Appendix J

Final Transportation Discipline Report (Part 2)



#### 4.1.2 Impacts Common to All Action Alternatives

The street system and traffic safety impacts would be the same for all action alternatives.

#### 4.1.2.1 Street System

The future street system for the action alternatives is consistent with the discussion in Section 4.1.1.1 for the No Action Alternative. There are no funded transportation projects identified in the study area that change the roadway system evaluated as part of the traffic operations analysis.

#### 4.1.2.1.1 Traffic Safety

Traffic generated by the action alternatives results in a proportionate increase in the probability of collisions. It is unlikely that the project traffic would significantly change safety issues in the study area. With growth in traffic in the study area, it would likely become progressively more challenging for side-street traffic at unsignalized intersections to enter the traffic stream.

Future increases in pedestrian and bicycle volumes along the NE 3rd Street/NE 4th Street corridor are anticipated with planned bicycle facilities and expansion of Renton Technical College (RTC), which could result in additional vehicle conflicts. The RTC master plan notes that pedestrian improvements would be needed as part of planned College expansion projects. As noted in the Affected Environment, there is a speeding issue along NE 3rd Street. The review of existing collisions showed no specific safety issue related to existing truck traffic. As described in the affected environment, although there would be some increase in truck traffic with the alternatives the percent of trucks relative to general traffic is anticipated to be the same in the future with the Alternatives. In addition, growth in truck traffic from the Alternatives is anticipated to be before or after the peak commute periods and during the hours when overall travel along the street system is less. Although observed issues such as speeding could continue, no safety issue related to truck collisions has been identified. A speed radar sign could be provided along NE 3rd Street to make drivers aware and help slow vehicles.

#### 4.1.3 Alternative 1

Alternative 1 represents an increase in landfill capacity until approximately 2037. Waste haul tractors and trailers and operations/maintenance staff would be based at CHRLF (Options 1 and 2) or Renton (Option 3). When the landfill reaches capacity, for Options 1 and 2 there would continue to be trips at CHRLF related to trucking, and staff and contractor trips related to trucking and maintenance of the environmental control systems, or for Option 3, just trips related to maintenance of the environmental control systems, but no waste haul trips generated related to landfilling. For Option 3, there would be trips at the Renton Site related to trucking, and trucking and maintenance staff trips. Option 3 would be similar to the interim off-site facilities under the No Action Alternative, but the location has been identified in Renton and the facilities would be built instead of leased. Transportation impacts of Alternative 1 are evaluated for the off-site transportation system and are related to the combined effects of the landfill development and the support facilities relocation.

The action alternatives transportation impacts change based on the amount of landfill development and whether the support facility is located on-site or at the off-site Renton facility. The support facility on-site either South or North (Options 1 and 2) does not change the transportation impacts. Given the relationship between landfill development and the facility location, the action alternatives impacts are described in terms of Landfill Development with South and North Options and Landfill Development with Renton Site Option (Option 3).

#### 4.1.3.1 Landfill Development with South and North Options (Options 1 and 2)

Traffic volumes, operations, and construction impacts for Alternative 1 Options 1 and 2 during the Opening, Capacity and Design Years are described below. Alternative 1 Options 1 and 2 represents all operations and facilities at the CHRLF site. The transportation impacts for Alternative 1 Options 1 and 2 are evaluated for the Cedar Hills study area. Options 1 and 2 Renton Site study area



transportation impacts would be limited with less than five trips or two percent volume increase at the study intersections and are mainly related to access to and from I-405. Both Options 1 and 2 have the same transportation impacts because the location of the support facilities on-site does not change the traffic generated by the action alternatives.

#### 4.1.3.1.1 Traffic Volumes

Alternative 1 Options 1 and 2 trip generation, distribution, assignment, and resulting study intersection traffic volumes are summarized below for the Opening, Capacity and Design Years.

#### 4.1.3.1.1.1 **Trip Generation**

Trip generation forecasts are developed for Alternative 1 Options 1 and 2 for the Opening, Capacity and Design Years. Trip generation represents the day-to-day activity of CHRLF operations and cumulative impacts with off-site construction trips are evaluated separately. The trip generation method is described in Section 2.2.2 Alternatives Trip Generation and is consistent for all the Alternatives. Existing trips generated at the CHRLF are provided for context. Alternative 1 net new trip generation considers the traffic generated by the No Action Alternative, which permits CHRLF operations until approximately mid-2028. The estimated year the CHRLF reaches capacity is 2037 with Alternative 1, which is before the Design Year of 2040. The Alternative 1 Design Year trips are the same as the No Action Alternative. A summary of the weekday daily and peak hour trips for Alternative 1 Options 1 and 2 is provided in Table 4-6. Detailed trip generation forecasts are included in Appendix D.

	Existing	<b>Opening Year</b>	Capacity Year	Design Year <sup>1</sup>			
Alternative 1 Options 1 and 2 Daily Trips <sup>2</sup>	812	926	1,000	340			
No Action Alternative Daily Trips	812	884	340	340			
Net New Daily Trips <sup>3</sup>	0	+42	660	0			
Net New Peak H	our Alternative	1 Options 1 and 2 T	rips <sup>3</sup>				
AM Peak Hour	0	5	49	0			
Midday Peak Hour	0	5	58	0			
PM Peak Hour	0	0	44	0			

Table 4-6	Alternative 1	Options 1	and 2 Estimated	Weekday	Trip Generation	
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The design year trip generation for No Action and Alternative 1 reflects only the remaining trucking and trucking/maintenance staffing 1. because the CHRLF reaches capacity before the horizon year of 2040.

2.

Options 1 and 2 include the support facility on-site at the CHRLF. Net new peak hour trips are relative to the No Action Alternative weekday peak hour trips. 3

As shown in Table 4-6, Alternative 1 Options 1 and 2 would generate up to 114 more trips than existing conditions in the Opening Year and 42 net new daily trips in the Opening Year conditions compared to the No Action Alternative. For the Design Year, there would be no new trips with Alternative 1 because both the No Action Alternative and Alternative 1 reach capacity before 2040. The Opening Year peak hour net new trips are low with Alternative 1 Options 1 and 2 with up to 5 new trips during the weekday AM and Midday peak hours and no new trips during the weekday PM peak hour.

The CHRLF is estimated to reach capacity in 2037 with Alternative 1 Options 1 and 2. Alternative 1 Options 1 and 2 would generate up to 188 more trips than existing conditions at the year the landfill reaches capacity. The Alternative 1 Options 1 and 2 trip generation when the landfill reaches capacity is estimated to be 660 net new trips compared to the No Action Alternative. A comparison of the action alternatives shows that Alternative 1 Options 1 and 2 net new trips in 2037 would be approximately 30 trips less than Alternative 3 Options 1 and 2 in 2040 (or the Design Year). Transportation-related impacts (including traffic volume and operations) for Alternative 1 Options 1 and 2 when CHRLF reaches capacity (2037) are the same as identified for Alternative 3 Options 1 and 2 in the Design Year (see Section 4.1.5.1 for details).



