



July 20, 2020

Mr. Michael Vroman  
Town of Los Gatos  
41 Miles Avenue  
Los Gatos, CA 95030

## **Hillbrook School 2019-2020 Monitoring - Spring Trimester Report**

Dear Mr. Vroman;

As requested, W-Trans has prepared a summary of the Spring Trimester traffic monitoring of Hillbrook School in Los Gatos for the 2019-2020 school year. The purpose of this memo is to summarize the 2020 Spring Trimester daily vehicle trips and to note any discrepancies in the data collection. Overall, Hillbrook School did not exceed the maximum number of daily vehicle trips during the Spring Trimester.

### **Existing Conditions**

The Hillbrook School is located at 300 Marchmont Drive in the Town of Los Gatos. According to Condition 17 of the School's Conditional Use Permit, "the maximum number of daily vehicle trips shall not exceed 880." The School can identify up to 10 exception days where they are permitted to exceed the maximum number of daily trips, however, the total number of trips on these exception days shall not exceed 960. During the summer trimester "the maximum number of daily vehicle trips shall not exceed 300." The school maintains two Sensys magnetometer traffic counters embedded in the pavement of the exit lane outside the school's gate, approximately 30 feet apart. These magnetometers (Sensys counters) are calibrated to detect the presence of vehicles and motorcycles, but not bicycles or other non-motorized means of transportation.

Hillbrook School and Sensys staff continuously monitor the functionality of the system. The magnetometers are self-calibrating and self-tuning, and are upgraded remotely as new software is released. The sensors are to be calibrated and validated each trimester. Hillbrook School confirmed that the sensors were reviewed at the beginning of the 2019-2020 school year. Sensys staff have previously conducted an independent validation of the county system and concluded the daily counts are showing between 97% and 99.75% accuracy. Hillbrook School has implemented traffic control measures to improve the flow of vehicles over the sensors in order to maintain data accuracy, such as lane delineators along Marchmont Drive.

Hillbrook School has only one vehicular access point, and because of this it is assumed that all exit trips also made an entrance trip through this location. For reporting purposes, the maximum of either Exit A or Exit B is used to determine the number of daily trips. During previous trimesters, construction activity at adjacent properties has been detected by the Sensys system and parked vehicles have interfered with data collection. Since construction activity has ended, normal daily vehicle trips from the houses located adjacent to Hillbrook School on Marchmont Drive now have the potential to also be detected by the Sensys counters. The trips have the potential to be detected by one or both sensors, and thus could possibly increase in the number of days where the difference between sensors is larger than five percent.

The Conditional Use Permit also outlines the requirements of manual data collection in Condition 19 and "the school shall be considered out of compliance if any mechanical readings exceed the Sensys counts by more than five percent and where the readings are above the maximum number of daily vehicle trips."

A permanent backup pneumatic tube counter, a MetroCount MC56000 Vehicle Classifier System, is located in both the entrance and exit lanes just outside of the School's gate. Pneumatic tube systems utilize rubber tubes placed across traffic lanes in specific configurations. When a vehicle travels over the tube the air pressure in the tube is

compressed and this compression triggers an event recording. The system is programmed to classify vehicles based on the distance between the front and rear axle. The School's MetroCount system counts the total number of trips, both entrance and exit trips. While the Sensys system can be accessed remotely online, the MetroCount system is local to the School's network. The School has agreed to, and continues to, actively provide W-Trans with backup data directly from the MetroCount system when necessary.

## **24-hour Manual Counts and Observations**

Ordinarily, new traffic counts are conducted on Marchmont Drive to cover a variety of on-campus events. However, 2020 traffic counts were not conducted for this trimester because the study area and surrounding region were, at the time of the analysis, observing a "shelter-in-place" order in response to the COVID-19 global pandemic. Hillbrook School launched remote learning on Monday, March 17 in response to Santa Clara County Public Health Department's recommendations to shelter in place. As such, any traffic counts conducted during this pandemic period would have limited usefulness and not be representative of typical conditions.

