ln (50 th percentile)		13.2			7.8					14.6		8.2
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00					0.00		0.00
Uniform Delay (d_1), s/veh		28.4			16.2					23.2		21.3
Incremental Delay (d_2), s/veh		2.3			2.1					8.2		1.5
Initial Queue Delay (d_3), s/veh		0.0			0.0					0.0		0.0
Control Delay (d), s/veh		30.7			18.3					31.4		22.8
Level of Service (LOS)		C			B					C		C
Approach Delay, s/veh / LOS	30.7	C		18.3	B		0.0			26.4	C	
Intersection Delay, s/veh / LOS	24.5						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	0.70	A		1.90	B		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.74	B		1.09	A							F

Intersection 4

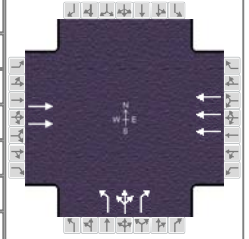
Hosking Avenue & State Route 99 NB Ramp

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background
Intersection	SR 99 NB off-ramp	File Name	2018 AM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		618			413		37	0	18			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	76.4	4.6	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		80.9		80.9		9.1		
Change Period, ($Y+R_c$), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						3.9		
Green Extension Time (g_e), s		0.0		0.0		0.1		
Phase Call Probability						0.77		
Max Out Probability						0.00		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		1432			834		39	0	19			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g_s), s		10.5			3.0		1.9	0.0	1.0			
Cycle Queue Clearance Time (g_c), s		10.5			3.0		1.9	0.0	1.0			
Green Ratio (g/C)		0.85			0.85		0.05	0.05	0.05			
Capacity (c), veh/h		3023			4324		91	97	81			
Volume-to-Capacity Ratio (X)		0.474			0.193		0.431	0.000	0.236			
Back of Queue (Q), ft/ln (50 th percentile)		14.2			3.1		21.4	0	10.2			
Back of Queue (Q), veh/ln (50 th percentile)		0.6			0.1		0.8	0.0	0.4			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d_1), s/veh		2.1			1.4		41.4	0.0	41.0			
Incremental Delay (d_2), s/veh		0.5			0.1		1.2	0.0	0.5			
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		2.6			1.5		42.6	0.0	41.5			
Level of Service (LOS)		A			A		D		D			
Approach Delay, s/veh / LOS	2.6	A		1.5	A		42.3	D		0.0		
Intersection Delay, s/veh / LOS	3.2						A					

Multimodal Results

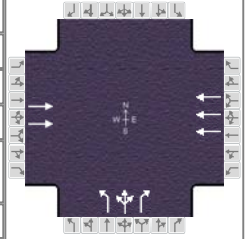
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.80	B		1.28	A		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.03	A		0.73	A		0.58	A				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project
Intersection	SR 99 NB off-ramp	File Name	2018 AM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		657			447		37	0	25			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	76.2	4.8	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		80.7		80.7		9.3		
Change Period, ($Y+R_c$), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						3.9		
Green Extension Time (g_e), s		0.0		0.0		0.1		
Phase Call Probability						0.81		
Max Out Probability						0.00		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		1477			876		39	0	27			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g_s), s		11.0			1.9		1.9	0.0	1.5			
Cycle Queue Clearance Time (g_c), s		11.0			1.9		1.9	0.0	1.5			
Green Ratio (g/C)		0.85			0.85		0.05	0.05	0.05			
Capacity (c), veh/h		3013			4311		96	102	85			
Volume-to-Capacity Ratio (X)		0.490			0.203		0.410	0.000	0.312			
Back of Queue (Q), ft/ln (50 th percentile)		16.9			2.4		21.3	0	14.3			
Back of Queue (Q), veh/ln (50 th percentile)		0.7			0.1		0.8	0.0	0.6			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d_1), s/veh		2.2			0.8		41.2	0.0	41.0			
Incremental Delay (d_2), s/veh		0.5			0.1		1.0	0.0	0.8			
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		2.7			0.9		42.2	0.0	41.7			
Level of Service (LOS)		A			A		D		D			
Approach Delay, s/veh / LOS	2.7	A		0.9	A		42.0	D		0.0		
Intersection Delay, s/veh / LOS	3.1						A					

Multimodal Results

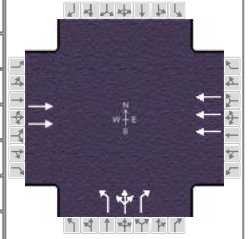
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.80	B		1.28	A		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.06	A		0.75	A		0.60	A				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background
Intersection	SR 99 NB off-ramp	File Name	2035 AM backgrou
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1299			843		52	0	80			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	74.3	6.7	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		78.8		78.8		11.2		
Change Period, ($Y+R_c$), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						6.7		
Green Extension Time (g_e), s		0.0		0.0		0.2		
Phase Call Probability						0.97		
Max Out Probability						0.00		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		2240			1534		55	0	85			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g_s), s		27.8			10.4		2.7	0.0	4.7			
Cycle Queue Clearance Time (g_c), s		27.8			10.4		2.7	0.0	4.7			
Green Ratio (g/C)		0.83			0.83		0.07	0.07	0.07			
Capacity (c), veh/h		2939			4204		133	142	119			
Volume-to-Capacity Ratio (X)		0.762			0.365		0.415	0.000	0.718			
Back of Queue (Q), ft/ln (50 th percentile)		86			35.4		29.1	0	47.2			
Back of Queue (Q), veh/ln (50 th percentile)		3.4			1.4		1.1	0.0	1.9			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d_1), s/veh		4.1			3.7		39.8	0.0	40.7			
Incremental Delay (d_2), s/veh		0.9			0.2		0.8	0.0	3.0			
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		5.0			3.9		40.5	0.0	43.7			
Level of Service (LOS)		A			A		D		D			
Approach Delay, s/veh / LOS	5.0		A	3.9		A	42.5		D	0.0		
Intersection Delay, s/veh / LOS	5.9						A					

Multimodal Results

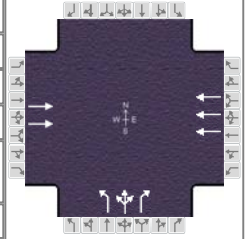
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.81		B	1.29		A	2.31		B	2.31		B
Bicycle LOS Score / LOS	1.63		B	0.98		A	0.72		A			

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	SR 99 NB off-ramp	File Name	2035 AM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1338			877		52	0	87			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	73.8	7.2	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		78.3		78.3		11.7		
Change Period, ($Y+R_c$), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						7.1		
Green Extension Time (g_e), s		0.0		0.0		0.2		
Phase Call Probability						0.98		
Max Out Probability						0.00		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		2233			1579		55	0	93			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g_s), s		27.8			10.5		2.7	0.0	5.1			
Cycle Queue Clearance Time (g_c), s		27.8			10.5		2.7	0.0	5.1			
Green Ratio (g/C)		0.82			0.82		0.08	0.08	0.08			
Capacity (c), veh/h		2921			4179		142	152	126			
Volume-to-Capacity Ratio (X)		0.764			0.378		0.389	0.000	0.732			
Back of Queue (Q), ft/ln (50 th percentile)		87.6			37.9		28.8	0	51.3			
Back of Queue (Q), veh/ln (50 th percentile)		3.4			1.5		1.1	0.0	2.0			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d_1), s/veh		4.1			3.7		39.3	0.0	40.5			
Incremental Delay (d_2), s/veh		0.9			0.2		0.6	0.0	3.0			
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		5.0			3.8		40.0	0.0	43.5			
Level of Service (LOS)		A			A		D		D			
Approach Delay, s/veh / LOS	5.0	A		3.8	A		42.2	D		0.0		
Intersection Delay, s/veh / LOS	5.9						A					

Multimodal Results

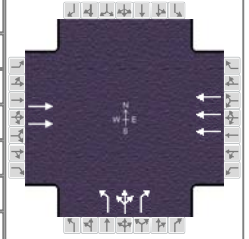
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.81	B		1.30	A		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.66	B		1.00	A		0.73	A				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background
Intersection	SR 99 NB off-ramp	File Name	2018 PM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1031			373		82	0	59			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	74.6	6.4	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		79.1		79.1		10.9		
Change Period, (Y+R _c), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.1		
Queue Clearance Time (g _s), s						6.3		
Green Extension Time (g _e), s		0.0		0.0		0.2		
Phase Call Probability						0.98		
Max Out Probability						0.00		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		1038			568		87	0	63			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g _s), s		7.0			1.4		4.3	0.0	3.4			
Cycle Queue Clearance Time (g _c), s		7.0			1.4		4.3	0.0	3.4			
Green Ratio (g/C)		0.83			0.83		0.07	0.07	0.07			
Capacity (c), veh/h		2953			4224		126	135	112			
Volume-to-Capacity Ratio (X)		0.352			0.134		0.691	0.000	0.559			
Back of Queue (Q), ft/ln (50 th percentile)		18.5			3.1		48	0	34			
Back of Queue (Q), veh/ln (50 th percentile)		0.7			0.1		1.9	0.0	1.3			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d ₁), s/veh		2.1			1.0		40.8	0.0	40.4			
Incremental Delay (d ₂), s/veh		0.3			0.1		2.5	0.0	1.6			
Initial Queue Delay (d ₃), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		2.4			1.1		43.4	0.0	42.1			
Level of Service (LOS)		A			A		D		D			
Approach Delay, s/veh / LOS	2.4	A		1.1	A		42.8	D		0.0		
Intersection Delay, s/veh / LOS	5.4						A					

Multimodal Results

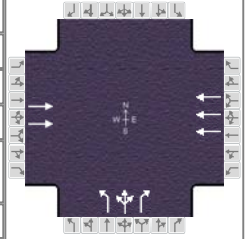
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.81	B		1.29	A		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.39	A		0.71	A		0.74	A				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project
Intersection	SR 99 NB off-ramp	File Name	2018 PM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		1067			407		82	0	65			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	74.6	6.4	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		79.1		79.1		10.9		
Change Period, ($Y+R_c$), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.1		
Queue Clearance Time (g_s), s						6.3		
Green Extension Time (g_e), s		0.0		0.0		0.2		
Phase Call Probability						0.98		
Max Out Probability						0.00		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		1076			611		87	0	69			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g_s), s		7.3			1.4		4.3	0.0	3.8			
Cycle Queue Clearance Time (g_c), s		7.3			1.4		4.3	0.0	3.8			
Green Ratio (g/C)		0.83			0.83		0.07	0.07	0.07			
Capacity (c), veh/h		2951			4222		127	135	113			
Volume-to-Capacity Ratio (X)		0.365			0.145		0.687	0.000	0.612			
Back of Queue (Q), ft/ln (50 th percentile)		20.1			3.4		47.9	0	37.6			
Back of Queue (Q), veh/ln (50 th percentile)		0.8			0.1		1.9	0.0	1.5			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d_1), s/veh		2.2			1.0		40.8	0.0	40.6			
Incremental Delay (d_2), s/veh		0.3			0.1		2.5	0.0	2.0			
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		2.5			1.0		43.3	0.0	42.6			
Level of Service (LOS)		A			A		D		D			
Approach Delay, s/veh / LOS	2.5	A		1.0	A		43.0	D		0.0		
Intersection Delay, s/veh / LOS	5.4						A					

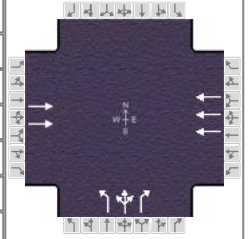
Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.81	B		1.29	A		2.31	B		2.31	B	
Bicycle LOS Score / LOS	1.42	A		0.73	A		0.75	A				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background
Intersection	SR 99 NB off-ramp	File Name	2035 PM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		2225			1000		115	0	225			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	65.2	15.8	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		69.7		69.7		20.3		
Change Period, ($Y+R_c$), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						15.2		
Green Extension Time (g_e), s		0.0		0.0		0.6		
Phase Call Probability						1.00		
Max Out Probability						0.01		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		1895			1577		122	0	239			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g_s), s		21.2			15.5		5.5	0.0	13.2			
Cycle Queue Clearance Time (g_c), s		21.2			15.5		5.5	0.0	13.2			
Green Ratio (g/C)		0.72			0.72		0.18	0.18	0.18			
Capacity (c), veh/h		2582			3693		312	333	277			
Volume-to-Capacity Ratio (X)		0.734			0.427		0.392	0.000	0.863			
Back of Queue (Q), ft/ln (50 th percentile)		85.3			127.8		57.5	0	132.5			
Back of Queue (Q), veh/ln (50 th percentile)		3.4			5.0		2.3	0.0	5.2			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d_1), s/veh		4.0			8.4		32.9	0.0	36.1			
Incremental Delay (d_2), s/veh		1.0			0.2		0.3	0.0	5.3			
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		5.0			8.6		33.2	0.0	41.4			
Level of Service (LOS)		A			A		C		D			
Approach Delay, s/veh / LOS	5.0	A		8.6	A		38.6	D		0.0		
Intersection Delay, s/veh / LOS	9.6						A					

Multimodal Results

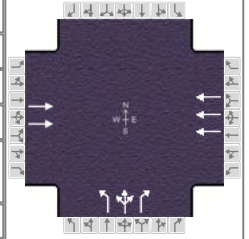
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.85	B		1.33	A		2.31	B		2.31	B	
Bicycle LOS Score / LOS	2.44	B		1.07	A		1.08	A				

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	SR 99 NB off-ramp	File Name	2035 PM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h		2261			1034		115	0	231			

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	64.9	16.1	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	0.0	0.0	0.0	0.0		
				Red	1.0	1.0	0.0	0.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6		8		
Case Number		8.0		8.0		9.0		
Phase Duration, s		69.4		69.4		20.6		
Change Period, ($Y+R_c$), s		4.5		4.5		4.5		
Max Allow Headway (MAH), s		0.0		0.0		3.2		
Queue Clearance Time (g_s), s						15.6		
Green Extension Time (g_e), s		0.0		0.0		0.6		
Phase Call Probability						1.00		
Max Out Probability						0.01		

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2			6		3	8	18			
Adjusted Flow Rate (v), veh/h		1933			1621		122	0	246			
Adjusted Saturation Flow Rate (s), veh/h/ln		1781			1698		1781	1900	1585			
Queue Service Time (g_s), s		22.6			15.6		5.4	0.0	13.6			
Cycle Queue Clearance Time (g_c), s		22.6			15.6		5.4	0.0	13.6			
Green Ratio (g/C)		0.72			0.72		0.18	0.18	0.18			
Capacity (c), veh/h		2568			3673		319	340	284			
Volume-to-Capacity Ratio (X)		0.753			0.441		0.384	0.000	0.866			
Back of Queue (Q), ft/ln (50 th percentile)		89.7			126.6		57.2	0	137.6			
Back of Queue (Q), veh/ln (50 th percentile)		3.5			5.0		2.3	0.0	5.4			
Queue Storage Ratio (RQ) (50 th percentile)		0.00			0.00		0.00	0.00	0.00			
Uniform Delay (d_1), s/veh		4.2			8.2		32.6	0.0	35.9			
Incremental Delay (d_2), s/veh		1.0			0.2		0.3	0.0	6.2			
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0	0.0	0.0			
Control Delay (d), s/veh		5.2			8.4		32.8	0.0	42.1			
Level of Service (LOS)		A			A		C		D			
Approach Delay, s/veh / LOS	5.2	A		8.4	A		39.0	D		0.0		
Intersection Delay, s/veh / LOS	9.7						A					

Multimodal Results

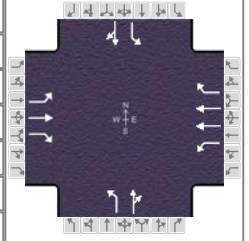
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.85	B		1.33	A		2.31	B		2.31	B	
Bicycle LOS Score / LOS	2.47	B		1.09	A		1.09	A				

Intersection 5
Hosking Avenue & South H Street

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	Hosking Ave	Analysis Year	2018 Background
Intersection	S H St	File Name	2018 AM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	132	332	161	16	486	130	227	112	11	57	106	110

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	1.9	11.0	25.7	4.7	5.1	14.5		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	3.5	3.5	3.5		
				Red	1.0	1.0	1.0	1.0	1.0	1.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0
Phase Duration, s	21.9	45.7	6.4	30.2	18.9	28.7	9.2	19.0
Change Period, ($Y+R_c$), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s	17.0		2.8		14.2	7.2	5.1	14.0
Green Extension Time (g_e), s	0.4	0.0	0.0	0.0	0.2	0.6	0.0	0.6
Phase Call Probability	1.00		0.32		1.00	1.00	0.79	1.00
Max Out Probability	0.00		0.00		0.04	0.00	0.00	0.00