#### 4.1.3.1.1.2 Trip Distribution and Assignment

The trip distributions for the different users to/from CHRLF are illustrated on Figure 4-1, Figure 4-2, and Figure 4-3 for the King County haul and operational trips, commercial haul trips, and staff, respectively. The Alternative 1 Options 1 and 2 trip distribution is consistent with the No Action Alternative. The Alternative 1 Options 1 and 2 net new trips during the weekday AM and Midday peak hours are assigned to the Cedar Hills study intersections based on the project trip distributions and are shown on Figure 4-10. As shown previously in Table 4-6, Alternative 1 Options 1 and 2 do not generate new weekday PM peak because trips are the same as the No Action Alternative.

The assigned Alternative 1 Options 1 and 2 net new traffic is added to the No Action Alternative Opening Year weekday peak hour traffic volumes at the study intersections to form the basis of analysis. Alternative 1 Options 1 and 2 Opening Year weekday AM and Midday peak hour traffic volumes are shown on Figure 4-11, Figure 4-12, and Figure **4-13**, respectively. No new trips are forecast during the weekday PM peak hour; so, Alternative 1 Options 1 and 2 Opening Year weekday PM peak hour traffic volumes are the same as the No Action Alternative and are shown on Figure 4-9.

Table 4-7 summarizes the percent increase in traffic volume at the study intersections attributable to Alternative 1 Options 1 and 2 during the weekday AM and Midday peak hours for the Opening year conditions.

	Peak Hour Total Entering Vehicles				
Study Intersections	No Action Alternative	Net New Trips	Alternative 1 Total Traffic	Percent Share <sup>1</sup>	
Weekday AM Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	528	5	533	1%	
2. Cedar Grove Rd SE/SE Lake Francis Rd	613	5	618	1%	
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,698	5	1,703	<1%	
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,720	0	1,720	0%	
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1,535	0	1,535	0%	
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,120	0	1,120	0%	
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,105	0	1,105	0%	
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,727	3	1,730	<1%	
Weekday Midday Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	296	5	301	2%	
2. Cedar Grove Rd SE/SE Lake Francis Rd	456	5	461	1%	
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,301	5	1,306	<1%	
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,130	0	1,130	0%	
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	910	0	910	0%	
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	555	0	555	0%	
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	435	0	435	0%	
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,334	3	1,337	<1%	

#### Table 4-7 Alternative 1 Options 1 and 2 Opening Year Traffic Volume Impact

Note: MVH = Maple Valley Highway. The weekday PM peak hour traffic volume impacts are not included in the table because no new trips are generated relative to the No Action Alternative during the Opening Year condition.

Represent the percent impact of Alternative 1 Options 1 and 2 compared to the No Action Alternative for Opening Year conditions.

Table 4-7 shows that the Alternative 1 traffic volume impacts are estimated to be minimal during the weekday peak hours in the Opening Year with increases in intersection volumes no greater than two percent. The traffic volume impact is less than daily fluctuation in traffic volumes, which can vary between 5 and 10 percent. There are no traffic volume impacts with Alternative 1 Options 1 and 2 for Design Year conditions because no new trips would be generated. The traffic volume impacts for

Alternative 1 Options 1 and 2 in the Capacity Year would be similar to the Alternative 3 Options 1 and 2 Design Year analysis (see Table 4-18).

#### 4.1.3.1.2 Traffic Operations

The weekday AM and midday peak hour traffic operations for the Alternative 1 Options 1 and 2 Opening Year conditions are summarized in Table 4-8 and compared to the No Action Alternative.

#### Table 4-8 Alternative 1 Options 1 and 2 Opening Year Weekday Peak Hour LOS Summary

	No Action Alternative			Alternative 1		
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS	Delay	WM
Weekday AM Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	13	NB	В	13	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	D	47	-	D	47	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	С	34	-	С	34	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	36	-	D	36	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	D	29	WBTL	D	29	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	С	26	-	С	26	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	40	-	D	40	-
Weekday Midday Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	В	10	SB	В	10	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	С	16	NB	С	16	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	23	-	С	24	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	А	9	-	А	9	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	А	9	-	А	9	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	В	12	WBTL	В	12	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	9	-	А	9	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	В	17	-	В	17	-

Note: MVH = Maple Valley Highway. Shading indicates intersection operating below LOS standard. The weekday PM peak hour traffic operations are not included in the table because no new trips would be generated relative to the No Action Alternative during the Opening Year condition.

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 6th Edition)

Average delay per vehicle in seconds rounded to the whole second.
 Worst movement or approach reported for side street stop controller.

 Worst movement or approach reported for side-street stop-controlled intersections. All other intersections are signalized. SB = southbound, NB = northbound, WBTL = westbound through/left turn movement

As shown in Table 4-8, for Alternative 1 Opening Year Options 1 and 2 conditions, the study intersections would operate at the same LOS as the No Action Alternative during the weekday peak hours. All study intersections would meet the LOS standard during the weekday peak hours except the SR 169/Cedar Grove Road SE and Issaquah Hobart Rd SE/SR 18 WB Ramps intersections during the weekday AM peak hour. Both intersections forecast to operate at LOS D under both No Action Alternative and Alternative 1 Options 1 and 2 Opening Year conditions and would not increase delay at the intersection compared to the No Action Alternative; so, there are no significant traffic operations impacts.



## Alternative 1 Options 1 and 2 Opening Year Weekday Peak Hour Trip Assignment

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FIGURE 4-10



## Alternative 1 Options 1 & 2 Opening Year Weekday AM Peak Hour Traffic Volumes

Cedar Hills Regional Landfill 2020 Site Development Plan EIS

transpogroup 7



## Alternative 1 Options 1 & 2 Opening Year Weekday Midday Peak Hour Traffic Volumes

Cedar Hills Regional Landfill 2020 Site Development Plan EIS

# fic Volumes



## Alternative 1 Options 1 & 2 Opening Year Weekday PM Peak Hour Traffic Volumes

Cedar Hills Regional Landfill 2020 Site Development Plan EIS

# transpogroup 7

#### 4.1.3.1.3 Construction

There would be periodic construction with increasing the landfill capacity that could result in off-site trips higher than typical conditions for up to four (4) months in the summer with Alternative 1 Options 1 and 2. Construction activities would relate to import and export of material and soils as well as bringing construction equipment to and from the site. The most intense Alternative 1 Options 1 and 2 construction activity during the four (4) month period is estimated to occur in 2025 and 2026 as shown on Figure 4-14. Construction activity with off-site trips is temporary and does not occur each year during operations of CHRLF.



#### Figure 4-14 Estimated Alternative 1 Options 1 and 2 Annual Off-Site Construction Trips

Figure 4-14 shows the annual construction trips would be highest in 2025; however, in reviewing the monthly projections for construction trips the highest month would be in the summer of 2026. There is no construction activity in the Design Year because with Alternative 1 Options 1 and 2 CHRLF reaches capacity in 2037. Estimated annual, peak monthly and hourly construction trips for Alternative 1 Options 1 and 2 are summarized in Table 4-9. The table shows 2026 conditions because the peak month and peak hour trips would be highest during this period.

#### Table 4-9 Estimated Alternative 1 Options 1 and 2 Peak Construction Trips

Total Annual Trips <sup>1</sup>	Peak Monthly Trips <sup>2</sup>	Peak Hourly Trips <sup>3</sup>
77,438	28,758	80

 Annual construction trips occur for up to 4 months between June-September for 2026.
 The peak monthly trips occur in the 4th month (or last month) of construction in 2026; this reflects the highest monthly construction trips for Alternative 1.