## **2020 Spring Trimester Summary**

- During the 2020 Spring Trimester, Hillbrook School did not exceed the maximum number of daily trips (880). Enclosed, in Table 1, is the daily summary of Sensys counts for the 2020 Spring Trimester. There were two exception days during the 2020 Spring Trimester, while school was in session on campus. However, the number of daily trips on the exception days did not exceed the maximum number of daily trips (960) for an exception day or the maximum number of daily trips (880) for a regular school day.
- The Exit B Count Station did not record vehicles between January 26 and February 18, 2020. For those dates, the Exit A Count Station data was used to determine the number of daily trips.
- The highest number of daily vehicle trips was 856 trips and occurred on March 3, 2020.
- The average number of school day vehicle trips for the 2020 Spring Trimester while school was in-session on-campus was approximately 738 trips.
- Excluding weekends, school holidays, and the days following the switch to remote learning, there were six instances where the difference between Sensor A and Sensor B was greater than five percent (5%). The average difference between the Sensor A and Sensor B counts was 18 vehicles.
- The cumulative percent difference between Sensor A and Sensor B for the 2020 Spring Trimester was 4.80%.
- The largest daily difference between Sensor A and Sensor B was 118 vehicles on March 6, 2020. In January 2020 the average daily difference between Sensor A and Sensor B was approximately 17 vehicles. The difference was approximately 14 vehicles in February, and 21 vehicles in March.

## **Conclusions**

Overall, Hillbrook School was in compliance with Condition 17 of the School's Conditional Use Permit for the school year 2019-2020 Spring Trimester. The next monitoring report is the Fall 2020 Trimester Counts anticipated to be completed in December 2020, prior to the conclusion of Hillbrook School's Fall Trimester. We will continue to provide monthly downloads of Sensys data during the first week of each month.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

*A Woodworth*

Allison Woodworth, EIT  
Assistant Engineer

*Mark E. Spencer*

Mark Spencer, PE  
Senior Principal



MES/akw /LGA004-10.L2

Enclosures: Spring Trimester Count Summary



**Table 1 – Daily Sensys Count Summary – 2020 Spring Trimester**

Date	Day of the Week	Sensys Counts (# of Vehicles)		Summary of Sensys Counts		Notes	
		Exit A	Exit B	Percent Difference	Daily Trips		
01/06/20	Monday	363	347	4.5%	726	First Day of School	
01/07/20	Tuesday	379	375	1.1%	758		
01/08/20	Wednesday	367	329	10.9%	734		
01/09/20	Thursday	402	385	4.3%	804		
01/10/20	Friday	390	378	3.1%	780		
01/11/20	Saturday	16	18	11.8%	36		
01/12/20	Sunday	18	15	18.2%	36		
01/13/20	Monday	396	378	4.7%	792		
01/14/20	Tuesday	388	372	4.2%	776		
01/15/20	Wednesday	358	342	4.6%	716		
01/16/20	Thursday	390	370	5.3%	780		
01/17/20	Friday	372	358	3.8%	744		
01/18/20	Saturday	6	8	28.6%	16		
01/19/20	Sunday	4	7	54.5%	14		
01/20/20	Monday	10	10	0.0%	20		No School – MLK, Jr. Day
01/21/20	Tuesday	372	361	3.0%	744		
01/22/20	Wednesday	384	371	3.4%	768		
01/23/20	Thursday	368	351	4.7%	736		
01/24/20	Friday	362	344	5.1%	724		
01/25/20	Saturday	17	19	11.1%	38		
01/26/20	Sunday	0	-	-	0	Exit B Count Station Error	
01/27/20	Monday	364	-	-	728	Exit B Count Station Error	
01/28/20	Tuesday	385	-	-	770	Exit B Count Station Error	
01/29/20	Wednesday	391	-	-	782	Exit B Count Station Error	
01/30/20	Thursday	371	-	-	742	Exit B Count Station Error	
			-	-		Exception Day	
01/31/20	Friday	379	-	-	758	Exit B Count Station Error	
02/01/20	Saturday	19	-	-	38	Exit B Count Station Error	
02/02/20	Sunday	7	-	-	14	Exit B Count Station Error	
02/03/20	Monday	372	-	-	744	Exit B Count Station Error	
02/04/20	Tuesday	422	-	-	844	Exit B Count Station Error	
02/05/20	Wednesday	364	-	-	728	Exit B Count Station Error	
02/06/20	Thursday	398	-	-	796	Exit B Count Station Error	