Movement Group Results

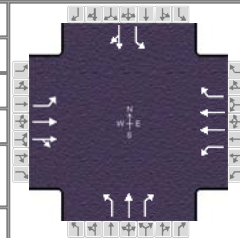
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	307	771	374	15	467	125	247	134		62	235	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1585	1781	1781	1585	1781	1841		1781	1713	
Queue Service Time (g_s), s	15.0	33.4	13.6	0.8	10.4	6.8	12.2	5.2		3.1	12.0	
Cycle Queue Clearance Time (g_c), s	15.0	33.4	13.6	0.8	10.4	6.8	12.2	5.2		3.1	12.0	
Green Ratio (g/C)	0.19	0.46	0.46	0.02	0.29	0.29	0.16	0.27		0.05	0.16	
Capacity (c), veh/h	344	856	725	38	1017	453	284	494		94	277	
Volume-to-Capacity Ratio (X)	0.890	0.901	0.516	0.406	0.459	0.276	0.868	0.270		0.662	0.849	
Back of Queue (Q), ft/ln (50 th percentile)	162.5	367.2	89.5	8.9	115.8	95.8	147	54.3		34.7	125.7	
Back of Queue (Q), veh/ln (50 th percentile)	6.4	14.5	3.5	0.4	4.6	3.8	5.8	2.1		1.4	5.0	
Queue Storage Ratio (RQ) (50 th percentile)	0.51	0.00	0.00	0.04	0.00	0.45	0.89	0.00		0.17	0.00	
Uniform Delay (d_1), s/veh	33.6	19.5	14.4	44.0	29.9	33.2	36.9	26.0		41.9	36.7	
Incremental Delay (d_2), s/veh	6.4	13.0	2.3	2.1	1.2	1.2	9.9	0.1		3.0	2.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	40.0	32.5	16.7	46.1	31.1	34.5	46.8	26.1		44.8	39.5	
Level of Service (LOS)	D	C	B	D	C	C	D	C		D	D	
Approach Delay, s/veh / LOS	30.0		C	32.2		C	39.5		D	40.6		D
Intersection Delay, s/veh / LOS	33.0						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.90		B	1.92		B	2.28		B	2.30		B
Bicycle LOS Score / LOS	1.61		B	1.05		A	1.12		A	0.98		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	AM Peak	PHF	0.92
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project	Analysis Period	1> 7:00
Intersection	S H St	File Name	2018 AM post development.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	132	378	161	62	486	130	267	129	17	77	106	110

Signal Information												
Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	4.6	2.2	32.2	5.5	3.9	14.6		
				Yellow	3.5	3.5	3.5	3.5	3.5	3.5		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	1.0	1.0	1.0		

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Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	2.0	3.0	1.1	3.0	2.0	4.0
Phase Duration, s	15.9	43.4	9.1	36.7	18.4	27.5	10.0	19.1
Change Period, ($Y+R_c$), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s	10.9		5.0		13.6	7.4	6.2	14.0
Green Extension Time (g_e), s	0.5	0.0	0.1	0.0	0.3	0.7	0.1	0.6
Phase Call Probability	1.00		0.77		1.00	1.00	0.88	1.00
Max Out Probability	0.00		0.00		0.03	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	296	634	573	59	466	125	290	140	18	84	235	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1680	1781	1781	1585	1781	1870	1610	1781	1713	
Queue Service Time (g_s), s	8.9	25.1	25.2	3.0	8.5	6.4	11.6	5.4	0.8	4.2	12.0	
Cycle Queue Clearance Time (g_c), s	8.9	25.1	25.2	3.0	8.5	6.4	11.6	5.4	0.8	4.2	12.0	
Green Ratio (g/C)	0.51	0.43	0.43	0.05	0.36	0.36	0.34	0.26	0.26	0.06	0.16	
Capacity (c), veh/h	549	808	726	92	1272	566	388	478	412	108	277	
Volume-to-Capacity Ratio (X)	0.538	0.785	0.790	0.647	0.366	0.220	0.748	0.293	0.045	0.774	0.846	
Back of Queue (Q), ft/ln (50 th percentile)	78.3	259.1	236	33.8	84	90.3	121	58.2	7.1	47.8	125.7	
Back of Queue (Q), veh/ln (50 th percentile)	3.1	10.2	9.3	1.3	3.3	3.6	4.8	2.3	0.3	1.9	4.9	
Queue Storage Ratio (RQ) (50 th percentile)	0.24	0.00	0.00	0.15	0.00	0.42	0.73	0.00	0.04	0.24	0.00	
Uniform Delay (d_1), s/veh	13.8	19.0	18.8	43.1	20.5	28.1	24.9	27.0	25.2	41.7	36.6	
Incremental Delay (d_2), s/veh	0.3	6.6	7.5	2.3	0.6	0.7	2.6	0.1	0.0	4.4	2.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	14.1	25.6	26.3	45.3	21.1	28.8	27.5	27.1	25.2	46.0	39.4	
Level of Service (LOS)	B	C	C	D	C	C	C	C	C	D	D	
Approach Delay, s/veh / LOS	23.6	C		24.8	C		27.2	C		41.1	D	
Intersection Delay, s/veh / LOS	26.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	1.91	B	2.44	B	2.30	B
Bicycle LOS Score / LOS	1.09	A	1.10	A	1.23	A	1.01	A

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	AM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2035 Background
Urban Street	Hosking Ave	File Name	2035 AM background.xus
Intersection	S H St		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	422	588	383	58	852	262	434	335	68	108	209	287

Signal Information

Cycle, s	90.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On	Green	4.3	11.7	23.9	5.7	4.0	13.4				
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	3.5	3.5	3.5				
				Red	1.0	1.0	1.0	1.0	1.0	1.0				

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	25.0	44.6	8.8	28.4	18.7	26.4	10.2	17.9
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	19.6		3.3		14.0	7.2	5.0	11.4
Green Extension Time (g _e), s	0.9	0.0	0.1	0.0	0.2	2.4	0.1	2.0
Phase Call Probability	1.00		0.72		1.00	1.00	0.95	1.00
Max Out Probability	0.50		0.00		1.00	0.00	0.00	0.05

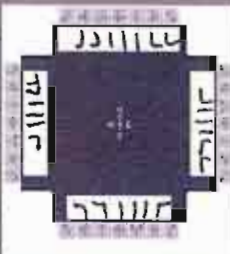
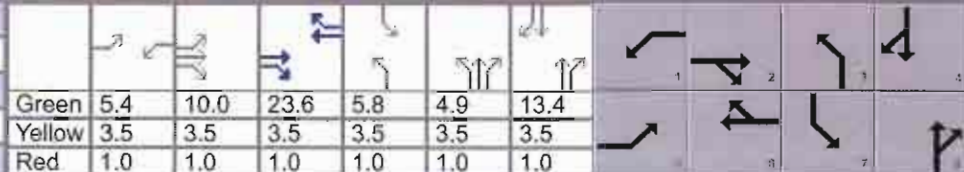
Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	705	982	639	51	751	231	472	364	74	117	227	312
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1698	1585	1730	1698	1585	1730	1698	1610	1730	1698	1425
Queue Service Time (g _s), s	17.6	11.0	32.8	1.3	11.7	12.7	12.0	5.2	3.3	3.0	3.6	9.4
Cycle Queue Clearance Time (g _c), s	17.6	11.0	32.8	1.3	11.7	12.7	12.0	5.2	3.3	3.0	3.6	9.4
Green Ratio (g/C)	0.23	0.45	0.45	0.05	0.27	0.27	0.16	0.24	0.24	0.06	0.15	0.15
Capacity (c), veh/h	787	2269	706	166	1354	421	546	1240	392	218	758	424
Volume-to-Capacity Ratio (X)	0.895	0.433	0.906	0.307	0.554	0.548	0.865	0.294	0.189	0.538	0.300	0.735
Back of Queue (Q), ft/ln (50 th percentile)	180.1	93.9	274.4	13.5	117.7	171.1	142.5	51.1	29.9	31.2	35.8	78.9
Back of Queue (Q), veh/ln (50 th percentile)	7.1	3.7	10.8	0.5	4.6	6.7	5.6	2.0	1.2	1.2	1.4	3.2
Queue Storage Ratio (RQ) (50 th percentile)	0.56	0.00	0.00	0.06	0.00	0.80	0.86	0.00	0.00	0.16	0.00	0.00
Uniform Delay (d ₁), s/veh	31.7	15.0	19.3	41.7	29.7	36.6	37.0	27.7	27.0	40.9	34.1	36.6
Incremental Delay (d ₂), s/veh	5.6	0.3	11.0	0.2	0.7	2.0	11.0	0.0	0.1	0.8	0.1	0.9
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	37.2	15.4	30.2	41.9	30.4	38.7	48.0	27.8	27.1	41.7	34.2	37.5
Level of Service (LOS)	D	B	C	D	C	D	D	C	C	D	C	D
Approach Delay, s/veh / LOS	26.1	C		32.8	C		38.2	D		37.1	D	
Intersection Delay, s/veh / LOS	31.2						C					

Multimodal Results

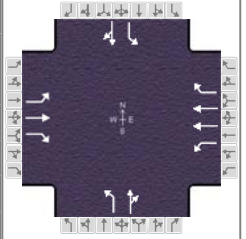
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.81	C		2.95	C		2.84	C		2.85	C	
Bicycle LOS Score / LOS	1.32	A		1.19	A		0.99	A		0.85	A	

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information											
Agency	DeWalt Corp					Duration, h	0.25								
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other								
Jurisdiction	City of Bakersfield		Time Period	AM Peak		PHF	0.92								
Urban Street	Hosking Ave		Analysis Year	2035 Background + Project		Analysis Period	1> 7:00								
Intersection	S H St		File Name	2035 AM post development.xus											
Project Description	Commercial Dev. SE corner Hosking/S H														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				422	634	383	104	852	262	474	352	74	128	209	287
Signal Information															
Cycle, s	90.0	Reference Phase	2	Green	5.4	10.0	23.6	5.8	4.9	13.4					
Offset, s	0	Reference Point	End	Yellow	3.5	3.5	3.5	3.5	3.5	3.5					
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	1.0	1.0	1.0					
Force Mode	Fixed	Simult. Gap N/S	On												
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phase Duration, s				24.4	42.6	9.9	28.1	19.7	27.2	10.3	17.9				
Change Period, (Y+R), s				4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s				3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1				
Queue Clearance Time (g _s), s				19.1		4.3		15.1	7.5	5.5	11.4				
Green Extension Time (g _e), s				0.8	0.0	0.1	0.0	0.1	2.4	0.2	2.0				
Phase Call Probability				1.00		0.90		1.00	1.00	0.97	1.00				
Max Out Probability				0.62		0.00		1.00	0.00	0.00	0.08				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h				682	1025	619	92	752	231	515	383	80	139	227	312
Adjusted Saturation Flow Rate (s), veh/h/ln				1730	1698	1585	1730	1698	1585	1730	1698	1610	1730	1698	1425
Queue Service Time (g _s), s				17.1	12.3	32.6	2.3	11.5	12.7	13.1	5.5	3.5	3.5	3.6	9.4
Cycle Queue Clearance Time (g _c), s				17.1	12.3	32.6	2.3	11.5	12.7	13.1	5.5	3.5	3.5	3.6	9.4
Green Ratio (g/C)				0.22	0.42	0.42	0.06	0.26	0.26	0.17	0.25	0.25	0.06	0.15	0.15
Capacity (c), veh/h				764	2155	670	207	1335	415	583	1286	407	224	757	423
Volume-to-Capacity Ratio (X)				0.893	0.476	0.923	0.443	0.563	0.557	0.884	0.297	0.198	0.622	0.300	0.737
Back of Queue (Q), ft/ln (50 th percentile)				176.8	107	288.3	24.2	113.5	167	161	53.1	32.2	37.3	35.8	79
Back of Queue (Q), veh/ln (50 th percentile)				7.0	4.2	11.4	1.0	4.5	6.6	6.3	2.1	1.3	1.5	1.4	3.2
Queue Storage Ratio (RQ) (50 th percentile)				0.55	0.00	0.00	0.11	0.00	0.78	0.98	0.00	0.00	0.19	0.00	0.00
Uniform Delay (d ₁), s/veh				32.3	16.9	20.9	41.2	28.9	36.4	36.6	27.2	26.5	41.0	34.1	36.6
Incremental Delay (d ₂), s/veh				5.7	0.4	13.1	0.2	0.5	1.6	13.9	0.0	0.1	1.1	0.1	0.9
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh				38.0	17.3	34.0	41.4	29.4	38.0	50.5	27.2	26.6	42.1	34.2	37.6
Level of Service (LOS)				D	B	C	D	C	D	D	C	C	D	C	D
Approach Delay, s/veh / LOS				27.8		C	32.3		C	39.4		D	37.4		D
Intersection Delay, s/veh / LOS				32.3						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.82		C	2.95		C	2.84		C	2.85		C
Bicycle LOS Score / LOS				1.35		A	1.22		A	1.03		A	0.86		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	DeWalt Corp			Duration, h	0.25	
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other	
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94	
Urban Street	Hosking Ave	Analysis Year	2018 Background	Analysis Period	1> 4:30	
Intersection	S H St	File Name	2018 PM background.xus			
Project Description	Commercial Dev. SE corner Hosking/S H					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	85	500	125	14	394	69	121	137	20	119	113	98

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On								

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0
Phase Duration, s	12.9	52.8	6.0	45.9	12.7	18.7	12.5	18.5
Change Period, ($Y+R_c$), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s	8.5		2.6		8.4	9.6	8.3	13.4
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0	0.1	0.7	0.1	0.6
Phase Call Probability	0.96		0.26		0.96	1.00	0.96	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	132	775	194	12	335	59	129	167		127	224	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1585	1781	1781	1585	1781	1828		1781	1726	
Queue Service Time (g_s), s	6.5	28.1	4.8	0.6	4.3	1.9	6.4	7.6		6.3	11.4	
Cycle Queue Clearance Time (g_c), s	6.5	28.1	4.8	0.6	4.3	1.9	6.4	7.6		6.3	11.4	
Green Ratio (g/C)	0.09	0.54	0.54	0.02	0.46	0.46	0.09	0.16		0.09	0.16	
Capacity (c), veh/h	166	1003	850	31	1639	730	162	288		159	269	
Volume-to-Capacity Ratio (X)	0.793	0.773	0.228	0.389	0.204	0.080	0.796	0.580		0.798	0.836	
Back of Queue (Q), ft/ln (50 th percentile)	72.4	268.2	37.2	7.1	40.1	16.6	71.4	83.2		70.2	120	
Back of Queue (Q), veh/ln (50 th percentile)	2.8	10.6	1.5	0.3	1.6	0.7	2.8	3.3		2.8	4.7	
Queue Storage Ratio (RQ) (50 th percentile)	0.23	0.00	0.00	0.03	0.00	0.08	0.43	0.00		0.35	0.00	
Uniform Delay (d_1), s/veh	39.8	14.3	8.6	44.1	12.0	13.8	40.1	35.2		40.2	36.9	
Incremental Delay (d_2), s/veh	3.0	5.4	0.6	2.9	0.3	0.2	3.4	0.7		3.5	2.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	42.9	19.8	9.2	47.0	12.3	14.0	43.4	35.9		43.7	39.5	
Level of Service (LOS)	D	B	A	D	B	B	D	D		D	D	
Approach Delay, s/veh / LOS	20.7		C	13.6		B	39.2		D	41.0		D
Intersection Delay, s/veh / LOS	25.2						C					

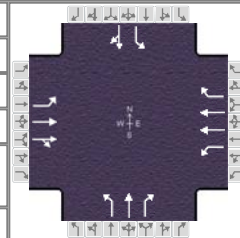
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.90	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.73	B	0.91	A	0.98	A	1.07	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project	Analysis Period	1> 4:30
Intersection	S H St	File Name	2018 PM post development.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



A map of the intersection of Hosking Ave and S H St. The map shows a four-way intersection with traffic flow indicated by arrows. The streets are labeled 'Hosking Ave' and 'S H St'. The map is surrounded by a toolbar with various navigation and analysis tools.