3. The peak hourly trips are calculated based on the peak month of construction activity and assuming the construction trips occur for 12 hours a day and 7 days a week and are evenly distributed.

The table shows for Alternative 1 Options 1 and 2 there would be up to 80 peak hour construction trips. Compared to the other action alternatives, Alternative 2 is estimated to have slightly higher construction trips with 83 peak hour construction trips. The Alternative 1 Options 1 and 2 construction impacts are the same as Alternative 2. Traffic operations with construction for Alternative 2 are summarized in section 4.1.4.1.1.

Alternative 1 Options 1 and 2 also generate temporary off-site construction impacts related to construction of the main support facilities. The traffic generated by construction includes both trucks hauling material and equipment as well as workers. The main support facilities construction impacts generally include:

- Arriving, leaving, and parking of construction worker vehicles
- Delivery of construction materials



- Removal of debris
- Delivery of construction vehicles and machinery
- Delivery or removal of material with fill or excavation
- Potential impacts to on-site bicycle and pedestrian traffic

Construction impacts would be temporary and Chapter 5 Mitigation Measures describes the construction management plan that would be implemented during all time periods with off-site construction trips.

#### 4.1.3.2 Landfill Development with Renton Site Option (Option 3)

Alternative 1 Option 3 represents continued operations at the CHRLF with relocation of the main support facilities to the Renton Site. Traffic volumes, operations, and construction impacts for Alternative 1 Option 3 during the Opening, Capacity and Design Years are addressed below. The transportation impacts for Alternative 1 Option 3 occur in the Cedar Hills (with operations of the CHRLF) and Renton Site study areas (with the relocated support facilities). It is noted that if Option 3 moves forward the relocation to the Renton site would occur sometime between 2023 and 2028 and the analysis presented in this study captures the range of transportation impacts for whichever year the relocation occurs.

#### 4.1.3.2.1 Traffic Volumes

The Alternative 1 Option 3 trip generation, distribution, assignment, and study intersection traffic volumes are summarized below for the Opening, Capacity and Design Years.

#### 4.1.3.2.1.1 Trip Generation

Trip generation forecasts are developed for Alternative 1 Option 3 conditions for the Opening Year and Design Year. Trip generation represents the day-to-day activity of CHRLF operations and cumulative impacts with off-site construction trips are evaluated separately. Existing trips generated at the CHRLF are provided for context. The trip generation method is described in Section 2.2.2 Alternatives Trip Generation. As described previously, Alternative 1 net new trip generation considers the traffic generated by the No Action Alternative. In addition, with trucking and maintenance staff at the Renton Site in Alternative 1 Option 3, there is a reduction in trips to and from CHRLF because staff travel shifts to the Renton site. The Alternative 1 Design Year trips at the CHRLF are limited to the remaining maintenance staff because the landfill would reach capacity in 2037 with this Alternative.

A summary of the weekday net new trips for Alternative 1 Option 3 is provided in Table 4-10; the summary shows the trips to/from CHRLF and the Renton Site. Detailed trip generation estimates are included in Appendix D.

	Existing	0	pening Y	ear		Ca	pacity Y	ear	D	esign Ye	ar1
	CHRLF/ Total	CHRLF	Renton Site	Total		CHRLF	Renton Site	Total	CHRLF	Renton Site	Total
Alternative 1 Option 3 Daily Trips	812	552	482	1,034		626	502	1,128	92	248	340
No Action Alternative Daily Trips	812	884	0	884		340	0	340	340	0	340
Net New Daily Trips	0	-332	+482	+150		+286	+502	+788	-248	+248	0
	Net New Peak Hour Alternative 1 Option 3 Trips <sup>2</sup>										
AM Peak Hour	0	-6	+11	+5		+38	+11	+49	-7	+7	0
Midday Peak Hour	0	-15	+20	+5		+38	+20	+58	-13	+13	0
PM Peak Hour	0	-52	+52	0		-8	+52	+44	-34	+34	0

#### Table 4-10 Alternative 1 Option 3 Estimated Weekday Trip Generation

 The design year trip generation for No Action and Alternative 1 reflects only the remaining trucking and trucking/maintenance staffing related trips because the CHRLF would have reached capacity before the horizon year of 2040.

2. Net new peak hour trips are relative to the No Action Alternative weekday peak hour trips.

As show in Table 4-10, trips to and from the CHRLF would decrease compared to existing conditions with Alternative 1 Option 3 due to the main support facilities being located at the Renton Site.

The overall net new peak hour trips for Alternative 1 is the same for Options 1, 2, and 3; however, with Option 3 there is a change in travel patterns with trucking and maintenance staff based at the Renton Site. The change in travel patterns results in a reduction in trips at the CHRLF site compared to the No Action and an increase in trips to and from the Renton Site.

Table 4-10 shows the trip generation for Alternative 1 Option 3 in the Opening Year is estimated to be 150 net new daily trips with 5 trips occurring during the weekday AM and Midday peak hours. No new trips are generated with Alternative 1 Option 3 in the Design Year because CHRLF reaches capacity in 2037; however, the Alternative 1 Option 3 trip generation reflects the shift in trips from CHRLF to the Renton Site with the relocation of the main support facilities.

Figure 4-15 below provides an understanding of the anticipated time of day for the trips to/from the proposed Renton Maintenance facility. The truck trips are forecast to occur prior to the weekday AM commuter peak period and after the weekday PM peak hours as well as outside of typical school (such as Renton Technical College discussed in greater detail below) operating hours. The timing of Alternative truck trips is when general traffic volumes and non-motorized activity is generally low. The total number of trips would change depending on the analysis year but the time-of-day distribution does not change. This time-of-day distribution is consistent for all Action Alternatives Option 3.

The Renton Technical College (RTC) Campus Master Plan identifies a new Allied Health building located south of NE 4th Street at the southwestern corner of the NE 3rd Street/NE 4th Street/Jefferson Avenue NE intersection. As part of this project, the Master Plan identifies the need for pedestrian improvements of the crossing. A review of the current RTC scheduled classes show that majority of classes on campus begin at 8 a.m. or later. This start time is later than when KCSW haul truck volumes are forecast to be greatest (prior to 7:00 a.m.) as reflected in Figure 4-15, which minimizes the conflicts between students and KCSW operations. The limited classes identified beginning prior to 8:00 a.m. are automotive or culinary courses and not likely to have classes located within the proposed new Allied Health Building. Figure 4-15 shows that any truck activity that would take place in the evening (after the weekday PM peak period) is anticipated to occur over 3 hours. Given the context of the street, which already serves the Renton Transfer Station, it is anticipated that the crossing improvements identified as part of the RTC project would address any anticipated safety



concerns with trucks by likely adding crossing improvements to the NE 3rd Street/Jefferson Avenue NE/NE 4th Street intersection.