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		Exit A	Exit B	Percent Difference	Daily Trips	
02/07/20	Friday	373	-	-	746	Exit B Count Station Error
02/08/20	Saturday	14	-	-	28	Exit B Count Station Error
02/09/20	Sunday	16	-	-	32	Exit B Count Station Error
02/10/20	Monday	407	-	-	814	Exit B Count Station Error
02/11/20	Tuesday	421	-	-	842	Exit B Count Station Error
02/12/20	Wednesday	420	-	-	840	Exit B Count Station Error
02/13/20	Thursday	421	-	-	842	Exit B Count Station Error
02/14/20	Friday	355	-	-	710	Exit B Count Station Error
02/15/20	Saturday	12	-	-	24	Exit B Count Station Error
02/16/20	Sunday	10	-	-	20	Exit B Count Station Error
02/17/20	Monday	22	-	-	44	Exit B Count Station Error
02/18/20	Tuesday	82	-	-	164	No School – February Break
02/19/20	Wednesday	83	73	12.8%	166	Exit B Count Station Error No School – February Break
02/20/20	Thursday	56	58	3.5%	116	No School – February Break
02/21/20	Friday	14	12	15.4%	28	No School – February Break
02/22/20	Saturday	21	21	0.0%	42	
02/23/20	Sunday	14	15	6.9%	30	
02/24/20	Monday	402	383	4.8%	804	
02/25/20	Tuesday	396	390	1.5%	792	
02/26/20	Wednesday	386	368	4.8%	772	
02/27/20	Thursday	393	384	2.3%	786	
02/28/20	Friday	387	370	4.5%	774	
02/29/20	Saturday	26	26	0.0%	52	
03/01/20	Sunday	13	12	8.0%	26	
03/02/20	Monday	349	334	4.4%	698	
03/03/20	Tuesday	380	359	5.7%	760	
03/04/20	Wednesday	322	316	1.9%	644	
03/05/20	Thursday	362	343	5.4%	724	
03/06/20	Friday	428	310	32.0%	856	
03/07/20	Saturday	15	14	6.9%	30	
03/08/20	Sunday	13	13	0.0%	26	
03/09/20	Monday	354	340	4.0%	708	

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Date	Day of the Week	Sensys Counts (# of Vehicles)		Summary of Sensys Counts		Notes
		Exit A	Exit B	Percent Difference	Daily Trips	
03/10/20	Tuesday	381	369	3.2%	762	
03/11/20	Wednesday	352	345	2.0%	704	
03/12/20	Thursday	296	293	1.0%	592	
03/13/20	Friday	254	249	2.0%	508	
03/14/20	Saturday	17	21	21.1%	42	
03/15/20	Sunday	11	18	48.3%	36	
03/16/20	Monday	209	203	2.9%	418	
03/17/20	Tuesday	17	15	12.5%	34	Launch of Remote Learning
03/18/20	Wednesday	14	14	0.0%	28	
03/19/20	Thursday	21	25	17.4%	50	
03/20/20	Friday	19	23	19.0%	46	
03/21/20	Saturday	15	16	6.5%	32	
03/22/20	Sunday	18	14	25.0%	36	
03/23/20	Monday	12	13	8.0%	26	
03/24/20	Tuesday	14	14	0.0%	28	
03/25/20	Wednesday	13	10	26.1%	26	
03/26/20	Thursday	24	20	18.2%	48	
03/27/20	Friday	14	17	19.4%	34	
03/28/20	Saturday	24	20	18.2%	48	
03/29/20	Sunday	17	9	61.5%	34	
03/30/20	Monday	14	11	24.0%	28	
03/31/20	Tuesday	28	23	19.6%	56	
04/01/20	Wednesday	23	19	19.0%	46	
04/02/20	Thursday	33	31	6.3%	66	
04/03/20	Friday	25	26	3.9%	52	
04/04/20	Saturday	15	13	14.3%	30	
04/05/20	Sunday	11	9	20.0%	22	
04/06/20	Monday	28	30	6.9%	60	
04/07/20	Tuesday	41	44	7.1%	88	
04/08/20	Wednesday	29	30	3.4%	60	
04/09/20	Thursday	31	33	6.3%	66	
04/10/20	Friday	34	33	3.0%	68	
04/11/20	Saturday	18	16	11.8%	36	
04/12/20	Sunday	18	17	5.7%	36	
04/13/20	Monday	27	26	3.8%	54	