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	85	542	125	56	394	69	160	154	26	137	113	98

Signal Information												
Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	4.2	4.1	39.3	9.1	1.4	14.0		
				Yellow	3.5	0.0	3.5	3.5	0.0	3.5		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0	1.0	1.0	0.0	1.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	12.7	47.8	8.7	43.8	14.9	19.9	13.6	18.5
Change Period, ($Y+R_c$), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s	8.4		4.4		10.4	9.2	9.2	13.4
Green Extension Time (g_e), s	0.2	0.0	0.1	0.0	0.2	0.7	0.1	0.7
Phase Call Probability	0.96		0.70		0.99	1.00	0.97	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.02	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	129	525	491	48	337	59	170	164	28	146	224	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1870	1748	1781	1781	1585	1781	1870	1610	1781	1726	
Queue Service Time (g_s), s	6.4	17.2	16.9	2.4	4.5	2.0	8.4	7.2	1.3	7.2	11.4	
Cycle Queue Clearance Time (g_c), s	6.4	17.2	16.9	2.4	4.5	2.0	8.4	7.2	1.3	7.2	11.4	
Green Ratio (g/C)	0.09	0.48	0.48	0.05	0.44	0.44	0.12	0.17	0.17	0.10	0.16	
Capacity (c), veh/h	163	901	842	83	1554	692	207	320	275	180	269	
Volume-to-Capacity Ratio (X)	0.793	0.583	0.583	0.578	0.217	0.085	0.824	0.512	0.100	0.811	0.834	
Back of Queue (Q), ft/ln (50 th percentile)	70.7	168.2	153	27.3	42.1	17.4	93.1	79.3	12.2	80.5	119.9	
Back of Queue (Q), veh/ln (50 th percentile)	2.8	6.6	6.0	1.1	1.7	0.7	3.7	3.1	0.5	3.2	4.7	
Queue Storage Ratio (RQ) (50 th percentile)	0.22	0.00	0.00	0.12	0.00	0.08	0.56	0.00	0.00	0.40	0.00	
Uniform Delay (d_1), s/veh	39.7	15.0	14.5	43.2	12.9	14.8	38.9	33.9	31.5	39.6	36.9	
Incremental Delay (d_2), s/veh	3.1	2.6	2.7	2.2	0.3	0.2	3.1	0.5	0.1	3.3	2.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	42.7	17.5	17.2	45.4	13.2	15.0	42.0	34.4	31.5	42.9	39.5	
Level of Service (LOS)	D	B	B	D	B	B	D	C	C	D	D	
Approach Delay, s/veh / LOS	20.3	C		16.9	B		37.7	D		40.8	D	
Intersection Delay, s/veh / LOS	25.6						C					

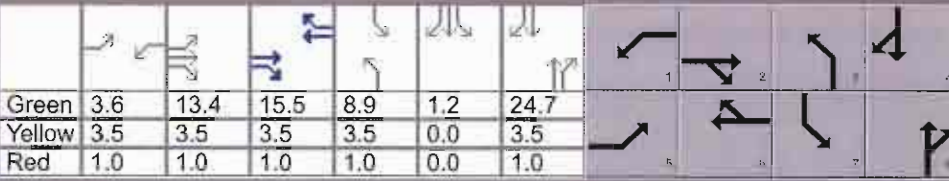
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.45	B	2.30	B
Bicycle LOS Score / LOS	1.15	A	0.94	A	1.08	A	1.10	A

HCS7 Signalized Intersection Results Summary

General Information					Intersection Information				
Agency	DeWalt Corp				Duration, h	0.25			
Analyst	SK	Analysis Date	1/15/2019		Area Type	Other			
Jurisdiction	City of Bakersfield	Time Period	PM Peak		PHF	0.94			
Urban Street	Hosking Ave	Analysis Year	2035 Background		Analysis Period	1> 7:00			
Intersection	S H St	File Name	2035 PM background.xus						
Project Description	Commercial Dev. SE corner Hosking/S H								



Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				662	877	289	45	690	221	246	468	76	290	324	699

Signal Information															
Cycle, s	90.0	Reference Phase	2	Green	3.6	13.4	15.5	8.9	1.2	24.7					
Offset, s	0	Reference Point	End	Yellow	3.5	3.5	3.5	3.5	0.0	3.5					
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	1.0	0.0	1.0					
Force Mode	Fixed	Simult. Gap N/S	On												

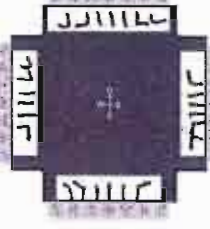
Timer Results		EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		5	2	1	6	3	8	7	4
Case Number		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s		26.1	38.0	8.1	20.0	13.4	29.2	14.7	30.5
Change Period, (Y+R), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s		21.5		3.0		8.6	9.1	9.8	24.6
Green Extension Time (g _e), s		0.0	0.0	0.0	0.0	0.3	4.3	0.4	1.3
Phase Call Probability		1.00		0.61		1.00	1.00	1.00	1.00
Max Out Probability		1.00		0.00		0.02	0.06	0.08	1.00

Movement Group Results		EB			WB			NB			SB		
Approach Movement		L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h		773	1024	337	37	572	183	262	498	81	309	345	744
Adjusted Saturation Flow Rate (s), veh/h/ln		1730	1698	1585	1730	1698	1585	1730	1698	1610	1730	1698	1425
Queue Service Time (g _s), s		19.5	13.7	13.6	1.0	9.9	10.2	6.6	7.1	3.5	7.8	4.6	22.6
Cycle Queue Clearance Time (g _c), s		19.5	13.7	13.6	1.0	9.9	10.2	6.6	7.1	3.5	7.8	4.6	22.6
Green Ratio (g/C)		0.24	0.37	0.37	0.04	0.17	0.17	0.10	0.27	0.27	0.11	0.29	0.29
Capacity (c), veh/h		829	1894	589	140	879	274	344	1400	442	391	1469	822
Volume-to-Capacity Ratio (X)		0.933	0.541	0.573	0.267	0.650	0.670	0.761	0.356	0.183	0.789	0.235	0.905
Back of Queue (Q), ft/ln (50 th percentile)		209.5	124.4	9.8	10.2	116.9	144	69.6	68.2	31.2	82.6	44.6	213.7
Back of Queue (Q), veh/ln (50 th percentile)		8.2	4.9	0.4	0.4	4.6	5.7	2.7	2.7	1.2	3.3	1.8	8.5
Queue Storage Ratio (RQ) (50 th percentile)		0.65	0.00	0.00	0.05	0.00	0.67	0.42	0.00	0.00	0.41	0.00	0.00
Uniform Delay (d ₁), s/veh		30.6	20.7	18.0	43.1	40.4	40.5	39.5	26.2	24.9	38.9	24.4	30.8
Incremental Delay (d ₂), s/veh		11.2	0.6	2.4	0.3	3.2	10.7	1.3	0.1	0.1	1.9	0.0	12.2
Initial Queue Delay (d ₃), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh		41.8	21.3	20.3	43.5	43.6	51.2	40.8	26.3	25.0	40.8	24.5	43.1
Level of Service (LOS)		D	C	C	D	D	D	D	C	C	D	C	D
Approach Delay, s/veh / LOS		28.6	C		45.3	D		30.7	C		38.0	D	
Intersection Delay, s/veh / LOS		34.0						C					

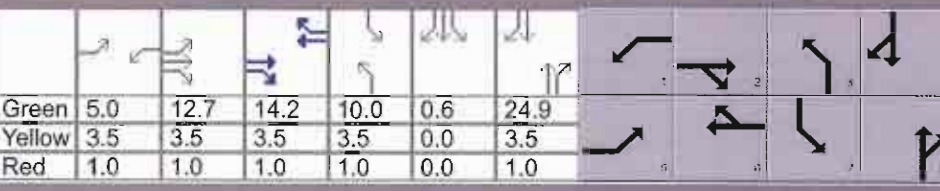
Multimodal Results		EB		WB		NB		SB	
Pedestrian LOS Score / LOS		2.82	C	2.96	C	2.83	C	2.83	C
Bicycle LOS Score / LOS		1.56	B	1.05	A	0.95	A	1.26	A

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information					
Agency	DeWalt Corp					Duration, h	0.25				
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other				
Jurisdiction	City of Bakersfield		Time Period	PM Peak		PHF	0.94				
Urban Street	Hosking Ave		Analysis Year	2035 Background + Project		Analysis Period	1> 7:00				
Intersection	S H St		File Name	2035 PM post development.xus							
Project Description	Commercial Dev. SE corner Hosking/S H										



Demand Information				EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R			
Demand (v), veh/h	662	919	289	87	690	221	285	485	82	308	324	699			

Signal Information											
Cycle, s	90.0	Reference Phase	2	Green	5.0	12.7	14.2	10.0	0.6	24.9	
Offset, s	0	Reference Point	End	Yellow	3.5	3.5	3.5	3.5	0.0	3.5	
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	1.0	0.0	1.0	
Force Mode	Fixed	Simult. Gap N/S	On								

Timer Results		EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		5	2	1	6	3	8	7	4
Case Number		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s		26.8	36.0	9.5	18.7	14.5	29.4	15.2	30.0
Change Period, (Y+R _c), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s		21.2		3.9		9.7	9.3	10.3	24.8
Green Extension Time (g _e), s		1.0	0.0	0.1	0.0	0.4	4.3	0.4	0.7
Phase Call Probability		1.00		0.84		1.00	1.00	1.00	1.00
Max Out Probability		0.42		0.00		0.07	0.07	0.13	1.00

Movement Group Results				EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R			
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14			
Adjusted Flow Rate (v), veh/h	771	1071	337	72	574	184	303	516	87	328	345	744			
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1698	1585	1730	1698	1585	1730	1698	1610	1730	1698	1425			
Queue Service Time (g _s), s	19.2	15.1	14.3	1.9	10.1	10.4	7.7	7.3	3.7	8.3	4.7	22.8			
Cycle Queue Clearance Time (g _c), s	19.2	15.1	14.3	1.9	10.1	10.4	7.7	7.3	3.7	8.3	4.7	22.8			
Green Ratio (g/C)	0.25	0.35	0.35	0.06	0.16	0.16	0.11	0.28	0.28	0.12	0.28	0.28			
Capacity (c), veh/h	856	1781	554	193	805	250	386	1407	445	410	1443	807			
Volume-to-Capacity Ratio (X)	0.902	0.601	0.608	0.375	0.714	0.735	0.786	0.367	0.196	0.799	0.239	0.921			
Back of Queue (Q), ft/ln (50 th percentile)	191.8	138.4	92	19.9	123	159	80.8	70.8	33.7	89.1	45	222.7			
Back of Queue (Q), veh/ln (50 th percentile)	7.6	5.4	3.6	0.8	4.8	6.3	3.2	2.8	1.3	3.5	1.8	8.9			
Queue Storage Ratio (RQ) (50 th percentile)	0.60	0.00	0.00	0.09	0.00	0.74	0.49	0.00	0.00	0.45	0.00	0.00			
Uniform Delay (d ₁), s/veh	30.2	22.5	19.7	42.7	42.2	42.7	38.9	26.2	24.9	38.6	24.8	31.3			
Incremental Delay (d ₂), s/veh	5.5	0.8	2.8	0.4	4.5	14.8	1.6	0.1	0.1	2.9	0.0	15.1			
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Control Delay (d), s/veh	35.8	23.4	22.5	43.1	46.8	57.5	40.6	26.3	25.0	41.5	24.8	46.4			
Level of Service (LOS)	D	C	C	D	D	E	D	C	C	D	C	D			
Approach Delay, s/veh / LOS	27.6	C		48.8	D		30.9	C		40.0	D				
Intersection Delay, s/veh / LOS	34.8 C														

Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.82	C		2.96	C		2.83	C		2.83	C				
Bicycle LOS Score / LOS	1.58	B		1.07	A		0.99	A		1.27	A				

Intersection 6
Hosking Avenue & Monitor Street

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information									
Agency	DeWalt Corp					Duration, h	0.25								
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other								
Jurisdiction	City of Bakersfield		Time Period	AM Peak		PHF	0.92								
Urban Street	Hosking Ave		Analysis Year	2018 Background		Analysis Period	1> 7:00								
Intersection	Monitor St		File Name	2018 AM background.xus											
Project Description	Commercial Dev. SE corner Hosking/S H														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				142	207	80	30	284	91	57	144	50	89	141	218
Signal Information															
Cycle, s	90.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On	Green	3.3	8.3	35.2	4.7	1.5	14.5					
				Yellow	3.5	3.5	3.5	3.5	0.0	3.5					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	1.0	1.0	0.0	1.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phase Duration, s				20.6	52.5	7.8	39.7	9.2	19.0	10.7	20.5				
Change Period, (Y+R), s				4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s				3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1				
Queue Clearance Time (g _s), s				15.7		3.6		5.0	8.8	6.8	14.9				
Green Extension Time (g _e), s				0.5	0.0	0.0	0.0	0.0	1.1	0.1	1.1				
Phase Call Probability				1.00		0.56		0.79	1.00	0.91	1.00				
Max Out Probability				0.00		0.00		0.00	0.00	0.00	0.00				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h				280	408	158	33	210	198	62	157	54	97	153	237
Adjusted Saturation Flow Rate (s), veh/h/ln				1795	1781	1598	1795	1870	1716	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s				13.7	8.6	7.9	1.6	6.9	7.1	3.0	6.8	2.7	4.8	6.6	12.9
Cycle Queue Clearance Time (g _c), s				13.7	8.6	7.9	1.6	6.9	7.1	3.0	6.8	2.7	4.8	6.6	12.9
Green Ratio (g/C)				0.18	0.53	0.53	0.04	0.39	0.39	0.05	0.16	0.16	0.07	0.18	0.18
Capacity (c), veh/h				322	1898	851	67	731	671	94	303	257	124	334	283
Volume-to-Capacity Ratio (X)				0.869	0.215	0.185	0.489	0.287	0.295	0.657	0.517	0.212	0.777	0.458	0.836
Back of Queue (Q), ft/ln (50 th percentile)				148.8	89.3	126.1	18.1	75.2	70.5	34.4	76	25	54.1	72.4	124.1
Back of Queue (Q), veh/ln (50 th percentile)				5.9	3.5	5.0	0.7	3.0	2.8	1.4	3.0	1.0	2.1	2.9	4.9
Queue Storage Ratio (RQ) (50 th percentile)				0.68	0.00	0.57	0.09	0.00	0.00	0.21	0.00	0.12	0.33	0.00	0.54
Uniform Delay (d ₁), s/veh				37.0	20.1	21.6	42.5	18.8	18.9	41.8	34.6	32.8	41.2	33.1	35.8
Incremental Delay (d ₂), s/veh				1.1	0.1	0.2	2.0	1.0	1.1	2.9	0.5	0.2	3.9	0.4	2.5
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh				38.0	20.2	21.7	44.5	19.8	20.0	44.7	35.1	33.0	45.1	33.5	38.3
Level of Service (LOS)				D	C	C	D	B	B	D	D	C	D	C	D
Approach Delay, s/veh / LOS				26.4		C	21.7		C	36.9		D	38.1		D
Intersection Delay, s/veh / LOS				29.6						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.08		B	2.10		B	2.30		B	2.45		B
Bicycle LOS Score / LOS				0.87		A	0.85		A	0.94		A	1.29		A

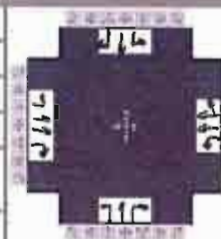
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	AM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2018 Background + Project
Urban Street	Hosking Ave	File Name	2018 AM post development.xus
Intersection	Monitor St		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	153	218	103	30	297	91	70	144	50	89	141	231

Signal Information

Cycle, s	90.0	Reference Phase	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	22.0	51.3	7.8	37.1	9.6	20.1	10.7	21.3
Change Period, (Y+R _e), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	17.1		3.6		5.8	8.7	6.8	15.7
Green Extension Time (g _e), s	0.5	0.0	0.0	0.0	0.1	1.1	0.1	1.1
Phase Call Probability	1.00		0.56		0.85	1.00	0.91	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	306	437	206	33	217	205	76	157	54	97	153	251
Adjusted Saturation Flow Rate (s), veh/h/ln	1795	1781	1598	1795	1870	1721	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s	15.1	9.2	10.6	1.6	7.5	7.8	3.8	6.7	2.6	4.8	6.5	13.7
Cycle Queue Clearance Time (g _c), s	15.1	9.2	10.6	1.6	7.5	7.8	3.8	6.7	2.6	4.8	6.5	13.7
Green Ratio (g/C)	0.19	0.52	0.52	0.04	0.36	0.36	0.06	0.17	0.17	0.07	0.19	0.19
Capacity (c), veh/h	350	1852	831	67	677	623	102	327	277	124	351	297
Volume-to-Capacity Ratio (X)	0.875	0.236	0.248	0.489	0.320	0.329	0.747	0.478	0.196	0.777	0.437	0.844
Back of Queue (Q), ft/ln (50 th percentile)	171.2	97.9	169	18.1	83.1	78.2	42.9	74.4	24.4	54.1	71.4	131.2
Back of Queue (Q), veh/ln (50 th percentile)	6.8	3.9	6.7	0.7	3.3	3.1	1.7	3.0	1.0	2.1	2.8	5.2
Queue Storage Ratio (RQ) (50 th percentile)	0.78	0.00	0.77	0.09	0.00	0.00	0.26	0.00	0.12	0.33	0.00	0.57
Uniform Delay (d ₁), s/veh	37.8	20.7	23.7	42.5	20.7	20.8	41.8	33.5	31.8	41.2	32.4	35.4
Incremental Delay (d ₂), s/veh	1.5	0.2	0.4	2.0	1.2	1.4	4.0	0.4	0.1	3.9	0.3	2.5
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.3	20.9	24.1	44.5	22.0	22.2	45.9	33.9	31.9	45.1	32.8	37.9
Level of Service (LOS)	D	C	C	D	C	C	D	C	C	D	C	D
Approach Delay, s/veh / LOS	27.5	C		23.7	C		36.7	D		37.7	D	
Intersection Delay, s/veh / LOS	30.3						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.08		B	2.10		B	2.29		B	2.45		B
Bicycle LOS Score / LOS	0.91		A	0.86		A	0.96		A	1.31		A