#### Figure 4-15 Opening Year Trips by Time of Day for Alternative 1 Option 3 at Renton Site

The CHRLF is estimated to reach capacity in 2037 with Alternative 1 Option 3. Alternative 1 Option 3 would generate up to 316 more trips than existing conditions at the year the landfill reaches capacity; however, a portion of these trips would occur at the Renton Site. The Alternative 1 Option 3 daily trip generation would be 1,128 trips with 626 trips at CHRLF and 502 trips at the Renton Site. The Alternative 1 Option 3 trip generation when the landfill reaches capacity (2037) would be less than Alternative 3 Option 3 in the Design Year (2040), which is estimated to generate 1,167 daily trips with 654 at CHRLF and 513 at the Renton Site. As a result, transportation-related impacts (including traffic volume and operations) for Alternative 1 Option 3 in 2037 would be the same or slightly less than those identified for Alternative 3 Option 3 in the Design Year (see section 4.1.5.2 for more detail).

#### 4.1.3.2.1.2 Trip Distribution and Assignment

The trip distributions to/from CHRLF for Alternative 1 Option 3 are consistent with Alternative 1 Options 1 and 2 (see section 4.1.3.1.1.2) and are shown on Figure 4-1, Figure 4-2, and Figure 4-3. Alternative 1 Option 3 trip distribution to and from the Renton Site consists of two types of trips:

- KCSWD Waste Transfer Vehicles The trucks at the end of the day leave from CHRLF or one of the KCSWD Recycling and Transfer Stations and travel to the Renton Site northbound along the SR 169 corridor. In the morning, the trucks leave the Renton Site to the recycling and transfer stations primarily using the I-405 Ramps via NE 3rd Street. Most waste transfer trips would depart Renton before the weekday AM commuter peak hour and return after the weekday PM evening peak hour as illustrated in Figure 4-15.
- Employee Trips Approximately 2/3 of the employees are redirected from the current location at CHRLF to the proposed Renton Site support facilities. Travel patterns for employees are based on the *OntheMap* Census data, which shows where people work and live in the area and provides an understanding how they would travel.

The project trip distributions for the Renton Site are shown on



Figure 4-16 and Figure 4-17. The project trips are assigned to the study area based on the trip distributions described above. The Alternative 1 Option 3 Opening Year net new trip assignment at the study intersections is illustrated on Figure 4-18 for the weekday AM, Midday, and PM peak hours.

The Alternative 1 trip assignment is added to the No Action Alternative weekday peak hour traffic volumes at the study intersections. The resulting Alternative 1 Option 3 Opening Year traffic volumes are shown on Figure 4-19, Figure 4-20, and Figure 4-21 for the weekday AM, Midday, and PM peak hours, respectively. Table 4-11 summarizes the Opening Year percent increase in traffic volumes at the study intersections that is attributable to Alternative 1 Option 3 during the weekday peak hours.

The Alternative 1 Option 3 Design Year (2040) traffic volume impacts would be less than Alternative 3 Option 3 because the landfill is estimated to close by 2037. Figures and summary tables showing the Alternative 3 Option 3 Design Year traffic volumes and study intersection traffic volume impacts are provided in section 4.1.5.2. Table 4-24 summarizes the percent increase of traffic volumes at the study intersections attributable to Alternative 3 Option 3 during the weekday peak hours for the Design Year conditions. This table shows that the traffic volume impacts in the Renton Site study area are one percent or less for Alternative 3 Option 3. The Alternative 1 Option 3 Design Year traffic volume impacts would be smaller than Alternative 3 in the Design Year since trip generation is less due to landfilling activity closing in 2037.



## King County Haul Trip Distribution for Option 3 Facility Site in Renton

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## Staff Trip Distribution for Option 3 Facility Site in Renton

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## Alternative 1 Option 3 Opening Year Weekday Peak Hour Trip Assignment

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#### Table 4-11 Alternative 1 Option 3 Opening Year Traffic Volume Impact

	Peak Hour Total Entering Vehicles				
Study Intersections	No Action	Net New	Alternative 1	Dereent Sherel	
Study Intersections	NO ACTION	Thps		Percent Share	
1. Coder Creve Bd SE/228th Ave SE	E 2 9	7	501	10/	
1. Cedal Glove Rd SE/22011 Ave SE	526	-/	521	-1%	
2. Cedar Grove Rd SE/SE Lake Francis Rd	613	-5	608	-1%	
3. SR 169/SE Renton MVH /Cedar Grove Rd SE	1,698	-3	1,695	-<1%	
4. Issaquali Hobart Rd SE/Se liviay Valley Ru	1,720	-2	1,718	-<1%	
6. Jacquah Habart Rd SE/Cedal Glove Rd SE	1,535	-2	1,533	-<1%	
7. Jacquich Liebert Dd SE/SR 10 WB Railips	1,120	0	1,120	0%	
7. Issaquali Hobalt Ru SE/ SR 18 EB Rallips	1,105	0	1,105	0%	
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,727	1	1,728	<1%	
9. 154th PI SE/SR 169/SE Renton MVH	3,182	1	3,183	<1%	
10. 140th Way SE/SR 169/SE Renton MVH	3,617	3	3,620	<1%	
11. I-405 NB Ramps/SR 169/SE Renton MVH	3,965	6	3,971	<1%	
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	5,036	8	5,044	<1%	
13. Sunset Blvd N/NE 3rd St	5,475	11	5,486	<1%	
14. Monterey Dr NE/NE 3rd St	2,890	10	2,900	<1%	
15. Edmonds Ave SE/NE 3rd St	2,835	10	2,845	<1%	
16. Jefferson Ave NE/NE 3rd St/NE 4th St	2,765	11	2,776	<1%	
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	2,417	1	2,418	<1%	
Weekday Midday Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	296	-15	281	-5%	
2. Cedar Grove Rd SE/SE Lake Francis Rd	456	-13	443	-3%	
3. SR 169/SE Renton MVH /Cedar Grove Rd SE	1,301	-11	1,290	-1%	
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,130	-2	1,128	-<1%	
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	910	-2	908	-<1%	
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	555	0	555	0%	
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	435	0	435	0%	
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,334	-2	1,332	<1%	
9. 154th PI SE/SR 169/SE Renton MVH	2,354	-2	2,352	<1%	
10. 140th Way SE/SR 169/SE Renton MVH	2,869	2	2,871	<1%	
11. I-405 NB Ramps/SR 169/SE Renton MVH	3,402	10	3,412	<1%	
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	4,210	15	4,225	<1%	
13. Sunset Blvd N/NE 3rd St	4,120	18	4,138	<1%	
14. Monterey Dr NE/NE 3rd St	2,315	18	2,333	1%	
15. Edmonds Ave SE/NE 3rd St	2,225	18	2,243	1%	
16. Jefferson Ave NE/NE 3rd St/NE 4th St	2,175	20	2,195	1%	
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	2.014	-1	2.013	-<1%	
Weekday PM Peak Hour	,		,		
1. Cedar Grove Rd SE/228th Ave SE	418	-52	366	-14%	
2 Cedar Grove Rd SE/SE Lake Francis Rd	517	-47	470	-10%	
3 SR 169/SE Renton MVH /Cedar Grove Rd SE	2 032	-39	1 993	-2%	
4. Issaquah Hobart Rd SE/SE May Valley Rd	2.121	-5	2,116	-<1%	
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1 891	-5	1 886	-<1%	
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1 640	0	1 640	0%	
7. Issaguah Hobart Rd SE/ SR 18 EB Ramps	1 020	0	1 020	0%	
	1,020	0	1,020	070	