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Date	Day of the Week	Sensys Counts (# of Vehicles)		Summary of Sensys Counts		Notes
		Exit A	Exit B	Percent Difference	Daily Trips	
04/14/20	Tuesday	46	43	6.7%	92	
04/15/20	Wednesday	34	30	12.5%	68	
04/16/20	Thursday	27	27	0.0%	54	
04/17/20	Friday	31	32	3.2%	64	
04/18/20	Saturday	19	18	5.4%	38	
04/19/20	Sunday	16	14	13.3%	32	
04/20/20	Monday	28	29	3.5%	58	
04/21/20	Tuesday	45	42	6.9%	90	
04/22/20	Wednesday	38	41	7.6%	82	
04/23/20	Thursday	33	34	3.0%	68	
04/24/20	Friday	37	41	10.3%	82	
04/25/20	Saturday	15	25	50.0%	50	
04/26/20	Sunday	20	22	9.5%	44	
04/27/20	Monday	36	32	11.8%	72	
04/28/20	Tuesday	33	28	16.4%	66	
04/29/20	Wednesday	39	33	16.7%	78	
04/30/20	Thursday	31	29	6.7%	62	
05/01/20	Friday	42	44	4.7%	88	
05/02/20	Saturday	8	11	31.6%	22	
05/03/20	Sunday	15	16	6.5%	32	
05/04/20	Monday	36	35	2.8%	72	
05/05/20	Tuesday	32	28	13.3%	64	
05/06/20	Wednesday	28	32	13.3%	64	
05/07/20	Thursday	38	37	2.7%	76	
05/08/20	Friday	56	64	13.3%	128	
05/09/20	Saturday	19	18	5.4%	38	
05/10/20	Sunday	7	9	25.0%	18	
05/11/20	Monday	47	45	4.3%	94	
05/12/20	Tuesday	29	29	0.0%	58	
05/13/20	Wednesday	31	36	14.9%	72	
05/14/20	Thursday	82	82	0.0%	164	
05/15/20	Friday	35	38	8.2%	76	
05/16/20	Saturday	11	10	9.5%	22	
05/17/20	Sunday	20	21	4.9%	42	
05/18/20	Monday	39	33	16.7%	78	

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Date	Day of the Week	Sensys Counts (# of Vehicles)		Summary of Sensys Counts		Notes
		Exit A	Exit B	Percent Difference	Daily Trips	
05/19/20	Tuesday	42	39	7.4%	84	
05/20/20	Wednesday	34	32	6.1%	68	
05/21/20	Thursday	70	64	9.0%	140	
05/22/20	Friday	47	55	15.7%	110	
05/23/20	Saturday	11	7	44.4%	22	
05/24/20	Sunday	17	17	0.0%	34	
05/25/20	Monday	14	16	13.3%	32	
05/26/20	Tuesday	64	60	6.5%	128	
05/27/20	Wednesday	56	59	5.2%	118	
05/28/20	Thursday	75	74	1.3%	150	
05/29/20	Friday	91	91	0.0%	182	
05/30/20	Saturday	7	6	15.4%	14	
05/31/20	Sunday	15	13	14.3%	30	
06/01/20	Monday	75	76	1.3%	152	Last Day of School

Note: Allowable percent difference less than five percent; daily trip cap 880 trips during school year. Red = value exceeds conditional use permit threshold