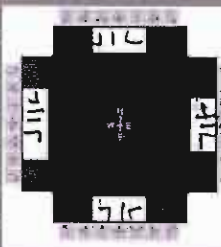
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp
Analyst	SK
Jurisdiction	City of Bakersfield
Urban Street	Hosking Ave
Intersection	Monitor St
Project Description	Commercial Dev. SE corner Hosking/S H

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00
File Name	2035 AM background.xus



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	264	400	155	52	538	158	94	202	70	125	197	318

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	25.7	43.2	9.0	26.5	11.1	24.8	13.0	26.7
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	20.8		4.8		7.0	11.2	8.7	20.7
Green Extension Time (g _e), s	0.4	0.0	0.1	0.0	0.1	1.6	0.1	1.5
Phase Call Probability	1.00		0.76		0.92	1.00	0.97	1.00
Max Out Probability	0.05		0.00		0.00	0.00	0.01	0.01

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	378	573	222	57	393	364	102	220	76	136	214	346
Adjusted Saturation Flow Rate (s), veh/h/in	1795	1781	1598	1795	1870	1724	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s	18.8	13.0	11.9	2.8	18.1	18.2	5.0	9.2	3.5	6.7	8.7	18.7
Cycle Queue Clearance Time (g _c), s	18.8	13.0	11.9	2.8	18.1	18.2	5.0	9.2	3.5	6.7	8.7	18.7
Green Ratio (g/C)	0.24	0.43	0.43	0.05	0.24	0.24	0.07	0.23	0.23	0.09	0.25	0.25
Capacity (c), veh/h	423	1531	687	91	458	422	131	425	360	169	465	394
Volume-to-Capacity Ratio (X)	0.894	0.374	0.323	0.624	0.859	0.862	0.780	0.517	0.211	0.803	0.460	0.877
Back of Queue (Q), ft/in (50 th percentile)	254.5	155	186.2	31.3	253.3	235.4	57	100.1	32.1	74.6	93.8	185.8
Back of Queue (Q), veh/in (50 th percentile)	10.1	6.1	7.4	1.2	10.0	9.4	2.3	4.0	1.3	3.0	3.7	7.4
Queue Storage Ratio (RQ) (50 th percentile)	1.16	0.00	0.85	0.16	0.00	0.00	0.35	0.00	0.16	0.45	0.00	0.81
Uniform Delay (d ₁), s/veh	39.9	27.2	29.4	41.9	32.5	32.5	41.0	30.6	28.3	39.9	28.8	32.6
Incremental Delay (d ₂), s/veh	11.0	0.6	1.1	2.6	18.5	20.1	3.8	0.4	0.1	3.3	0.3	5.9
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.9	27.8	30.6	44.5	51.0	52.7	44.8	30.9	28.5	43.3	29.1	38.5
Level of Service (LOS)	D	C	C	D	D	D	D	C	C	D	C	D
Approach Delay, s/veh / LOS	35.8	D		51.3	D		34.0	C		36.5	D	
Intersection Delay, s/veh / LOS	39.8						D					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.10	B		2.12	B		2.29	B		2.44	B	
Bicycle LOS Score / LOS	1.22	A		1.16	A		1.14	A		1.64	B	

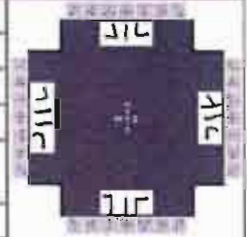
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	AM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2035 Background + Project
Urban Street	Hosking Ave	File Name	2035 AM post development.xus
Intersection	Monitor St		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	275	411	178	52	551	158	107	202	70	125	197	331

Signal Information

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Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	25.9	41.8	9.0	25.0	11.9	26.2	13.0	27.3
Change Period, (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	21.7		4.8		7.7	11.0	8.7	21.5
Green Extension Time (g _e), s	0.0	0.0	0.1	0.0	0.1	1.6	0.1	1.2
Phase Call Probability	1.00		0.76		0.95	1.00	0.97	1.00
Max Out Probability	1.00		0.00		0.00	0.00	0.01	0.21

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	396	592	256	57	400	371	116	220	76	136	214	360
Adjusted Saturation Flow Rate (s), veh/h/ln	1795	1781	1598	1795	1870	1726	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s	19.7	13.7	14.0	2.8	18.9	19.0	5.7	9.0	3.4	6.7	8.6	19.5
Cycle Queue Clearance Time (g _c), s	19.7	13.7	14.0	2.8	18.9	19.0	5.7	9.0	3.4	6.7	8.6	19.5
Green Ratio (g/C)	0.24	0.41	0.41	0.05	0.23	0.23	0.08	0.24	0.24	0.09	0.25	0.25
Capacity (c), veh/h	426	1476	662	91	426	393	147	454	385	169	477	404
Volume-to-Capacity Ratio (X)	0.930	0.401	0.387	0.624	0.939	0.942	0.789	0.484	0.198	0.803	0.449	0.891
Back of Queue (Q), ft/ln (50 th percentile)	305.4	166.2	162.7	31.3	295.5	275.4	64.4	97.5	31.2	74.6	92.9	214.4
Back of Queue (Q), veh/ln (50 th percentile)	12.1	6.5	6.5	1.2	11.6	11.0	2.6	3.9	1.2	3.0	3.7	8.5
Queue Storage Ratio (RQ) (50 th percentile)	1.39	0.00	0.74	0.16	0.00	0.00	0.39	0.00	0.16	0.45	0.00	0.93
Uniform Delay (d ₁), s/veh	40.2	28.7	31.8	41.9	34.1	34.2	40.5	29.4	27.2	39.9	28.3	32.4
Incremental Delay (d ₂), s/veh	24.2	0.7	1.5	2.6	30.7	32.9	3.5	0.3	0.1	3.3	0.2	13.2
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.4	29.4	33.3	44.5	64.8	67.1	44.1	29.7	27.3	43.3	28.6	45.7
Level of Service (LOS)	E	C	C	D	E	E	D	C	C	D	C	D
Approach Delay, s/veh / LOS	41.3		D	64.4		E	33.3		C	40.1		D
Intersection Delay, s/veh / LOS	46.0						D					

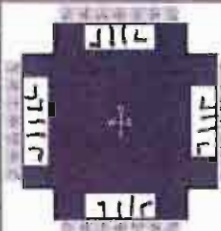
Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.10		B	2.12		B	2.29		B	2.44		B
Bicycle LOS Score / LOS	1.26		A	1.17		A	1.17		A	1.66		B

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Area Type	Other
Urban Street	Hosking Ave	Time Period	AM Peak
		PHF	0.92
Intersection	Monitor St	Analysis Year	2035 Background + Project
Project Description	Commercial Dev. SE corner Hosking/S H	Analysis Period	1> 7:00
		File Name	2035 AM post development mitigated.xus



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	275	411	178	52	551	158	107	202	70	125	197	331

Signal Information

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Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	17.6	41.7	9.0	33.2	11.9	26.3	13.0	27.4
Change Period (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	12.3		4.8		7.7	6.4	8.7	21.5
Green Extension Time (g _e), s	0.8	0.0	0.0	0.0	0.1	1.8	0.1	1.3
Phase Call Probability	1.00		0.76		0.95	1.00	0.97	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.01	0.18

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	403	603	261	57	599	172	116	220	76	136	214	360
Adjusted Saturation Flow Rate (s), veh/h/in	1743	1781	1598	1795	1781	1610	1795	1795	1598	1795	1795	1598
Queue Service Time (g _s), s	10.3	14.0	14.3	2.9	12.4	7.3	5.7	4.4	3.4	6.7	4.3	19.5
Cycle Queue Clearance Time (g _c), s	10.3	14.0	14.3	2.8	12.4	7.3	5.7	4.4	3.4	6.7	4.3	19.5
Green Ratio (g/C)	0.15	0.41	0.41	0.05	0.32	0.32	0.08	0.24	0.24	0.09	0.25	0.25
Capacity (c), veh/h	506	1473	661	91	1135	513	147	868	386	169	912	406
Volume-to-Capacity Ratio (X)	0.797	0.409	0.395	0.624	0.528	0.335	0.789	0.253	0.197	0.803	0.235	0.887
Back of Queue (Q), ft/in (50 th percentile)	115.3	170.4	166.6	31.3	130.2	70.9	64.4	45.5	31.2	74.6	43.5	212.9
Back of Queue (Q), veh/in (50 th percentile)	4.6	6.7	6.6	1.2	5.1	2.8	2.6	1.8	1.2	3.0	1.7	8.4
Queue Storage Ratio (RQ) (50 th percentile)	0.52	0.00	0.76	0.16	0.00	0.35	0.39	0.00	0.16	0.45	0.00	0.93
Uniform Delay (d ₁), s/veh	40.8	29.0	32.0	41.9	25.1	23.4	40.5	27.6	27.2	39.9	26.6	32.3
Incremental Delay (d ₂), s/veh	1.0	0.7	1.5	2.6	1.8	1.8	3.5	0.1	0.1	3.3	0.0	12.9
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.8	29.8	33.6	44.5	26.9	25.1	44.1	27.6	27.3	43.3	26.7	45.2
Level of Service (LOS)	D	C	C	D	C	C	D	C	C	D	C	D
Approach Delay, s/veh / LOS	34.4		C	27.7		C	32.2		C	39.2		D
Intersection Delay, s/veh / LOS	33.5						C					

Multimodal Results

	EB	WB	NB	SB
Pedestrian LOS Score / LOS	2.42	B	2.44	B
Bicycle LOS Score / LOS	1.26	A	0.83	A

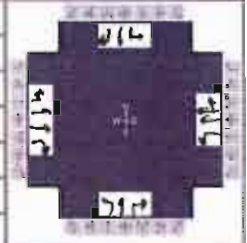
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp
Analyst	SK
Jurisdiction	City of Bakersfield
Urban Street	Hosking Ave
Intersection	Monitor St
Project Description	Commercial Dev. SE corner Hosking/S H

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.94
Analysis Period	1> 4:30
File Name	2018 PM background.xus



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	105	267	63	32	259	41	54	60	22	31	60	68

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	17.6	62.2	7.9	52.5	9.1	12.0	7.9	10.8
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	12.8		3.7		4.8	4.9	3.6	6.0
Green Extension Time (g _e), s	0.4	0.0	0.0	0.0	0.0	0.4	0.0	0.4
Phase Call Probability	1.00		0.57		0.76	1.00	0.56	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

Movement Group Results

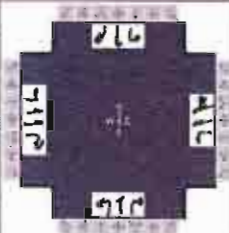
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	223	567	134	34	162	157	57	64	23	33	64	72
Adjusted Saturation Flow Rate (s), veh/h/ln	1795	1781	1598	1795	1870	1782	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s	10.8	8.8	5.0	1.7	4.0	4.1	2.8	2.9	1.2	1.6	2.9	4.0
Cycle Queue Clearance Time (g _c), s	10.8	8.8	5.0	1.7	4.0	4.1	2.8	2.9	1.2	1.6	2.9	4.0
Green Ratio (g/C)	0.15	0.64	0.64	0.04	0.53	0.53	0.05	0.08	0.08	0.04	0.07	0.07
Capacity (c), veh/h	262	2281	1023	69	997	950	91	158	134	67	133	112
Volume-to-Capacity Ratio (X)	0.851	0.248	0.131	0.496	0.162	0.166	0.630	0.404	0.175	0.491	0.481	0.643
Back of Queue (Q), ft/ln (50 th percentile)	110.6	79.2	76.1	18.9	38.9	37.6	31.9	32.9	11.8	18.3	33.6	39.3
Back of Queue (Q), veh/ln (50 th percentile)	4.4	3.1	3.0	0.8	1.5	1.5	1.3	1.3	0.5	0.7	1.3	1.6
Queue Storage Ratio (RQ) (50 th percentile)	0.50	0.00	0.35	0.09	0.00	0.00	0.19	0.00	0.06	0.11	0.00	0.17
Uniform Delay (d ₁), s/veh	35.6	11.2	11.7	42.4	10.7	10.8	41.9	39.1	38.3	42.5	40.3	40.7
Incremental Delay (d ₂), s/veh	1.7	0.1	0.1	2.1	0.3	0.4	2.6	0.6	0.2	2.1	1.0	2.3
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	37.3	11.3	11.8	44.5	11.1	11.1	44.5	39.7	38.6	44.5	41.3	43.0
Level of Service (LOS)	D	B	B	D	B	B	D	D	D	D	D	D
Approach Delay, s/veh / LOS	17.7	B		14.3	B		41.4	D		42.6	D	
Intersection Delay, s/veh / LOS	21.8						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.06	B		2.08	B		2.30	B		2.46	B	
Bicycle LOS Score / LOS	0.87	A		0.78	A		0.73	A		0.77	A	

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94
Urban Street	Hosking Ave	Analysis Year	2018 Background + Project	Analysis Period	1 > 4:30
Intersection	Monitor St	File Name	2018 PM post development.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	116	298	102	32	271	41	66	60	22	31	60	80

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On	Green	3.4	5.3	46.7	3.4	1.6	7.1	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	3.5	0.0	3.5	
				Red	1.0	1.0	1.0	1.0	0.0	1.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	17.8	61.0	7.9	51.2	9.5	13.2	7.9	11.6
Change Period (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	12.9		3.7		5.5	4.9	3.6	6.7
Green Extension Time (g _e), s	0.4	0.0	0.0	0.0	0.1	0.4	0.0	0.4
Phase Call Probability	1.00		0.57		0.83	1.00	0.56	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	225	577	197	34	168	164	70	64	23	33	64	85
Adjusted Saturation Flow Rate (s), veh/h/in	1795	1781	1598	1795	1870	1785	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s	10.9	9.7	8.2	1.7	4.3	4.4	3.5	2.9	1.2	1.6	2.9	4.7
Cycle Queue Clearance Time (g _c), s	10.9	9.7	8.2	1.7	4.3	4.4	3.5	2.9	1.2	1.6	2.9	4.7
Green Ratio (g/C)	0.15	0.63	0.63	0.04	0.52	0.52	0.06	0.10	0.10	0.04	0.08	0.08
Capacity (c), veh/h	265	2237	1004	69	971	926	99	181	154	67	148	125
Volume-to-Capacity Ratio (X)	0.848	0.258	0.197	0.496	0.173	0.177	0.709	0.352	0.152	0.491	0.432	0.679
Back of Queue (Q), ft/in (50 th percentile)	116.9	92.7	128.5	18.9	42.4	40.8	39.4	32.2	11.6	18.3	33.2	46.2
Back of Queue (Q), veh/in (50 th percentile)	4.6	3.7	5.1	0.8	1.7	1.6	1.6	1.3	0.5	0.7	1.3	1.8
Queue Storage Ratio (RQ) (50 th percentile)	0.53	0.00	0.58	0.09	0.00	0.00	0.24	0.00	0.06	0.11	0.00	0.20
Uniform Delay (d ₁), s/veh	36.8	12.9	14.4	42.4	11.4	11.5	41.8	38.1	37.3	42.5	39.6	40.4
Incremental Delay (d ₂), s/veh	2.3	0.2	0.3	2.1	0.4	0.4	3.5	0.4	0.2	2.1	0.7	2.4
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.1	13.1	14.8	44.5	11.8	11.9	45.3	38.5	37.5	44.5	40.3	42.8
Level of Service (LOS)	D	B	B	D	B	B	D	D	D	D	D	D
Approach Delay, s/veh / LOS	19.3	B		14.9	B		41.4	D		42.2	D	
Intersection Delay, s/veh / LOS	22.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.06	B	2.08	B	2.30	B	2.46	B
Bicycle LOS Score / LOS	0.94	A	0.79	A	0.75	A	0.79	A

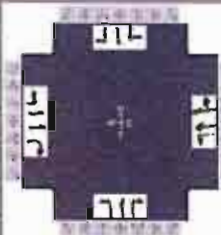
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp
Analyst	SK
Jurisdiction	City of Bakersfield
Urban Street	Hosking Ave
Intersection	Monitor St
Project Description	Commercial Dev. SE corner Hosking/S H

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.94
Analysis Period	1> 7:00
File Name	2035 PM background.xus



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	195	609	131	56	547	71	94	84	31	43	84	104

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	21.4	56.8	9.1	44.6	10.9	15.5	8.6	13.1
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	16.4		4.9		6.9	5.9	4.2	8.1
Green Extension Time (g _e), s	0.5	0.0	0.1	0.0	0.1	0.6	0.0	0.5
Phase Call Probability	1.00		0.77		0.92	1.00	0.68	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