Р	eak Hour To	tal Entering Veh	icles
No Action	Net New Trips	Alternative 1 Total Traffic	Percent Share <sup>1</sup>
2,243	-13	2,230	-1%
3,828	-13	3,815	-<1%
4,513	-7	4,506	-<1%
4,332	-1	4,331	-<1%
5,602	30	5,632	1%
6,035	47	6,082	1%
3,295	47	3,342	1%
3,185	47	3,232	2%
3,065	52	3,117	2%
3,038	-12	3,026	-<1%
	P No Action 2,243 3,828 4,513 4,332 5,602 6,035 3,295 3,185 3,065 3,038	Peak Hour To           Net New           No Action         Trips           2,243         -13           3,828         -13           4,513         -7           4,332         -1           5,602         30           6,035         47           3,295         47           3,065         52           3,038         -12	Peak Hour Total Entering Veh           Net New         Alternative 1           No Action         Trips         Alternative 1           2,243         -13         2,230           3,828         -13         3,815           4,513         -7         4,506           4,332         -1         4,331           5,602         30         5,632           6,035         47         6,082           3,295         47         3,232           3,065         52         3,117           3,038         -12         3,026

1. Represent the percent impact of Alternative 1 Option 3 relative to the No Action Alternative for Opening Year conditions.

Alternative 1 Option 3 traffic volume impacts at the study intersections are forecasted to be minimal with volumes decreasing at some study intersections and increasing by two percent or less at other study intersection. As described previously, traffic fluctuates on a daily basis by 5 to 10 percent. The reduction in traffic volumes is because of the shift in travel patterns of staff from CHRLF to the Renton Site. The traffic volume impacts for Alternative 1 Option 3 in the Capacity Year would be consistent with the Alternative 3 Options 3 Design Year analysis (see Table 4-24).



## Alternative 1 Option 3 Opening Year Weekday AM Peak Hour Traffic Volumes

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## Alternative 1 Option 3 Opening Year Weekday Midday Peak Hour Traffic Volumes

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/olumesFIGUREtranspogroup7/74-20



## Alternative 1 Option 3 Opening Year Weekday PM Peak Hour Traffic Volumes

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# ranspogroup 7/ FIGURE

#### 4.1.3.2.2 Traffic Operations

The weekday peak hour traffic operations for the Alternative 1 Option 3 Opening Year conditions are summarized below in Table 4-12.

Table 4-12 Alternative 1 Option 3 Opening Year Weekday Peak Hour LOS Summary							
	No Action Alternative			A	Iternative	e 1	
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS	Delay	WM	
Weekday AM Peak Hour							
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB	
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	13	NB	В	13	NB	
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	D	47	-	D	47	-	
4. Issaquah Hobart Rd SE/SE May Valley Rd	С	34	-	С	34	-	
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	36	-	D	36	-	
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	D	29	WBTL	D	29	WBTL	
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	С	26	-	С	26	-	
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	40	-	D	40	-	
9. 154th PI SE/SR 169/SE Renton MVH	E	71	-	E	71	-	
10. 140th Way SE/SR 169/SE Renton MVH	D	39	-	D	50	-	
11. I-405 NB Ramps/SR 169/SE Renton MVH	D	44	-	D	45	-	
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	F	93	-	F	93	-	
13. Sunset Blvd N/NE 3rd St	Е	59	-	Е	59	-	
14. Monterey Dr NE/NE 3rd St	В	14	-	В	14	-	
15. Edmonds Ave SE/NE 3rd St	В	15	-	В	15	-	
16. Jefferson Ave NE/NE 3rd St/NE 4th St	А	10	-	А	10	-	
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	А	7	-	А	7	-	
Weekday Midday Peak Hour							
1. Cedar Grove Rd SE/228th Ave SE	В	10	SB	В	10	SB	
2. Cedar Grove Rd SE/SE Lake Francis Rd	С	16	NB	С	16	NB	
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	23	-	С	22	-	
4. Issaquah Hobart Rd SE/SE May Valley Rd	А	9	-	А	9	-	
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	А	9	-	А	9	-	
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	В	12	WBTL	В	12	WBTL	
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	9	-	А	9	-	
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	В	17	-	В	17	-	
9. 154th PI SE/SR 169/SE Renton MVH	С	34	-	С	34	-	
10. 140th Way SE/SR 169/SE Renton MVH	D	38	-	D	38	-	
11. I-405 NB Ramps/SR 169/SE Renton MVH	С	26	-	С	27	-	
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	D	43	-	D	44	-	
13. Sunset Blvd N/NE 3rd St	D	42	-	D	42	-	
14. Monterey Dr NE/NE 3rd St	А	9	-	А	9	-	
15. Edmonds Ave SE/NE 3rd St	D	38	-	D	38	-	
16. Jefferson Ave NE/NE 3rd St/NE 4th St	А	8	-	А	8	-	
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	А	7	-	А	7	-	
Weekday PM Peak Hour							
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB	
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	14	NB	В	14	NB	
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	26	-	С	20	-	
4. Issaquah Hobart Rd SE/SE May Valley Rd	Е	57	-	Е	61	-	

	No Action Alternative		Alternative 1		e 1	
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS	Delay	WМ
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	С	23	-	С	23	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	F	78	WBTL	F	78	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	10	-	А	10	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	35	-	D	36	-
9. 154th PI SE/SR 169/SE Renton MVH	E	76	-	E	76	-
10. 140th Way SE/SR 169/SE Renton MVH	D	42	-	D	42	-
11. I-405 NB Ramps/SR 169/SE Renton MVH	В	17	-	В	17	-
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	Е	72	-	E	73	-
13. Sunset Blvd N/NE 3rd St	Е	57	-	E	57	-
14. Monterey Dr NE/NE 3rd St	А	9	-	А	9	-
15. Edmonds Ave SE/NE 3rd St	С	35	-	С	35	-
16. Jefferson Ave NE/NE 3rd St/NE 4th St	В	13	-	В	16	-
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	В	11	-	В	11	-

Note: Shading indicates intersection operating below LOS standard. MVH = Maple Valley Highway

1. Level of Service (A - F) as defined by the Highway Capacity Manual (TRB, 6th Edition)

2. Average delay per vehicle in seconds rounded to the whole second.

 Worst movement or approach reported for side-street stop-controlled intersections. All other intersections are signalized. SB = southbound, NB = northbound, WBTL = westbound through/left turn movement

4. Evaluated using HCM 2000 because HCM 6th Edition does not evaluate the specific phasing of the intersection.

Table 4-12 shows that the study intersections under the Alternative 1 Option 3 Opening Year conditions would operate at the same LOS as the No Action Alternative with increases in delay of approximately 3 seconds or less. The study intersections meet the LOS standards during the weekday AM, Midday, and PM peak hours with the following exceptions:

- SR 169/SE Renton Maple Valley Highway/Cedar Grove Rd SE during the AM peak hour
- Issaquah Hobart Rd SE/SR 18 WB Ramps during the AM and PM peak hours
- 154th Place SE/SR 169/SE Renton MVH during the AM and PM peak hours
- I-405 SB On-Ramp/SR 169/SE Renton Maple Valley Highway/Sunset Blvd N during the AM peak hour

Given that there is no change in delay at the intersections above during the identified peak hours relative to the No Action Alternative, no significant traffic operations impact would occur as a result of Alternative 1 Option 3.

#### 4.1.3.2.3 Construction

Alternative 1 Option 3 construction impacts would be similar to those described for Alternative 1 Options 1 and 2 except the main support facilities construction impact would occur in the Renton Site study area. A construction management plan would be developed and approved by the Renton before beginning construction at the Renton Site.

#### 4.1.4 Alternative 2

Alternative 2 represents an increase in landfill capacity until approximately 2038. Waste haul tractors and trailers and operations/maintenance staff would be based at CHRLF (Options 1 and 2) or Renton (Option 3). When the landfill reaches capacity, for Options 1 and 2 there would continue to be trips at CHRLF related to trucking, and staff and contractor trips related to trucking and maintenance of the environmental control systems, or for Option 3, just trips related to maintenance of the environmental control systems, but no waste haul trips generated related to landfilling. For Option 3, there would be trips at the Renton Site related to trucking, and trucking and maintenance staff trips. Option 3 would be similar to the interim off-site facilities under the No Action Alternative, but the location has been



identified in Renton and the facilities would be built instead of leased. The following describes transportation impacts for Alternative 2 Landfill Development with South and North Options (Options 1 and 2) and with Renton Option (Option 3).

#### 4.1.4.1 Landfill Development with South and North Options (Options 1 and 2)

Alternative 2 Options 1 and 2 is similar to Alternative 1 Options 1 and 2 with the support facilities remaining at the CHRLF. However, the trip generation for Alternative 2 Options 1 and 2 at Opening Year and Design Year is the same as the No Action Alternative and less than Alternative 1 Options 1 and 2 for the Capacity Year.

Table 4-13 shows the estimated weekday trip generation for Alternative 2 Options 1 and 2 under the Opening, Capacity and Design Year conditions. The existing trip generation is provided for context. Trip generation represents the day-to-day activity of CHRLF operations and cumulative impacts with off-site construction trips are evaluated separately in section 4.1.4.1.1 below. Detailed trip generation is provided in Appendix D.

#### Table 4-13 Alternative 2 Options 1 and 2 Estimated Weekday Trip Generation

	Existing	Opening Year	Capacity Year	Design Year <sup>1</sup>
Alternative 2 Options 1 and 2 Daily Trips <sup>2</sup>	812	884	994	340
No Action Alternative Daily Trips	812	884	340	340
Net New Daily Trips <sup>3</sup>	+0	+0	+654	+0
Net New Peak	Hour Alternative	2 Options 1 and 2 T	rips <sup>3</sup>	
AM Peak Hour	0	0	48	0
Midday Peak Hour	0	0	57	0
PM Peak Hour	0	0	45	0

 The design year trip generation for No Action and Alternative 2 reflects only the remaining trucking and trucking/maintenance staffing because the CHRLF reaches capacity before the horizon year of 2040.

Options 1 and 2 include the support facility on-site at the CHRLF.

Net new peak hour trips are relative to the No Action Alternative weekday peak hour trips.

As shown in Table 4-13, Alternative 2 Options 1 and 2 would generate up to 72 more trips than existing conditions in the Opening Year and no net new daily trips in the Opening Year conditions compared to the No Action Alternative. For the Design Year, there would be no new trips with Alternative 2 because both the No Action Alternative and Alternative 2 reach capacity before 2040. No new weekday peak hour trips would be generated in the Opening and Design Years by Alternative 2 Options 1 and 2.

The CHRLF is estimated to reach capacity by 2038 with Alternative 2 Options 1 and 2. Alternative 2 Options 1 and 2 would generate up to 182 more trips than existing conditions at the year the landfill reaches capacity. The Alternative 2 Options 1 and 2 trip generation when the landfill reaches capacity is estimated to be 654 net new trips compared to the No Action Alternative.

Trip generation for Alternative 2 Options 1 and 2 is the same as the No Action Alternative for the Opening and Design Years; therefore, traffic volume and traffic operation impacts for Alternative 2 Options 1 and 2 would be the same as No Action Alternative. Transportation-related impacts (including traffic volume and operations) for Alternative 2 Options 1 and 2 in the Capacity Year (2038) are the same or less than identified for Alternative 3 Options 1 and 2 in the Design Year (see Section 4.1.5.1 for details).

#### 4.1.4.1.1 Construction

As described for Alternative 1, there would be periodic construction with Alternative 2 Options 1 and 2 resulting in off-site trips higher than typical day-to-day operations. The most intense Alternative 2 Options 1 and 2 construction activity would occur for up to four (4) months during the summer in 2027 as shown on Figure 4-22. There is no construction activity in the Design Year because CHRLF



reaches capacity in approximately 2038 and would be closed. Construction activity with off-site trips is temporary and would occur each year during operations of CHRLF.



#### Figure 4-22 Estimated Alternative 2 Options 1 and 2 Annual Construction Trips

Construction related trips in 2027 are estimated to be greatest during the 4th month of construction based on the plan for import and export of soils and equipment. Estimated annual, peak monthly and hourly construction trips for Alternative 2 Options 1 and 2 in 2027 are summarized in Table 4-14.

#### Table 4-14 Estimated Alternative 2 Options 1 and 2 Peak Construction Trips

Total Annual Trips <sup>1</sup>	nnual Trips <sup>1</sup> Peak Monthly Trips <sup>2</sup> Peak Hourly Trip			
88,572	29,785	83		
1. Annual construction trips occur for up to 4 months	between June-September with a peak in 2027 wit	h Alternative 2.		

2. The peak monthly trips occur in the 4th month of construction.

3. The peak hourly trips are calculated based on the peak month of construction activity and assuming the construction trips occur for 12 hours a day for 7 days a week and are evenly distributed.

Table 4-14 shows Alternative 2 Options 1 and 2 would have 83 peak hour construction trips. Peak hour construction trips are distributed to the study area assuming travel patterns similar to the King County Haul distribution to/from the CHRLF site with approximately 70 percent of trips oriented to/from the north, along SR 169 and Cedar Grove Road. The construction trips are added to the Alternative 2 Options 1 and 2 Opening Year traffic volumes. The resulting Alternative 2 Options 1 and 2 traffic volumes during the temporary construction periods are shown on Figure 4-23, Figure 4-24, and Figure 4-25 during the weekday AM, Midday, and PM peak hours, respectively.



## Alternative 2 Options 1 & 2 with Construction Opening Year Weekday AM Peak Hour Traffic Volumes

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FIGURE 4-23



## Alternative 2 Options 1 & 2 with Construction Opening Year Weekday Midday Peak Hour Traffic Volumes

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## FIGURE 4-24



## Alternative 2 Options 1 & 2 with Construction Opening Year Weekday PM Peak Hour Traffic Volumes

Cedar Hills Regional Landfill 2020 Site Development Plan EIS

FIGURE 4-25

Alternative 2 Options 1 and 2 construction impacts on traffic operations are summarized in Table 4-15 for the Cedar Hills study intersections during the weekday peak hours. To estimate the maximum potential construction impacts, the Alternative 2 construction traffic is added to the Alternative 1 Options 1 and 2 forecasts at the study intersections. The Alternative 1 forecasts include 5 net new trips during the weekday peak hours, so the analysis provides for a worse case with new trips related to both landfill operations and construction activities. Traffic operations are evaluated for the Opening Year condition, which generally coincides with the construction period. Construction would occur in the summer when the surrounding network traffic volumes are typically lower; however, the traffic volume forecasts are based on spring counts.