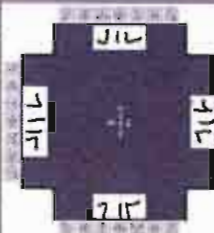
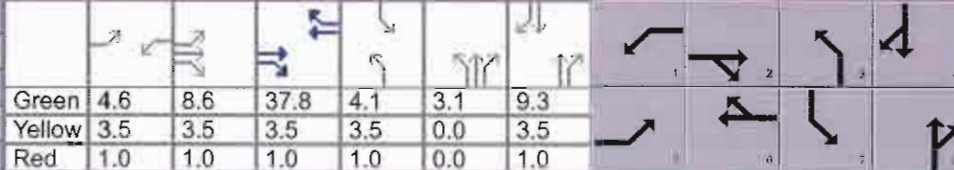
Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	295	921	198	60	335	323	100	89	33	46	89	111
Adjusted Saturation Flow Rate (s), veh/h/ln	1795	1781	1598	1795	1870	1795	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s	14.4	16.9	8.9	2.9	10.9	10.9	4.9	3.9	1.7	2.2	4.1	6.1
Cycle Queue Clearance Time (g _c), s	14.4	16.9	8.9	2.9	10.9	10.9	4.9	3.9	1.7	2.2	4.1	6.1
Green Ratio (g/C)	0.19	0.58	0.58	0.05	0.45	0.45	0.07	0.12	0.12	0.05	0.10	0.10
Capacity (c), veh/h	336	2070	929	93	833	800	128	229	194	82	180	153
Volume-to-Capacity Ratio (X)	0.877	0.445	0.213	0.643	0.402	0.403	0.779	0.390	0.170	0.561	0.496	0.724
Back of Queue (Q), ft/ln (50 th percentile)	154	180.2	139.6	33	115	109.7	55.8	44.1	15.8	25.3	46	59.6
Back of Queue (Q), veh/ln (50 th percentile)	6.1	7.1	5.5	1.3	4.5	4.4	2.2	1.7	0.6	1.0	1.8	2.4
Queue Storage Ratio (RQ) (50 th percentile)	0.70	0.00	0.63	0.17	0.00	0.00	0.34	0.00	0.08	0.15	0.00	0.26
Uniform Delay (d ₁), s/veh	35.5	16.2	17.7	41.9	16.8	16.9	41.1	36.4	35.4	42.1	38.6	39.5
Incremental Delay (d ₂), s/veh	2.3	0.6	0.4	2.8	1.4	1.5	3.8	0.4	0.2	2.2	0.8	2.4
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	37.8	16.7	18.1	44.6	18.3	18.4	44.9	36.8	35.6	44.3	39.4	42.0
Level of Service (LOS)	D	B	B	D	B	B	D	D	D	D	D	D
Approach Delay, s/veh / LOS	21.3	C		20.5	C		40.3	D		41.5	D	
Intersection Delay, s/veh / LOS	24.6						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.07	B		2.09	B		2.30	B		2.45	B	
Bicycle LOS Score / LOS	1.31	A		1.08	A		0.85	A		0.89	A	

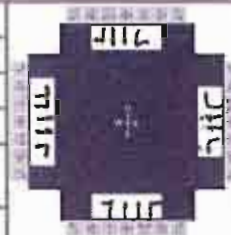
HCS7 Signalized Intersection Results Summary

General Information					Intersection Information										
Agency	DeWalt Corp			Duration, h	0.25										
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other								
Jurisdiction	City of Bakersfield		Time Period	PM Peak		PHF	0.94								
Urban Street	Hosking Ave		Analysis Year	2035 Background + Project		Analysis Period	1> 7:00								
Intersection	Monitor St		File Name	2035 PM post development.xus											
Project Description	Commercial Dev. SE corner Hosking/S H														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				206	620	153	56	559	71	106	84	31	43	84	116
Signal Information															
Cycle, s	90.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On												
Force Mode	Fixed	Simult. Gap N/S	On	Green	4.6	8.6	37.8	4.1	3.1	9.3					
				Yellow	3.5	3.5	3.5	3.5	0.0	3.5					
				Red	1.0	1.0	1.0	1.0	0.0	1.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phase Duration, s				22.2	55.3	9.1	42.3	11.7	16.9	8.6	13.8				
Change Period (Y+R), s				4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s				3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1				
Queue Clearance Time (g _s), s				17.2		4.9		7.6	5.9	4.2	8.8				
Green Extension Time (g _e), s				0.5	0.0	0.1	0.0	0.1	0.6	0.0	0.6				
Phase Call Probability				1.00		0.77		0.94	1.00	0.68	1.00				
Max Out Probability				0.00		0.00		0.00	0.00	0.00	0.00				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h				313	941	232	60	341	329	113	89	33	46	89	123
Adjusted Saturation Flow Rate (s), veh/h/ln				1795	1781	1598	1795	1870	1796	1795	1885	1598	1795	1885	1598
Queue Service Time (g _s), s				15.2	17.5	10.6	2.9	11.7	11.7	5.6	3.9	1.6	2.2	4.0	6.8
Cycle Queue Clearance Time (g _e), s				15.2	17.5	10.6	2.9	11.7	11.7	5.6	3.9	1.6	2.2	4.0	6.8
Green Ratio (g/C)				0.20	0.56	0.56	0.05	0.42	0.42	0.08	0.14	0.14	0.05	0.10	0.10
Capacity (c), veh/h				353	2012	902	93	785	754	143	260	221	82	195	166
Volume-to-Capacity Ratio (X)				0.885	0.468	0.257	0.643	0.435	0.436	0.787	0.343	0.150	0.561	0.457	0.745
Back of Queue (Q), ft/ln (50 th percentile)				158.4	186.6	161.5	33	125.7	119.9	62.6	43	15.4	25.3	45.3	66.3
Back of Queue (Q), veh/ln (50 th percentile)				6.3	7.3	6.4	1.3	5.0	4.8	2.5	1.7	0.6	1.0	1.8	2.6
Queue Storage Ratio (RQ) (50 th percentile)				0.72	0.00	0.73	0.17	0.00	0.00	0.38	0.00	0.08	0.15	0.00	0.29
Uniform Delay (d ₁), s/veh				34.3	16.9	18.9	41.9	18.5	18.5	40.7	35.1	34.1	42.1	38.0	39.2
Incremental Delay (d ₂), s/veh				2.2	0.6	0.5	2.8	1.8	1.8	3.6	0.3	0.1	2.2	0.6	2.5
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh				36.6	17.5	19.4	44.6	20.3	20.4	44.2	35.4	34.3	44.3	38.6	41.7
Level of Service (LOS)				D	B	B	D	C	C	D	D	C	D	D	D
Approach Delay, s/veh / LOS				21.8	C		22.3	C		39.5	D		41.1	D	
Intersection Delay, s/veh / LOS				25.3						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.07		B	2.10		B	2.30		B	2.45		B
Bicycle LOS Score / LOS				1.35		A	1.09		A	0.88		A	0.91		A

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	Hosking Ave	Analysis Year	2035 Background + Project
Intersection	Monitor St	File Name	2035 PM post development mitigated.xus
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	206	620	153	56	559	71	106	84	31	43	84	116

Signal Information

Cycle, s	90.0	Reference Phase	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</
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Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	14.9	55.3	9.1	49.5	11.7	17.0	8.6	13.9
Change Period (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.1	3.0	3.1
Queue Clearance Time (g _s), s	9.7		4.9		7.6	4.0	4.2	8.7
Green Extension Time (g _e), s	0.7	0.0	0.1	0.0	0.1	0.7	0.0	0.7
Phase Call Probability	1.00		0.77		0.94	1.00	0.68	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

Movement Group Results

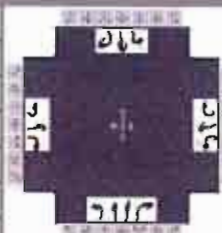
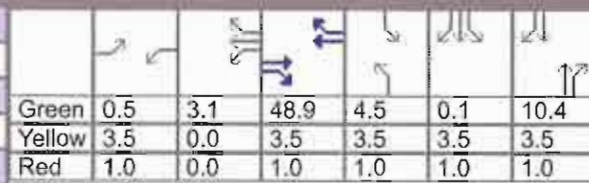
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	313	941	232	60	595	76	113	89	33	46	89	123
Adjusted Saturation Flow Rate (s), veh/h/in	1743	1781	1598	1795	1781	1610	1795	1795	1598	1795	1795	1598
Queue Service Time (g _s), s	7.7	17.5	10.6	2.9	9.0	2.2	5.6	2.0	1.6	2.2	2.1	6.7
Cycle Queue Clearance Time (g _c), s	7.7	17.5	10.6	2.9	9.0	2.2	5.6	2.0	1.6	2.2	2.1	6.7
Green Ratio (g/C)	0.12	0.56	0.56	0.05	0.50	0.50	0.08	0.14	0.14	0.05	0.10	0.10
Capacity (c), veh/h	403	2009	901	93	1781	805	143	499	222	82	375	167
Volume-to-Capacity Ratio (X)	0.775	0.468	0.258	0.643	0.334	0.094	0.787	0.179	0.149	0.561	0.238	0.739
Back of Queue (Q), ft/in (50 th percentile)	76.5	186.7	161.4	33	84.2	19	62.6	20.8	15.4	25.3	21.9	66.1
Back of Queue (Q), veh/in (50 th percentile)	3.0	7.4	6.4	1.3	3.3	0.8	2.5	0.8	0.6	1.0	0.9	2.6
Queue Storage Ratio (RQ) (50 th percentile)	0.35	0.00	0.73	0.17	0.00	0.00	0.38	0.00	0.08	0.15	0.00	0.29
Uniform Delay (d _u), s/veh	36.5	16.9	18.9	41.8	13.5	11.8	40.7	34.2	34.1	42.1	37.0	39.1
Incremental Delay (d _i), s/veh	0.9	0.6	0.5	2.8	0.5	0.2	3.6	0.1	0.1	2.2	0.1	2.4
Initial Queue Delay (d ₀), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	37.4	17.5	19.4	44.6	14.0	12.0	44.2	34.3	34.2	44.3	37.1	41.5
Level of Service (LOS)	D	B	B	D	B	B	D	C	C	D	D	D
Approach Delay, s/veh / LOS	22.0	C		16.3	B		39.0	D		40.5	D	
Intersection Delay, s/veh / LOS	23.7						C					

Multimodal Results

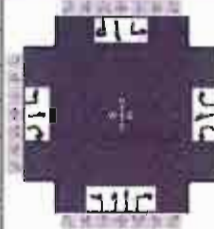
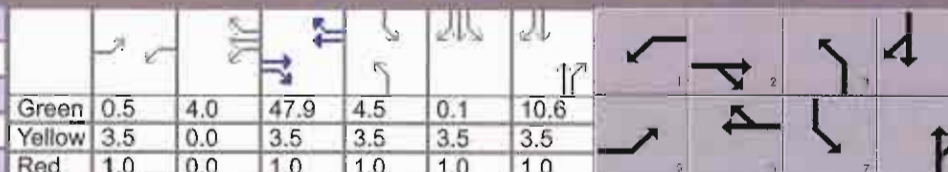
	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.40	B		2.41	B		2.45	B		2.60	C	
Bicycle LOS Score / LOS	1.35	A		1.09	A		0.68	A		0.70	A	

Intersection 7
Berkshire Road & South H Street

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information										
Agency	DeWalt Corp					Duration, h	0.25									
Analyst	SK	Analysis Date	1/15/2019			Area Type	Other									
Jurisdiction	City of Bakersfield		Time Period	AM Peak		PHF	0.92									
Urban Street	S H St		Analysis Year	2018 Background		Analysis Period	1> 7:00									
Intersection	Berkshire Rd		File Name	2018 AM background H St.xus												
Project Description	Commercial Dev. SE corner Hosking/S H															
																
Demand Information				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				4	140	37	63	251	142	64	275	59	134	175	5	
Signal Information																
Cycle, s	90.0	Reference Phase	2	Green	0.5	3.1	48.9	4.5	0.1	10.4						
Offset, s	0	Reference Point	End	Yellow	3.5	0.0	3.5	3.5	3.5	3.5						
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	0.0	1.0	1.0	1.0	1.0						
Force Mode	Fixed	Simult. Gap N/S	On													
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT					
Assigned Phase				5	2	1	6	3	8	7	4					
Case Number				2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0					
Phase Duration, s				5.0	53.4	8.2	56.6	9.0	14.9	13.6	19.4					
Change Period, (Y+R), s				4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Allow Headway (MAH), s				3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0					
Queue Clearance Time (g _s), s				2.2		4.6		5.4	9.3	9.1	10.5					
Green Extension Time (g _e), s				0.0	0.0	0.1	0.0	0.0	1.1	0.2	1.1					
Phase Call Probability				0.10		0.73		0.82	1.00	0.97	1.00					
Max Out Probability				0.00		0.00		1.00	0.00	0.00	0.00					
Movement Group Results				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14	
Adjusted Flow Rate (v), veh/h				4	152	40	52	209	118	70	299	64	146	190	5	
Adjusted Saturation Flow Rate (s), veh/h/ln				1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598	
Queue Service Time (g _s), s				0.2	3.6	1.1	2.6	0.2	0.2	3.4	7.3	3.3	7.1	8.5	0.3	
Cycle Queue Clearance Time (g _c), s				0.2	3.6	1.1	2.6	0.2	0.2	3.4	7.3	3.3	7.1	8.5	0.3	
Green Ratio (g/C)				0.01	0.54	0.54	0.04	0.58	0.58	0.05	0.12	0.12	0.10	0.17	0.17	
Capacity (c), veh/h				10	1025	869	73	1091	924	90	410	184	181	310	265	
Volume-to-Capacity Ratio (X)				0.423	0.148	0.046	0.720	0.192	0.128	0.777	0.730	0.349	0.806	0.613	0.021	
Back of Queue (Q), ft/ln (50 th percentile)				3	34.8	8.7	30.1	2.5	1.9	48.8	78.3	31.7	79.6	94.5	2.4	
Back of Queue (Q), veh/ln (50 th percentile)				0.1	1.4	0.3	1.2	0.1	0.1	1.9	3.1	1.3	3.2	3.7	0.1	
Queue Storage Ratio (RQ) (50 th percentile)				0.02	0.00	0.04	0.20	0.00	0.01	0.20	0.00	0.16	0.36	0.00	0.01	
Uniform Delay (d ₁), s/veh				44.6	10.2	9.6	44.4	0.3	0.4	42.3	38.5	36.7	39.6	34.9	31.4	
Incremental Delay (d ₂), s/veh				9.9	0.3	0.1	2.2	0.2	0.1	19.2	0.9	0.4	3.2	0.7	0.0	
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh				54.5	10.5	9.7	46.6	0.4	0.5	61.4	39.4	37.1	42.8	35.6	31.4	
Level of Service (LOS)				D	B	A	D	A	A	E	D	D	D	D	C	
Approach Delay, s/veh / LOS				11.3		B	6.8		A	42.6		D	38.6		D	
Intersection Delay, s/veh / LOS				27.0						C						
Multimodal Results				EB			WB			NB			SB			
Pedestrian LOS Score / LOS				2.25	B		2.24	B		2.13	B		2.13	B		
Bicycle LOS Score / LOS				0.81	A		1.31	A		0.84	A		1.05	A		

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information									
Agency	DeWalt Corp					Duration, h	0.25								
Analyst	SK		Analysis Date	1/15/2019		Area Type	Other								
Jurisdiction	City of Bakersfield		Time Period	AM Peak		PHF	0.92								
Urban Street	S H St		Analysis Year	2018 Background + Project		Analysis Period	1> 7:00								
Intersection	Berkshire Rd		File Name	2018 AM post development H St.xus											
Project Description	Commercial Dev. SE corner Hosking/S H														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				4	140	37	76	251	142	64	281	70	134	182	5
Signal Information															
Cycle, s	90.0	Reference Phase	2	Green	0.5	4.0	47.9	4.5	0.1	10.6					
Offset, s	0	Reference Point	End	Yellow	3.5	0.0	3.5	3.5	3.5	3.5					
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	0.0	1.0	1.0	1.0	1.0					
Force Mode	Fixed	Simult. Gap N/S	On												
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phase Duration, s				5.0	52.4	9.0	56.4	9.0	15.1	13.6	19.6				
Change Period, (Y+R), s				4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s				3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0				
Queue Clearance Time (g _s), s				2.2		5.4		5.4	9.5	9.1	10.9				
Green Extension Time (g _e), s				0.0	0.0	0.1	0.0	0.0	1.1	0.2	1.1				
Phase Call Probability				0.10		0.82		0.82	1.00	0.97	1.00				
Max Out Probability				0.00		0.00		1.00	0.00	0.00	0.00				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h				4	152	40	68	226	128	70	305	76	146	198	5
Adjusted Saturation Flow Rate (s), veh/h/ln				1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598
Queue Service Time (g _s), s				0.2	3.7	1.1	3.4	0.2	0.2	3.4	7.5	4.0	7.1	8.9	0.3
Cycle Queue Clearance Time (g _c), s				0.2	3.7	1.1	3.4	0.2	0.2	3.4	7.5	4.0	7.1	8.9	0.3
Green Ratio (g/C)				0.01	0.53	0.53	0.05	0.58	0.58	0.05	0.12	0.12	0.10	0.17	0.17
Capacity (c), veh/h				10	1002	850	90	1086	921	90	418	187	181	315	269
Volume-to-Capacity Ratio (X)				0.423	0.152	0.047	0.759	0.208	0.139	0.777	0.731	0.406	0.806	0.629	0.020
Back of Queue (Q), ft/ln (50 th percentile)				3	36.1	9.1	39.9	3.4	2.4	48.8	79.9	37.9	79.6	98.4	2.4
Back of Queue (Q), veh/ln (50 th percentile)				0.1	1.4	0.4	1.6	0.1	0.1	1.9	3.1	1.5	3.2	3.9	0.1
Queue Storage Ratio (RQ) (50 th percentile)				0.02	0.00	0.05	0.27	0.00	0.02	0.20	0.00	0.19	0.36	0.00	0.01
Uniform Delay (d ₁), s/veh				44.6	10.7	10.1	44.3	0.3	0.4	42.3	38.3	36.8	39.6	34.8	31.2
Incremental Delay (d ₂), s/veh				9.9	0.3	0.1	2.8	0.2	0.2	19.2	0.9	0.5	3.2	0.8	0.0
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh				54.5	11.1	10.2	47.2	0.5	0.6	61.4	39.3	37.3	42.8	35.6	31.3
Level of Service (LOS)				D	B	B	D	A	A	E	D	D	D	D	C
Approach Delay, s/veh / LOS				11.8		B	8.1		A	42.4		D	38.5		D
Intersection Delay, s/veh / LOS				27.0						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.25		B	2.24		B	2.13		B	2.13		B
Bicycle LOS Score / LOS				0.81		A	1.33		A	0.86		A	1.06		A