	No A	Action Altern	ative	Alte	Alternative 2 with Construction			
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS	Delay	WM		
Weekday AM Peak Hour								
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB		
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	13	NB	В	14	NB		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	D	47	-	E	60	-		
4. Issaquah Hobart Rd SE/SE May Valley Rd	С	34	-	С	34	-		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	36	-	D	36	-		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	D	29	WBTL	D	30	WBTL		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	С	26	-	С	27	-		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	40	-	D	45	-		
Weekday Midday Peak Hour								
1. Cedar Grove Rd SE/228th Ave SE	В	10	SB	В	11	SB		
2. Cedar Grove Rd SE/SE Lake Francis Rd	С	16	NB	С	18	NB		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	23	-	С	30	-		
4. Issaquah Hobart Rd SE/SE May Valley Rd	А	9	-	А	9	-		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	А	9	-	А	9	-		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	В	12	WBTL	В	13	WBTL		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	9	-	А	9	-		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	В	17	-	В	17	-		
Weekday PM Peak Hour								
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	12	SB		
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	14	NB	В	15	NB		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	26	-	С	32	-		
4. Issaquah Hobart Rd SE/SE May Valley Rd	Е	57	-	Е	61	-		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	С	23	-	С	26	-		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	F	78	WBTL	F	81	WBTL		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	10	-	А	10	-		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	35	-	D	39	-		

#### Table 4-15 Opening Year Weekday Peak Hour With and Without Construction LOS Summary

Note: Shading indicates intersection operating below LOS standard.

1. Level of Service (A - F) as defined by the Highway Capacity Manual (TRB, 6th Edition)

2. Average delay per vehicle in seconds rounded to the whole second.

3. Worst movement or approach reported for side-street stop-controlled intersections. All other intersections are signalized. SB = southbound, NB = northbound, WBTL = westbound through/left turn movement

As shown in Table 4-15, all study intersection would to meet LOS standards under Alternative 2 Options 1 and 2 with construction except the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection. This intersection would operate at LOS D during the weekday AM peak hour under No Action Alternative conditions and with construction. In addition, added construction traffic would reduce the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection to LOS D during the weekday PM peak hour.

Alternative 2 Options 1 and 2 would also generate temporary off-site construction impacts related to construction of the main support facilities. The construction impacts would be the same as described for Alternative 1 Options 1 and 2.

Construction impacts would be temporary and Chapter 5 Mitigation Measures describes the construction management plan that would be implemented during all construction periods with off-site trips.

#### 4.1.4.2 Landfill Development with Renton Site Option (Option 3)

Landfill operations would continue at the CHRLF and the support facilities would be relocated to the Renton Site with Alternative 2 Option 3 similar to Alternative 1 Option 3. Alternative 2 Option 3 trip generation is less than Alternative 1 Option 3 in the Opening and Capacity Years and the same in the Design Year. Table 4-16 shows the estimated weekday trip generation for Alternative 2 Options 1 and 2 under the Opening, Capacity and Design Year conditions. The existing trip generation is provided for context. Trip generation represents the day-to-day activity of CHRLF operations and cumulative impacts with off-site construction trips are evaluated separately in section 4.1.4.2.1.

Table 4-16 Alterna	tive 2 Option	n 3 Estii	mated	Weekda	y Trip Ge	enerati	on				
	Existing	O	pening Y	'ear	Ca	pacity Y	ear	De	Design Year <sup>1</sup>		
	CHRLF/ Total	CHRLF	Renton Site	Total	CHRLF	Renton Site	Total	CHRLF	Renton Site	Total	
Alternative 2 Option 3 Daily Trips	812	510	482	1,034	620	504	1,124	92	248	340	
No Action Alternative Daily Trips	812	884	0	884	340	0	340	340	0	340	
Net New Daily Trips	0	-374	+482	+108	+280	+504	+784	-248	+248	0	
			Net New	/ Peak Ho	ur Alternati	ve 2 Op	tion 3 Tri	ps²			
AM Peak Hour	0	-11	+11	0	+37	+11	+48	-7	+7	0	
Midday Peak Hour	0	-20	+20	0	+37	+20	+57	-13	+13	0	
PM Peak Hour	0	-52	+52	0	-7	+52	+45	-34	+34	0	

1. The design year trip generation for No Action and Alternative 2 reflects only the remaining trucking and trucking/maintenance staffing related trips because the CHRLF would have reached capacity before the horizon year of 2040.

2. Net new peak hour trips are relative to the No Action Alternative weekday peak hour trips.

As shown in Table 4-16, trips to and from the CHRLF would decrease compared to existing conditions with Alternative 2 Option 3 due to the main support facilities being located at the Renton Site.

The overall net new peak hour trips for Alternative 2 is the same for Options 1, 2, and 3; however, with Option 3 there is a change in travel patterns with trucking and maintenance staff based at the Renton Site. The change in travel patterns results in a reduction in trips at the CHRLF site compared to the No Action and an increase in trips to and from the Renton Site. Table 4-16 shows the trip generation for Alternative 2 Option 3 in the Opening Year is estimated to be 108 net new daily trips with no new trips occurring during the peak hours. No new trips are generated with Alternative 2 Option 3 in the Design Year because CHRLF reaches capacity in 2038; however, the Alternative 2 Option 3 trip generation reflects the shift in trips from CHRLF to the Renton Site with the relocation of the main support facilities. Additionally, as shown previously in Figure 4-15 trips occur outside the peak commute periods and typical school operating hours.



The CHRLF is estimated to reach capacity in 2038 with Alternative 2 Option 3. Alternative 2 Option 3 would generate up to 312 more trips than existing conditions at the year the landfill reaches capacity; however, a portion of these trips would occur at the Renton Site. The Alternative 2 Option 3 daily trip generation would be 1,124 trips with 620 trips at CHRLF and 504 trips at the Renton Site. The Alternative 2 Option 3 trip generation when the landfill reaches capacity (2037) would be less than Alternative 3 Option 3 in the Design Year (2040), which is estimated to generate 1,167 daily trips with 654 at CHRLF and 513 at the Renton Site. As a result, transportation-related impacts (including traffic volume and operations) for Alternative 2 Option 3 in the Design Year (see section 4.1.5.2 for more detail).

#### 4.1.4.2.1 Construction

Alternative 2 Option 3 construction impacts at the CHRLF are the same as those described for Alternative 2 Options 1 and 2. Alternative 2 Option 3 also generates temporary construction impacts at the Renton Site related to construction of the support facility. The impacts of temporary construction at the Renton Site would be consistent with Alternative 1 Option 3.

#### 4.1.5 Alternative 3

Alternative 3 represents an increase in landfill capacity until approximately 2046. Waste haul tractors and trailers and operations/maintenance staff would be based at CHRLF (Options 1 and 2) or Renton (Option 3). When the landfill reaches capacity, for Options 1 and 2 there would continue to be trips at CHRLF related to trucking, and staff and contractor trips related to trucking and maintenance of the environmental control systems, or for Option 3, just trips related to maintenance of the environmental control systems, but no waste haul trips generated related to landfilling. For Option 3, there would be trips at the Renton Site related to trucking, and trucking and maintenance staff trips. Option 3 would be similar to the interim off-site facilities under the No Action Alternative, but the location has been identified in Renton and the facilities would be built instead of leased. Transportation impacts of Alternative 3 are evaluated for the off-site transportation system and are related to the combined effects of the landfill development and the main support facilities. The Alternative 3 impacts are described below in terms of Landfill Development with South and North Options (Options 1 and 2) and Landfill Development with Renton Site Option (Option 3).