HCS7 Signalized Intersection Results Summary

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	27	178	85	99	318	170	157	439	112	202	330	44

Signal Information																
Cycle, s	90.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.8	1.8	38.6	10.3	2.6	17.9						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	0.0	3.5	3.5	0.0	3.5						
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0	1.0	1.0	0.0	1.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	7.1	44.8	5.3	43.1	14.8	22.4	17.5	25.0
Change Period, ($Y+R_c$), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s	3.5		2.4		10.4	13.2	12.7	18.5
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.1	2.0	0.3	2.0
Phase Call Probability	0.52		0.17		0.99	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.09	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	29	193	92	7	24	13	171	477	122	220	359	48
Adjusted Saturation Flow Rate (s), veh/h/ln	1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598
Queue Service Time (g_s), s	1.5	5.7	3.0	0.4	0.6	0.4	8.4	11.2	5.9	10.7	16.5	2.1
Cycle Queue Clearance Time (g_c), s	1.5	5.7	3.0	0.4	0.6	0.4	8.4	11.2	5.9	10.7	16.5	2.1
Green Ratio (g/C)	0.03	0.45	0.45	0.01	0.43	0.43	0.11	0.20	0.20	0.14	0.23	0.23
Capacity (c), veh/h	52	845	716	17	808	684	206	707	317	259	426	364
Volume-to-Capacity Ratio (X)	0.566	0.229	0.129	0.439	0.029	0.018	0.827	0.675	0.384	0.848	0.842	0.131
Back of Queue (Q), ft/ln (50 th percentile)	16.9	59.3	27.1	4.7	6.6	3.5	98	116.4	55.3	117.8	182.7	19.7
Back of Queue (Q), veh/ln (50 th percentile)	0.7	2.4	1.1	0.2	0.3	0.1	3.9	4.6	2.2	4.7	7.2	0.8
Queue Storage Ratio (RQ) (50 th percentile)	0.08	0.00	0.14	0.03	0.00	0.02	0.41	0.00	0.28	0.54	0.00	0.06
Uniform Delay (d_1), s/veh	43.1	15.3	14.6	44.5	14.4	14.0	39.0	33.4	31.3	37.6	33.2	27.7
Incremental Delay (d_2), s/veh	3.6	0.6	0.4	6.6	0.1	0.0	6.8	0.4	0.3	3.0	1.8	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	46.7	15.9	14.9	51.2	14.5	14.0	45.7	33.8	31.6	40.5	35.0	27.7
Level of Service (LOS)	D	B	B	D	B	B	D	C	C	D	C	C
Approach Delay, s/veh / LOS	18.5	B		20.5	C		36.1	D		36.4	D	
Intersection Delay, s/veh / LOS	32.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.26	B	2.26	B	2.12	B	2.12	B
Bicycle LOS Score / LOS	1.01	A	1.54	B	1.12	A	1.52	B

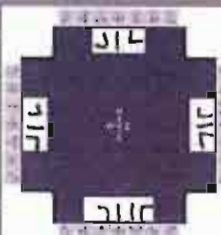
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	AM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2035 Background + Project
Urban Street	S H St	File Name	2035 AM post development H St.xus
Intersection	Berkshire Rd	Project Description	Commercial Dev. SE corner Hosking/S H

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.92
Analysis Period	1 > 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	27	178	85	112	318	170	157	445	123	202	337	44

Signal Information

Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	7.1	44.3	5.4	42.7	14.8	22.8	17.5	25.4
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s	3.5		2.4		10.4	13.3	12.7	18.8
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.1	2.1	0.3	2.1
Phase Call Probability	0.52		0.18		0.99	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.09	0.00	0.00	0.00

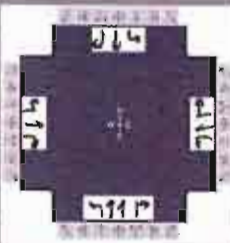
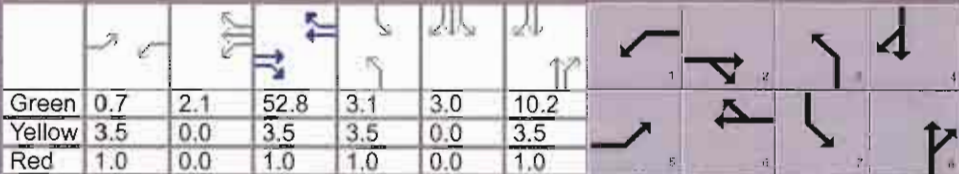
Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	29	193	92	8	23	12	171	484	134	220	366	48
Adjusted Saturation Flow Rate (s), veh/h/in	1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598
Queue Service Time (g _s), s	1.5	5.7	3.1	0.4	0.6	0.4	8.4	11.3	6.6	10.7	16.8	2.1
Cycle Queue Clearance Time (g _c), s	1.5	5.7	3.1	0.4	0.6	0.4	8.4	11.3	6.6	10.7	16.8	2.1
Green Ratio (g/C)	0.03	0.44	0.44	0.01	0.42	0.42	0.11	0.20	0.20	0.14	0.23	0.23
Capacity (c), veh/h	52	835	707	18	799	677	206	723	324	259	434	371
Volume-to-Capacity Ratio (X)	0.566	0.232	0.131	0.443	0.029	0.018	0.827	0.669	0.412	0.848	0.843	0.129
Back of Queue (Q), ft/in (50 th percentile)	16.9	60	27.4	5.2	6.5	3.4	98	117.4	60.8	117.8	186.3	19.6
Back of Queue (Q), veh/in (50 th percentile)	0.7	2.4	1.1	0.2	0.3	0.1	3.9	4.6	2.4	4.7	7.3	0.8
Queue Storage Ratio (RQ) (50 th percentile)	0.08	0.00	0.14	0.03	0.00	0.02	0.41	0.00	0.30	0.54	0.00	0.06
Uniform Delay (d ₁), s/veh	43.1	15.6	14.8	44.6	14.5	14.1	39.0	33.1	31.2	37.6	33.0	27.3
Incremental Delay (d ₂), s/veh	3.6	0.6	0.4	6.1	0.1	0.0	6.8	0.4	0.3	3.0	1.7	0.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	46.7	16.2	15.2	50.7	14.6	14.2	45.7	33.5	31.5	40.5	34.7	27.4
Level of Service (LOS)	D	B	B	D	B	B	D	C	C	D	C	C
Approach Delay, s/veh / LOS	16.8		B	21.2		C	35.8		D	36.2		D
Intersection Delay, s/veh / LOS	32.6						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.26		B	2.27		B	2.12		B	2.12		B
Bicycle LOS Score / LOS	1.01		A	1.56		B	1.14		A	1.53		B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information															
Agency	DeWalt Corp					Duration, h		0.25											
Analyst	SK		Analysis Date		1/15/2019		Area Type		Other										
Jurisdiction	City of Bakersfield		Time Period		PM Peak		PHF		0.94										
Urban Street	S H St		Analysis Year		2018 Background		Analysis Period		1> 4:30										
Intersection	Berkshire Rd		File Name		2018 PM background H St.xus														
Project Description		Commercial Dev. SE corner Hosking/S H																	
Demand Information				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h				6	186	107	27	129	68	37	238	37	89	207	6				
Signal Information																			
Cycle, s	90.0	Reference Phase	2																
Offset, s	0	Reference Point	End																
Uncoordinated	No	Simult. Gap E/W	On																
Force Mode	Fixed	Simult. Gap N/S	On																
				Green	0.7	2.1	52.8	3.1	3.0	10.2									
				Yellow	3.5	0.0	3.5	3.5	0.0	3.5									
				Red	1.0	0.0	1.0	1.0	0.0	1.0									
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6		3		8		7		4	
Case Number				2.0		3.0		2.0		3.0		2.0		3.0		2.0		3.0	
Phase Duration, s				5.2		57.3		7.3		59.4		7.6		14.7		10.6		17.7	
Change Period (Y+R), s				4.5		4.5		4.5		4.5		4.5		4.5		4.5		4.5	
Max Allow Headway (MAH), s				3.0		0.0		3.0		0.0		3.0		3.0		3.0		3.0	
Queue Clearance Time (g _s), s				2.3				3.7				3.9		8.1		6.7		12.2	
Green Extension Time (g _e), s				0.0		0.0		0.0		0.0		0.0		1.0		0.1		1.0	
Phase Call Probability				0.15				0.57				0.63		1.00		0.91		1.00	
Max Out Probability				0.00				0.00				1.00		0.00		0.00		0.00	
Movement Group Results				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14				
Adjusted Flow Rate (v), veh/h				6	198	114	34	160	85	39	253	39	95	220	6				
Adjusted Saturation Flow Rate (s), veh/h/ln				1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598				
Queue Service Time (g _s), s				0.3	4.4	2.9	1.7	0.6	1.0	1.9	6.1	2.0	4.7	10.2	0.3				
Cycle Queue Clearance Time (g _c), s				0.3	4.4	2.9	1.7	0.6	1.0	1.9	6.1	2.0	4.7	10.2	0.3				
Green Ratio (g/C)				0.01	0.59	0.59	0.03	0.61	0.61	0.03	0.11	0.11	0.07	0.15	0.15				
Capacity (c), veh/h				15	1106	938	57	1150	975	62	404	181	122	274	234				
Volume-to-Capacity Ratio (X)				0.434	0.179	0.121	0.593	0.139	0.087	0.630	0.627	0.217	0.774	0.802	0.027				
Back of Queue (Q), ft/ln (50 th percentile)				4.2	40.4	22.5	19.1	6.1	7.3	22.5	65.2	19.2	53	116.5	2.9				
Back of Queue (Q), veh/ln (50 th percentile)				0.2	1.6	0.9	0.8	0.2	0.3	0.9	2.6	0.8	2.1	4.6	0.1				
Queue Storage Ratio (RQ) (50 th percentile)				0.02	0.00	0.11	0.13	0.00	0.05	0.09	0.00	0.10	0.24	0.00	0.01				
Uniform Delay (d ₁), s/veh				44.4	8.6	8.3	43.7	1.3	3.5	42.9	38.1	36.3	41.2	37.1	32.9				
Incremental Delay (d ₂), s/veh				7.3	0.4	0.3	2.5	0.2	0.1	3.9	0.6	0.2	3.9	2.1	0.0				
Initial Queue Delay (d ₁₊₂), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Control Delay (d), s/veh				51.7	8.9	8.5	46.1	1.5	3.6	46.7	38.7	36.5	45.1	39.2	32.9				
Level of Service (LOS)				D	A	A	D	A	A	D	D	D	D	D	C				
Approach Delay, s/veh / LOS				9.6 / A			7.5 / A			39.4 / D			40.8 / D						
Intersection Delay, s/veh / LOS				25.1						C									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS				2.24 / B			2.23 / B			2.13 / B			2.13 / B						
Bicycle LOS Score / LOS				1.01 / A			0.88 / A			0.76 / A			1.02 / A						

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	S H St	Analysis Year	2018 Background + Project
Intersection	Berkshire Rd	File Name	2018 PM post development H St.xus
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	6	186	107	39	129	68	37	244	48	89	213	6

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	0.7	2.9	51.7	3.1	3.0	10.5		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	0.0	3.5	3.5	0.0	3.5		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0	1.0	1.0	0.0	1.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	5.2	56.2	8.1	59.1	7.6	15.0	10.6	18.0
Change Period, (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s	2.3		4.6		3.9	8.2	6.7	12.5
Green Extension Time (g _e), s	0.0	0.0	0.1	0.0	0.0	1.0	0.1	1.0
Phase Call Probability	0.15		0.73		0.63	1.00	0.91	1.00
Max Out Probability	0.00		0.00		1.00	0.00	0.00	0.00

Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	6	198	114	52	173	91	39	260	51	95	227	6
Adjusted Saturation Flow Rate (s), veh/h/ln	1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598
Queue Service Time (g _s), s	0.3	4.5	2.9	2.6	0.6	0.8	1.9	6.2	2.6	4.7	10.5	0.3
Cycle Queue Clearance Time (g _c), s	0.3	4.5	2.9	2.6	0.6	0.8	1.9	6.2	2.6	4.7	10.5	0.3
Green Ratio (g/C)	0.01	0.57	0.57	0.04	0.61	0.61	0.03	0.12	0.12	0.07	0.15	0.15
Capacity (c), veh/h	15	1082	917	73	1143	969	62	417	187	122	282	240
Volume-to-Capacity Ratio (X)	0.434	0.183	0.124	0.719	0.151	0.094	0.630	0.622	0.273	0.774	0.805	0.027
Back of Queue (Q), ft/ln (50 th percentile)	4.2	42.4	23.6	30.3	6	6.5	22.5	66.7	25	53	119.9	2.9
Back of Queue (Q), veh/ln (50 th percentile)	0.2	1.7	0.9	1.2	0.2	0.3	0.9	2.6	1.0	2.1	4.7	0.1
Queue Storage Ratio (RQ) (50 th percentile)	0.02	0.00	0.12	0.20	0.00	0.05	0.09	0.00	0.12	0.24	0.00	0.01
Uniform Delay (d ₁), s/veh	44.4	9.1	8.8	43.6	1.1	2.7	42.9	37.8	36.2	41.2	36.9	32.6
Incremental Delay (d ₂), s/veh	7.3	0.4	0.3	3.8	0.2	0.2	3.9	0.6	0.3	3.9	2.1	0.0
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	51.7	9.5	9.1	47.4	1.3	2.8	46.7	38.4	36.5	45.1	39.0	32.6
Level of Service (LOS)	D	A	A	D	A	A	D	D	D	D	D	C
Approach Delay, s/veh / LOS	10.2		B	9.4		A	39.1		D	40.7		D
Intersection Delay, s/veh / LOS	25.3						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.24		B	2.24		B	2.13		B	2.13		B
Bicycle LOS Score / LOS	1.01		A	0.90		A	0.78		A	1.03		A

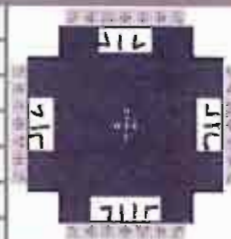
HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp	Analysis Date	1/15/2019
Analyst	SK	Time Period	PM Peak
Jurisdiction	City of Bakersfield	Analysis Year	2035 Background
Urban Street	S H St	File Name	2035 PM background H St.xus
Intersection	Berkshire Rd		
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information

Duration, h	0.25
Area Type	Other
PHF	0.94
Analysis Period	1> 7:00



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	117	276	331	71	203	81	240	510	98	134	472	113

Signal Information

Cycle, s	90.0	Reference Phase	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</
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Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	12.3	32.5	6.9	27.1	19.2	37.2	13.4	31.4
Change Period, (Y+R), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s	3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s	8.1		3.3		14.5	12.3	9.0	25.2
Green Extension Time (g _e), s	0.0	0.0	0.0	0.0	0.2	2.6	0.2	1.8
Phase Call Probability	0.96		0.48		1.00	1.00	0.97	1.00
Max Out Probability	1.00		0.00		0.06	0.00	0.00	0.38

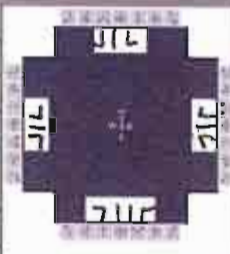
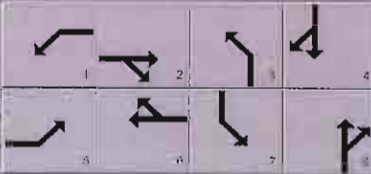
Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	124	294	352	26	75	30	255	543	104	143	502	120
Adjusted Saturation Flow Rate (s), veh/h/ln	1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598
Queue Service Time (g _s), s	6.1	11.4	17.5	1.3	2.4	1.2	12.5	10.3	4.0	7.0	23.2	5.1
Cycle Queue Clearance Time (g _c), s	6.1	11.4	17.5	1.3	2.4	1.2	12.5	10.3	4.0	7.0	23.2	5.1
Green Ratio (g/C)	0.09	0.31	0.31	0.03	0.25	0.25	0.16	0.36	0.36	0.10	0.30	0.30
Capacity (c), veh/h	155	586	497	48	473	401	293	1293	580	178	559	478
Volume-to-Capacity Ratio (X)	0.801	0.501	0.709	0.548	0.159	0.075	0.871	0.419	0.180	0.801	0.898	0.252
Back of Queue (Q), ft/ln (50 th percentile)	79.2	132.1	184.5	15.5	27.4	12	152.2	100.9	35	77.8	294	45.9
Back of Queue (Q), veh/ln (50 th percentile)	3.1	5.2	7.3	0.6	1.1	0.5	6.0	4.0	1.4	3.1	11.6	1.8
Queue Storage Ratio (RQ) (50 th percentile)	0.40	0.00	0.92	0.10	0.00	0.09	0.63	0.00	0.17	0.35	0.00	0.14
Uniform Delay (d ₁), s/veh	40.3	25.3	27.4	44.0	22.0	24.2	36.7	21.5	19.5	39.7	30.2	23.9
Incremental Delay (d ₂), s/veh	13.0	3.0	8.3	3.5	0.7	0.4	10.8	0.1	0.1	3.2	12.8	0.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	53.4	28.4	35.7	47.5	22.7	24.6	47.5	21.6	19.6	42.8	43.1	24.0
Level of Service (LOS)	D	C	D	D	C	C	D	C	B	D	D	C
Approach Delay, s/veh / LOS	35.8		D	28.1		C	28.7		C	40.0		D
Intersection Delay, s/veh / LOS	34.2						C					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.28		B	2.29		B	2.10		B	2.11		B
Bicycle LOS Score / LOS	1.76		B	1.11		A	1.23		A	1.75		B

HCS7 Signalized Intersection Results Summary

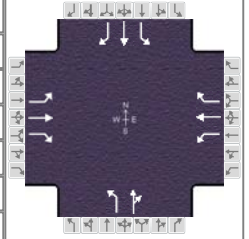
General Information					Intersection Information											
Agency	DeWalt Corp				Duration, h	0.25										
Analyst	SK	Analysis Date	1/15/2019		Area Type	Other										
Jurisdiction	City of Bakersfield	Time Period	PM Peak		PHF	0.94										
Urban Street	S H St	Analysis Year	2035 Background + Project		Analysis Period	1> 7:00										
Intersection	Berkshire Rd	File Name	2035 PM post development H St.xus													
Project Description	Commercial Dev. SE corner Hosking/S H															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					117	276	331	83	203	81	240	516	109	134	478	112
Signal Information																
Cycle, s	90.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	No	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green	2.6	0.7	22.3	8.9	1.3	27.2										
Yellow	3.5	3.5	3.5	3.5	3.5	3.5										
Red	1.0	1.0	1.0	1.0	1.0	1.0										
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					5	2	1	6	3	8	7	4				
Case Number					2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phase Duration, s					12.3	32.0	7.1	26.8	19.2	37.5	13.4	31.7				
Change Period, (Y+R _c), s					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Allow Headway (MAH), s					3.0	0.0	3.0	0.0	3.0	3.0	3.0	3.0				
Queue Clearance Time (g _s), s					8.1		3.5		14.5	12.4	9.0	25.5				
Green Extension Time (g _e), s					0.0	0.0	0.0	0.0	0.2	2.7	0.2	1.7				
Phase Call Probability					0.96		0.53		1.00	1.00	0.97	1.00				
Max Out Probability					1.00		0.00		0.06	0.00	0.00	0.43				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h					124	294	352	30	73	29	255	549	116	143	509	119
Adjusted Saturation Flow Rate (s), veh/h/ln					1795	1885	1598	1795	1885	1598	1795	1781	1598	1795	1870	1598
Queue Service Time (g _s), s					6.1	11.5	17.7	1.5	2.3	1.2	12.5	10.4	4.5	7.0	23.5	5.1
Cycle Queue Clearance Time (g _c), s					6.1	11.5	17.7	1.5	2.3	1.2	12.5	10.4	4.5	7.0	23.5	5.1
Green Ratio (g/C)					0.09	0.31	0.31	0.03	0.25	0.25	0.16	0.37	0.37	0.10	0.30	0.30
Capacity (c), veh/h					155	576	488	52	468	396	293	1305	585	178	565	483
Volume-to-Capacity Ratio (X)					0.801	0.510	0.722	0.569	0.156	0.073	0.871	0.421	0.198	0.801	0.900	0.247
Back of Queue (Q), ft/ln (50 th percentile)					80.6	133.8	187.6	17.4	26.6	11.7	152.2	101.7	38.9	77.8	299.2	45.4
Back of Queue (Q), veh/ln (50 th percentile)					3.2	5.3	7.4	0.7	1.1	0.5	6.0	4.0	1.5	3.1	11.8	1.8
Queue Storage Ratio (RQ) (50 th percentile)					0.40	0.00	0.94	0.12	0.00	0.03	0.63	0.00	0.19	0.35	0.00	0.13
Uniform Delay (d ₁), s/veh					40.3	25.7	27.9	44.0	22.1	24.4	36.7	21.4	19.5	39.7	30.1	23.7
Incremental Delay (d ₂), s/veh					14.3	3.2	8.9	3.5	0.7	0.4	10.8	0.1	0.1	3.2	13.2	0.1
Initial Queue Delay (d ₃), s/veh					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh					54.7	28.9	36.8	47.5	22.8	24.8	47.5	21.4	19.5	42.8	43.3	23.8
Level of Service (LOS)					D	C	D	D	C	C	D	C	B	D	D	C
Approach Delay, s/veh / LOS					36.7		D	28.8		C	28.4		C	40.2		D
Intersection Delay, s/veh / LOS					34.4					C						
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.28		B	2.29		B	2.10		B	2.11		B
Bicycle LOS Score / LOS					1.76		B	1.13		A	1.25		A	1.76		B

Intersection 8
McKee Street & South H Street

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	AM Peak
Urban Street	S H St	Analysis Year	2018 Background
Intersection	McKee Rd	File Name	2018 AM backgro
Project Description	Commercial Dev. SE corner Hosking/S H		



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	5	1	7	59	2	294	3	58	26	185	89	11

Signal Information

Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	57.7	0.4	7.1	6.8	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	3.5	0.0	0.0		
				Red	1.0	1.0	1.0	1.0	0.0	0.0		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s		62.2		62.2	4.9	11.3	16.5	22.9
Change Period, (Y+R _c), s		4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s					2.2	6.5	11.8	5.9
Green Extension Time (g _e), s		0.0		0.0	0.0	0.3	0.3	0.3
Phase Call Probability					0.08	0.99	0.99	1.00
Max Out Probability					0.37	0.00	0.00	0.00

Movement Group Results

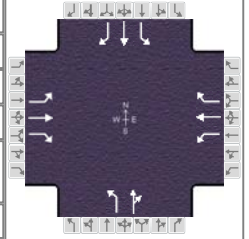
	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	102	20	143	64	2	320	3	91		201	97	12
Adjusted Saturation Flow Rate (s), veh/h/ln	1426	1870	1598	1403	1870	1610	1795	1786		1795	1885	1598
Queue Service Time (g _s), s	3.2	0.3	3.6	1.6	0.0	8.0	0.2	4.5		9.8	3.9	0.5
Cycle Queue Clearance Time (g _c), s	3.3	0.3	3.6	1.8	0.0	8.0	0.2	4.5		9.8	3.9	0.5
Green Ratio (g/C)	0.64	0.64	0.64	0.64	0.64	0.64	0.00	0.08		0.13	0.20	0.20
Capacity (c), veh/h	994	1199	1025	975	1199	1033	8	134		240	385	326
Volume-to-Capacity Ratio (X)	0.103	0.017	0.140	0.066	0.002	0.309	0.417	0.681		0.838	0.251	0.037
Back of Queue (Q), ft/ln (50 th percentile)	21.7	2.4	27.4	10.2	0.3	59.3	2.4	49.6		108.3	42.3	5
Back of Queue (Q), veh/ln (50 th percentile)	0.9	0.1	1.1	0.4	0.0	2.4	0.1	2.0		4.3	1.7	0.2
Queue Storage Ratio (RQ) (50 th percentile)	0.22	0.00	0.14	0.05	0.00	0.30	0.02	0.00		0.62	0.00	0.05
Uniform Delay (d ₁), s/veh	8.4	4.6	7.4	6.2	5.8	7.2	44.7	40.6		38.0	30.0	28.7
Incremental Delay (d ₂), s/veh	0.2	0.0	0.3	0.1	0.0	0.8	12.6	2.3		3.0	0.1	0.0
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	8.6	4.6	7.7	6.3	5.8	8.0	57.3	42.8		41.0	30.2	28.7
Level of Service (LOS)	A	A	A	A	A	A	E	D		D	C	C
Approach Delay, s/veh / LOS	7.8		A	7.7		A	43.3		D	37.2		D
Intersection Delay, s/veh / LOS	19.6						B					

Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.87		B	2.06		B	2.13		B	2.12		B
Bicycle LOS Score / LOS	0.51		A	1.12		A	0.64		A	1.00		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	AM Peak	PHF	0.92
Urban Street	S H St	Analysis Year	2018 Background + Project	Analysis Period	1> 7:00
Intersection	McKee Rd	File Name	2018 AM post development H St.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	5	1	7	59	2	307	3	65	26	185	89	11

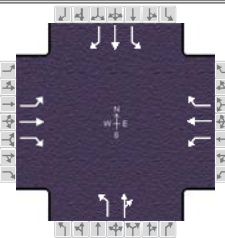
Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On	Green	57.3	0.4	7.1	7.1	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	3.5	0.0	0.0	
				Red	1.0	1.0	1.0	1.0	0.0	0.0	

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s		61.8		61.8	4.9	11.6	16.5	23.3
Change Period, ($Y+R_c$), s		4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s					2.2	6.8	11.8	5.9
Green Extension Time (g_e), s		0.0		0.0	0.0	0.3	0.3	0.3
Phase Call Probability					0.08	0.99	0.99	1.00
Max Out Probability					0.37	0.00	0.00	0.00

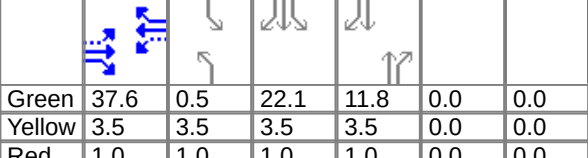
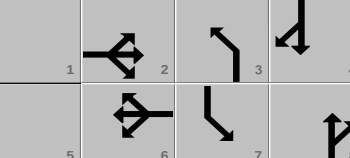
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	120	24	168	64	2	334	3	99		201	97	12
Adjusted Saturation Flow Rate (s), veh/h/ln	1426	1870	1598	1398	1870	1610	1795	1793		1795	1885	1598
Queue Service Time (g_s), s	3.7	0.3	4.1	1.6	0.0	8.5	0.2	4.8		9.8	3.9	0.5
Cycle Queue Clearance Time (g_c), s	3.7	0.3	4.1	1.9	0.0	8.5	0.2	4.8		9.8	3.9	0.5
Green Ratio (g/C)	0.64	0.64	0.64	0.64	0.64	0.64	0.00	0.08		0.13	0.21	0.21
Capacity (c), veh/h	988	1192	1018	966	1192	1026	8	142		240	393	333
Volume-to-Capacity Ratio (X)	0.122	0.020	0.165	0.066	0.002	0.325	0.417	0.697		0.838	0.246	0.036
Back of Queue (Q), ft/ln (50 th percentile)	24.5	2.5	30.7	10.4	0.3	63.7	2.4	53.6		108.3	42	5
Back of Queue (Q), veh/ln (50 th percentile)	1.0	0.1	1.2	0.4	0.0	2.5	0.1	2.1		4.3	1.7	0.2
Queue Storage Ratio (RQ) (50 th percentile)	0.24	0.00	0.15	0.05	0.00	0.32	0.02	0.00		0.62	0.00	0.05
Uniform Delay (d_1), s/veh	8.1	4.0	7.1	6.3	5.9	7.5	44.7	40.4		38.0	29.7	28.4
Incremental Delay (d_2), s/veh	0.2	0.0	0.3	0.1	0.0	0.8	12.6	2.3		3.0	0.1	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	8.3	4.0	7.4	6.5	5.9	8.3	57.3	42.7		41.0	29.8	28.4
Level of Service (LOS)	A	A	A	A	A	A	E	D		D	C	C
Approach Delay, s/veh / LOS	7.5	A		8.0	A		43.2	D		37.1	D	
Intersection Delay, s/veh / LOS	19.1						B					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.87	B		2.06	B		2.13	B		2.12	B	
Bicycle LOS Score / LOS	0.51	A		1.15	A		0.66	A		1.00	A	

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	DeWalt Corp			Duration, h	0.25	
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other	
Jurisdiction	City of Bakersfield	Time Period	AM Peak	PHF	0.92	
Urban Street	S H St	Analysis Year	2035 Background	Analysis Period	1> 7:00	
Intersection	McKee Rd	File Name	2035 AM background H St.xus			
Project Description	Commercial Dev. SE corner Hosking/S H					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	11	1	10	83	3	370	4	139	36	465	268	33

Signal Information										
Cycle, s	90.0	Reference Phase	2							
Offset, s	0	Reference Point	End							
Uncoordinated	No	Simult. Gap E/W	On							
Force Mode	Fixed	Simult. Gap N/S	On							
				Green	37.6	0.5	22.1	11.8	0.0	0.0
				Yellow	3.5	3.5	3.5	3.5	0.0	0.0
				Red	1.0	1.0	1.0	1.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s		42.1		42.1	5.0	16.3	31.6	42.9
Change Period, ($Y+R_c$), s		4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s					2.2	11.1	26.6	11.4
Green Extension Time (g_e), s		0.0		0.0	0.0	0.6	0.5	0.9
Phase Call Probability					0.10	1.00	1.00	1.00
Max Out Probability					0.46	0.05	0.60	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	267	24	243	90	3	402	4	190		505	291	36
Adjusted Saturation Flow Rate (s), veh/h/ln	1425	1870	1598	1398	1870	1610	1795	1818		1795	1885	1598
Queue Service Time (g_s), s	13.5	0.7	8.8	3.7	0.1	17.4	0.2	9.1		24.6	9.4	1.2
Cycle Queue Clearance Time (g_c), s	13.6	0.7	8.8	4.4	0.1	17.4	0.2	9.1		24.6	9.4	1.2
Green Ratio (g/C)	0.42	0.42	0.42	0.42	0.42	0.42	0.01	0.13		0.30	0.43	0.43
Capacity (c), veh/h	674	782	668	653	782	673	10	238		541	804	681
Volume-to-Capacity Ratio (X)	0.397	0.031	0.364	0.138	0.004	0.598	0.423	0.799		0.935	0.362	0.053
Back of Queue (Q), ft/ln (50 th percentile)	119.1	7.4	76.8	29.2	1	165.3	3	101.3		321.2	94.2	10
Back of Queue (Q), veh/ln (50 th percentile)	4.7	0.3	3.0	1.2	0.0	6.6	0.1	4.0		12.7	3.7	0.4
Queue Storage Ratio (RQ) (50 th percentile)	1.19	0.00	0.38	0.15	0.00	0.83	0.03	0.00		1.84	0.00	0.09
Uniform Delay (d_1), s/veh	22.6	16.0	16.4	16.7	15.3	20.3	44.6	38.0		30.6	17.5	15.2
Incremental Delay (d_2), s/veh	1.5	0.1	1.3	0.4	0.0	3.9	9.9	2.4		19.7	0.1	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	24.1	16.0	17.7	17.2	15.3	24.2	54.5	40.3		50.3	17.6	15.2
Level of Service (LOS)	C	B	B	B	B	C	D	D		D	B	B
Approach Delay, s/veh / LOS	20.8	C		22.9	C		40.6	D		37.3	D	
Intersection Delay, s/veh / LOS	29.9						C					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.91	B		2.10	B		2.13	B		2.10	B	
Bicycle LOS Score / LOS	0.53	A		1.31	A		0.81	A		1.86	B	

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information						
Agency	DeWalt Corp					Duration, h		0.25				
Analyst	SK		Analysis Date		1/15/2019		Area Type		Other			
Jurisdiction	City of Bakersfield		Time Period		AM Peak		PHF		0.92			
Urban Street	S H St		Analysis Year		2035 Background + Project		Analysis Period		1> 7:00			
Intersection	McKee Rd		File Name		2035 AM post development H St.xus							
Project Description	Commercial Dev. SE corner Hosking/S H											

Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				11	1	10	83	3	383	4	146	36	465	268	33

Signal Information															
Cycle, s	90.0	Reference Phase	2	Green	37.3	0.5	22.1	12.1	0.0	0.0					
Offset, s	0	Reference Point	End	Yellow	3.5	3.5	3.5	3.5	0.0	0.0					
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	1.0	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On												

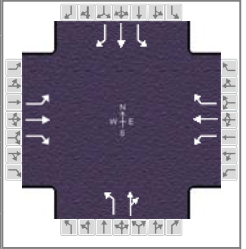
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase					2		6	3	8	7	4
Case Number					5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s					41.8		41.8	5.0	16.6	31.6	43.2
Change Period, (Y+R _c), s					4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s					0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s								2.2	11.5	26.6	11.4
Green Extension Time (g _e), s					0.0		0.0	0.0	0.6	0.5	0.9
Phase Call Probability								0.10	1.00	1.00	1.00
Max Out Probability								0.46	0.06	0.60	0.00

Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h				273	25	249	90	3	416	4	198		505	291	36
Adjusted Saturation Flow Rate (s), veh/h/ln				1425	1870	1598	1397	1870	1610	1795	1820		1795	1885	1598
Queue Service Time (g _s), s				14.2	0.8	9.4	3.7	0.1	18.4	0.2	9.5		24.6	9.4	1.2
Cycle Queue Clearance Time (g _c), s				14.3	0.8	9.4	4.4	0.1	18.4	0.2	9.5		24.6	9.4	1.2
Green Ratio (g/C)				0.41	0.41	0.41	0.41	0.41	0.41	0.01	0.13		0.30	0.43	0.43
Capacity (c), veh/h				668	775	662	647	775	667	10	245		541	811	687
Volume-to-Capacity Ratio (X)				0.409	0.032	0.376	0.139	0.004	0.624	0.423	0.806		0.935	0.359	0.052
Back of Queue (Q), ft/ln (50 th percentile)				128.4	7.9	79	29.5	1	175.9	3	106.8		321.2	93.1	9.9
Back of Queue (Q), veh/ln (50 th percentile)				5.1	0.3	3.1	1.2	0.0	7.0	0.1	4.2		12.7	3.7	0.4
Queue Storage Ratio (RQ) (50 th percentile)				1.28	0.00	0.40	0.15	0.00	0.88	0.03	0.00		1.84	0.00	0.09
Uniform Delay (d ₁), s/veh				23.9	16.7	17.3	17.0	15.5	20.8	44.6	37.8		30.6	17.3	14.9
Incremental Delay (d ₂), s/veh				1.6	0.1	1.4	0.5	0.0	4.4	9.9	3.3		19.7	0.1	0.0
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh				25.4	16.7	18.7	17.4	15.5	25.2	54.5	41.1		50.3	17.4	15.0
Level of Service (LOS)				C	B	B	B	B	C	D	D		D	B	B
Approach Delay, s/veh / LOS				22.0	C		23.8	C		41.4	D		37.3	D	
Intersection Delay, s/veh / LOS				30.4						C					

Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				1.91	B		2.10	B		2.13	B		2.10	B	
Bicycle LOS Score / LOS				0.53	A		1.33	A		0.82	A		1.86	B	

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94
Urban Street	S H St	Analysis Year	2018 Background	Analysis Period	1> 4:30
Intersection	McKee Rd	File Name	2018 PM background H St.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	5	10	29	1	133	7	139	70	150	95	44

Signal Information									
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Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s		57.6		57.6	5.3	18.0	14.3	27.0
Change Period, ($Y+R_c$), s		4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s					2.4	12.9	9.8	5.8
Green Extension Time (g_e), s		0.0		0.0	0.0	0.6	0.2	0.6
Phase Call Probability					0.17	1.00	0.98	1.00
Max Out Probability					0.74	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	153	76	153	31	1	141	7	222		160	101	47
Adjusted Saturation Flow Rate (s), veh/h/ln	1427	1870	1598	1333	1870	1610	1795	1778		1795	1885	1598
Queue Service Time (g_s), s	4.5	0.8	3.3	0.9	0.0	3.6	0.4	10.9		7.8	3.8	2.0
Cycle Queue Clearance Time (g_c), s	4.5	0.8	3.3	1.8	0.0	3.6	0.4	10.9		7.8	3.8	2.0
Green Ratio (g/C)	0.59	0.59	0.59	0.59	0.59	0.59	0.01	0.15		0.11	0.25	0.25
Capacity (c), veh/h	922	1104	943	854	1104	950	17	268		196	472	400
Volume-to-Capacity Ratio (X)	0.166	0.069	0.162	0.036	0.001	0.149	0.439	0.831		0.812	0.214	0.117
Back of Queue (Q), ft/ln (50 th percentile)	31.9	7.9	25.2	6	0.2	28	4.8	118.1		86.7	41.1	18.5
Back of Queue (Q), veh/ln (50 th percentile)	1.3	0.3	1.0	0.2	0.0	1.1	0.2	4.7		3.4	1.6	0.7
Queue Storage Ratio (RQ) (50 th percentile)	0.32	0.00	0.13	0.03	0.00	0.14	0.04	0.00		0.50	0.00	0.17
Uniform Delay (d_1), s/veh	8.7	4.1	7.0	8.1	7.6	8.3	44.3	37.1		39.2	26.7	26.0
Incremental Delay (d_2), s/veh	0.3	0.1	0.3	0.1	0.0	0.3	6.5	2.6		3.1	0.1	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	9.1	4.2	7.3	8.2	7.6	8.6	50.8	39.7		42.2	26.8	26.1
Level of Service (LOS)	A	A	A	A	A	A	D	D		D	C	C
Approach Delay, s/veh / LOS	7.4	A		8.5	A		40.0	D		34.7	C	
Intersection Delay, s/veh / LOS	22.1						C					

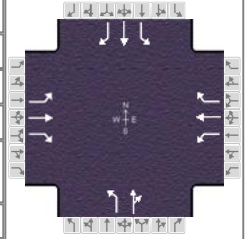
Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.88	B		2.07	B		2.13	B		2.12	B	
Bicycle LOS Score / LOS	0.53	A		0.77	A		0.87	A		0.99	A	

HCS7 Signalized Intersection Results Summary

General Information

Agency	DeWalt Corp		
Analyst	SK	Analysis Date	1/15/2019
Jurisdiction	City of Bakersfield	Time Period	PM Peak
Urban Street	S H St	Analysis Year	2018 Background + Project
Intersection	McKee Rd	File Name	2018 PM post dev
Project Description	Commercial Dev. SE corner Hosking/S H		

Intersection Information



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	10	5	10	29	1	145	7	145	70	150	95	44

Signal Information

Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	52.8	0.8	4.5	13.9	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	3.5	3.5	3.5	0.0	0.0			
				Red	1.0	1.0	1.0	1.0	0.0	0.0			

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s		57.3		57.3	5.3	18.4	14.3	27.3
Change Period, ($Y+R_c$), s		4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g_s), s					2.4	13.2	9.8	5.8
Green Extension Time (g_e), s		0.0		0.0	0.0	0.6	0.2	0.6
Phase Call Probability					0.17	1.00	0.98	1.00
Max Out Probability					0.74	0.00	0.00	0.00

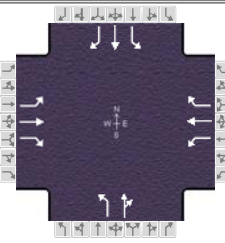
Movement Group Results

Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	168	84	168	31	1	154	7	229		160	101	47
Adjusted Saturation Flow Rate (s), veh/h/ln	1427	1870	1598	1324	1870	1610	1795	1781		1795	1885	1598
Queue Service Time (g_s), s	5.3	0.9	3.8	0.9	0.0	3.9	0.4	11.2		7.8	3.8	2.0
Cycle Queue Clearance Time (g_c), s	5.3	0.9	3.8	1.8	0.0	3.9	0.4	11.2		7.8	3.8	2.0
Green Ratio (g/C)	0.59	0.59	0.59	0.59	0.59	0.59	0.01	0.15		0.11	0.25	0.25
Capacity (c), veh/h	917	1097	937	843	1097	945	17	274		196	479	406
Volume-to-Capacity Ratio (X)	0.184	0.077	0.180	0.037	0.001	0.163	0.439	0.835		0.812	0.211	0.115
Back of Queue (Q), ft/ln (50 th percentile)	37.6	8.6	28.5	6.1	0.2	31.1	4.8	121.3		86.7	40.9	18.4
Back of Queue (Q), veh/ln (50 th percentile)	1.5	0.3	1.1	0.2	0.0	1.2	0.2	4.8		3.4	1.6	0.7
Queue Storage Ratio (RQ) (50 th percentile)	0.38	0.00	0.14	0.03	0.00	0.16	0.04	0.00		0.50	0.00	0.17
Uniform Delay (d_1), s/veh	9.3	4.1	7.1	8.3	7.7	8.5	44.3	37.0		39.2	26.5	25.8
Incremental Delay (d_2), s/veh	0.4	0.1	0.4	0.1	0.0	0.4	6.5	2.6		3.1	0.1	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	9.7	4.2	7.5	8.3	7.7	8.9	50.8	39.5		42.2	26.6	25.9
Level of Service (LOS)	A	A	A	A	A	A	D	D		D	C	C
Approach Delay, s/veh / LOS	7.7	A		8.8	A		39.9	D		34.6	C	
Intersection Delay, s/veh / LOS	21.7						C					

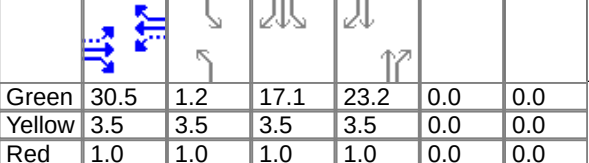
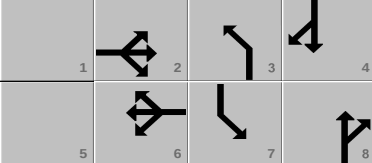
Multimodal Results

	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.88	B		2.07	B		2.13	B		2.12	B	
Bicycle LOS Score / LOS	0.53	A		0.79	A		0.88	A		0.99	A	

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	DeWalt Corp			Duration, h	0.25	
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other	
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94	
Urban Street	S H St	Analysis Year	2035 Background	Analysis Period	1> 7:00	
Intersection	McKee Rd	File Name	2035 PM background H St.xus			
Project Description	Commercial Dev. SE corner Hosking/S H					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	7	14	41	1	188	10	312	98	391	360	113

Signal Information											
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End								
Uncoordinated	No	Simult. Gap E/W	On								
Force Mode	Fixed	Simult. Gap N/S	On	Green	30.5	1.2	17.1	23.2	0.0	0.0	
				Yellow	3.5	3.5	3.5	3.5	0.0	0.0	
				Red	1.0	1.0	1.0	1.0	0.0	0.0	

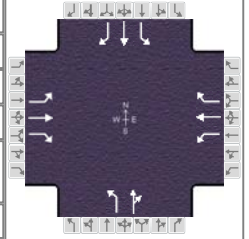
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s		35.0		35.0	5.7	27.7	27.3	49.3
Change Period, (Y+R _c), s		4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s					2.5	23.3	22.3	13.5
Green Extension Time (g _e), s		0.0		0.0	0.0	0.0	0.6	1.7
Phase Call Probability					0.23	1.00	1.00	1.00
Max Out Probability					1.00	1.00	0.03	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	264	92	185	44	1	200	11	436		416	383	120
Adjusted Saturation Flow Rate (s), veh/h/ln	1427	1870	1598	1314	1870	1610	1795	1807		1795	1885	1598
Queue Service Time (g _s), s	13.1	2.7	6.6	2.1	0.0	8.4	0.5	21.3		20.3	11.5	3.7
Cycle Queue Clearance Time (g _c), s	13.1	2.7	6.6	4.8	0.0	8.4	0.5	21.3		20.3	11.5	3.7
Green Ratio (g/C)	0.34	0.34	0.34	0.34	0.34	0.34	0.01	0.26		0.25	0.50	0.50
Capacity (c), veh/h	564	634	542	486	634	546	23	466		455	939	796
Volume-to-Capacity Ratio (X)	0.468	0.146	0.341	0.090	0.002	0.366	0.457	0.937		0.914	0.408	0.151
Back of Queue (Q), ft/ln (50 th percentile)	109.2	29.5	57.5	16.8	0.4	81.2	6.5	303.4		248	109.3	29.6
Back of Queue (Q), veh/ln (50 th percentile)	4.3	1.2	2.3	0.7	0.0	3.2	0.3	12.0		9.8	4.3	1.2
Queue Storage Ratio (RQ) (50 th percentile)	1.09	0.00	0.29	0.08	0.00	0.41	0.05	0.00		1.42	0.00	0.27
Uniform Delay (d ₁), s/veh	22.9	18.0	17.6	22.2	19.7	22.5	44.1	32.7		32.6	14.2	12.3
Incremental Delay (d ₂), s/veh	2.3	0.4	1.4	0.4	0.0	1.9	5.1	26.3		13.1	0.1	0.0
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	25.3	18.4	19.1	22.6	19.7	24.3	49.2	59.0		45.8	14.3	12.3
Level of Service (LOS)	C	B	B	C	B	C	D	E		D	B	B
Approach Delay, s/veh / LOS	22.0	C		24.0	C		58.8	E		28.3	C	
Intersection Delay, s/veh / LOS	32.6						C					

Multimodal Results	EB			WB			NB			SB		
Pedestrian LOS Score / LOS	1.92		B	2.11		B	2.12		B	2.09		B
Bicycle LOS Score / LOS	0.56		A	0.89		A	1.22		A	2.00		B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	DeWalt Corp			Duration, h	0.25
Analyst	SK	Analysis Date	1/15/2019	Area Type	Other
Jurisdiction	City of Bakersfield	Time Period	PM Peak	PHF	0.94
Urban Street	S H St	Analysis Year	2035 Background + Project	Analysis Period	1> 7:00
Intersection	McKee Rd	File Name	2035 PM post development H St.xus		
Project Description	Commercial Dev. SE corner Hosking/S H				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	20	7	14	41	1	200	10	318	98	391	360	113

Signal Information				           										
Cycle, s	90.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On											
Force Mode	Fixed	Simult. Gap N/S	On	Green	30.5	1.2	17.1	23.2	0.0	0.0	1 2 3 4			
				Yellow	3.5	3.5	3.5	3.5	0.0	0.0	5 6 7 8			
				Red	1.0	1.0	1.0	1.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8	7	4
Case Number		5.0		5.0	2.0	4.0	2.0	3.0
Phase Duration, s		35.0		35.0	5.7	27.7	27.3	49.3
Change Period, (Y+R _c), s		4.5		4.5	4.5	4.5	4.5	4.5
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0	3.0	3.0
Queue Clearance Time (g _s), s					2.5	23.6	22.3	13.5
Green Extension Time (g _e), s		0.0		0.0	0.0	0.0	0.6	1.7
Phase Call Probability					0.23	1.00	1.00	1.00
Max Out Probability					1.00	1.00	0.03	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	269	94	189	44	1	213	11	443		416	383	120
Adjusted Saturation Flow Rate (s), veh/h/ln	1427	1870	1598	1312	1870	1610	1795	1808		1795	1885	1598
Queue Service Time (g _s), s	13.4	2.8	6.7	2.1	0.0	9.1	0.5	21.6		20.3	11.5	3.7
Cycle Queue Clearance Time (g _c), s	13.4	2.8	6.7	4.9	0.0	9.1	0.5	21.6		20.3	11.5	3.7
Green Ratio (g/C)	0.34	0.34	0.34	0.34	0.34	0.34	0.01	0.26		0.25	0.50	0.50
Capacity (c), veh/h	564	634	542	484	634	546	23	466		455	939	796
Volume-to-Capacity Ratio (X)	0.478	0.149	0.348	0.090	0.002	0.390	0.457	0.950		0.914	0.408	0.151
Back of Queue (Q), ft/ln (50 th percentile)	110.1	30.1	57.4	16.8	0.4	87.4	6.5	316.6		248	109.3	29.6
Back of Queue (Q), veh/ln (50 th percentile)	4.4	1.2	2.3	0.7	0.0	3.5	0.3	12.6		9.8	4.3	1.2
Queue Storage Ratio (RQ) (50 th percentile)	1.10	0.00	0.29	0.08	0.00	0.44	0.05	0.00		1.42	0.00	0.27
Uniform Delay (d ₁), s/veh	22.7	17.9	17.3	22.3	19.7	22.7	44.1	32.8		32.6	14.2	12.3
Incremental Delay (d ₂), s/veh	2.4	0.4	1.5	0.4	0.0	2.1	5.1	29.1		13.1	0.1	0.0
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	25.1	18.4	18.8	22.6	19.7	24.8	49.2	61.9		45.8	14.3	12.3
Level of Service (LOS)	C	B	B	C	B	C	D	E		D	B	B
Approach Delay, s/veh / LOS	21.8		C	24.4		C	61.6		E	28.3		C
Intersection Delay, s/veh / LOS	33.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.11	B	2.12	B	2.09	B
Bicycle LOS Score / LOS	0.56	A	0.91	A	1.24	A	2.00	B