#### 4.1.5.1 Landfill Development with South and North Options (Options 1 and 2)

Alternative 3 Options 1 and 2 represents all operations and facilities at the CHRLF site. The Options 1 and 2 analysis focuses on the Cedar Hills study area. Options 1 and 2 Renton Site study area transportation impacts would be two percent or less volume increase at the study intersections and are mainly related to access to and from I-405. Traffic volumes, operations, and construction impacts for Alternative 3 Options 1 and 2 during the Opening, Capacity and Design Years are addressed below. The transportation impacts for Alternative 3 Options 1 and 2 occur in the Cedar Hills study area.

#### 4.1.5.1.1 Traffic Volumes

Alternative 3 Options 1 and 2 trip generation, distribution, assignment, and resulting study intersection traffic volumes are summarized for the Opening, Capacity and Design Years.

#### 4.1.5.1.1.1 Trip Generation

Trip generation forecasts are developed for Alternative 3 Options 1 and 2 for Opening Year, Design Year, and estimated year the CHRLF reaches capacity in 2046. Trip generation represents the dayto-day activity of CHRLF operations and cumulative impacts with off-site construction trips are evaluated separately. The trip generation method is described in Section 2.2.2 Alternatives Trip Generation and is consistent for all the Alternatives. Trip generation considers new trips that would be generated by Alternative 3 Options 1 and 2 compared to the No Action Alternative. A summary of the weekday daily and peak hour trips for Alternative 3 Options 1 and 2 is provided in Table 4-17. Existing trips generated at the CHRLF are provided for context. Detailed trip generation estimates are included in Appendix D.

Table 4-17 Alternative 3 Options 1 and 2 Weekday Trip Generation											
Alternative	Existing	Opening Year	Design Year	Capacity Year 2046							
Alternative 3 Options 1 and 2 Daily Trips <sup>1</sup>	812	884	1,028	1,058							
No Action Alternative Daily Trips	812	884	340 <sup>2</sup>	340							
Net New Daily Trips	0	0	+688	+718							
Net New Peak Hour Alternative 3 Options 1 and 2 Trips <sup>3</sup>											
AM Peak Hour	0	0	51	55							
Midday Peak Hour	0	0	61	64							
PM Peak Hour	0	0	45	46							

. . . . .

1. Options 1 and 2 include the support facilities on-site at the CHRLF.

2. The design year trip generation for No Action Alternative reflects only the remaining trucking and trucking/maintenance staffing because the CHRLF reaches capacity before the horizon year of 2040 with this Alternative.

3. Net new peak hour trips are relative to the No Action Alternative weekday peak hour trips.

As shown in Table 4-17, Alternative 3 Options 1 and 2 would generate up to 72 more trips than existing conditions in the Opening Year and would have the same trip generation as the No Action Alternative. The net new trip generation for Alternative 3 Options 1 and 2 in the Design Year is estimated to 688 daily trips with 51 new trips during the weekday AM peak hour, 61 new trips during the weekday Midday peak hour and 45 new trips during the weekday PM peak hour. Alternative 3 Options 1 and 2 Design Year net new trips are higher than during the Opening Year because with the No Action Alternative the CHRLF would be closed. Alternative 3 Options 1 and 2 is estimated to reach capacity in 2046 with a net new trip generation of 718 daily trips with 55 new trips occurring during the weekday AM peak hour trips, 64 new trips in the weekday Midday peak hour trips and 46 new trips in the weekday PM peak hour trips and 46.

There would be no impacts for Alternative 3 Options 1 and 2 in the Opening Year beyond what is already permitted with the No Action Alternative, so, the remainder of this discussion focusses on Alternative 3 Options 1 and 2 Design Year and Capacity Year (2046) conditions.

#### 4.1.5.1.1.2 Trip Distribution and Assignment

The Alternative 3 Options 1 and 2 trip distribution to/from CHRLF are the same as the other action alternatives and are shown on Figure 4-1, Figure 4-2, and Figure 4-3. The Alternative 3 Options 1 and 2 weekday peak hour net new peak trips for the Design Year are assigned to the study intersections as shown on Figure 4-26 for the weekday AM, Midday, and PM peak hours.

Alternative 3 Options 1 and 2 net new trips are added to the No Action Alternative Design Year weekday peak hour study intersection traffic volumes to form the basis of the analysis. Figure 4-27, Figure 4-28, Figure 4-29 shows the Alternative 3 Options 1 and 2 Design Year weekday AM, Midday, and PM peak hours traffic volumes, respectively. Table 4-18 summarizes the percent increase in traffic volumes at the study intersections attributable to Alternative 3 Options 1 and 2 for the Design Year during the weekday peak hours.

	Peak Hour Total Entering Vehicles					
Study Intersections	No Action	Net New Trips	Alternative 3 Total Traffic	Percent Share <sup>1</sup>		
Weekday AM Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	508	51	559	9%		
2. Cedar Grove Rd SE/SE Lake Francis Rd	603	49	652	8%		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,698	49	1,747	3%		
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,740	2	1,742	<1%		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1,685	2	1,687	<1%		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,170	0	1,170	0%		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,160	0	1,160	0%		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,794	34	1,828	2%		
Weekday Midday Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	260	62	322	19%		
2. Cedar Grove Rd SE/SE Lake Francis Rd	426	58	484	12%		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,286	58	1,344	4%		
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,129	4	1,133	<1%		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	989	4	993	<1%		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	570	0	570	0%		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	445	0	445	0%		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,370	39	1,409	3%		
Weekday PM Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	428	46	474	10%		
2. Cedar Grove Rd SE/SE Lake Francis Rd	564	42	606	7%		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	2,149	42	2,191	2%		
4. Issaquah Hobart Rd SE/SE May Valley Rd	2,159	4	2,163	<1%		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	2,039	4	2,043	<1%		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,815	0	1,815	0%		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,130	0	1,130	0%		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	2,479	21	2,500	1%		

#### Table 4-18 Alternative 3 Options 1 and 2 Design Year Traffic Volume Impact

Note: MVH = Maple Valley Highway
 Represent the percent impact of Alternative 3 Options 1 and 2 compared to the No Action Alternative for Design Year conditions.

As shown in the table, the project share at the Cedar Hills study area intersections would be approximately 10 percent or less during both the weekday AM and PM peak hours. During the weekday Midday peak hour when traffic volumes are lower, the Alternative 3 Options 1 and 2 percent share is forecast to range between 5 and 19 percent. Traffic volume impacts at the SR 169/SE Renton Maple Valley Hwy/Cedar Grove Rd SE, which has the highest traffic volume in the study area, are projected to be approximately 2 to 5 percent during the weekday peak hours for Alternative 3 Options 1 and 2.



## Alternative 3 Options 1 & 2 Design Year Weekday Peak Hour Trip Assignment

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FIGURE

4-26



## Alternative 3 Options 1 & 2 Design Year Weekday AM Peak Hour Traffic Volumes

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 4-27



## Alternative 3 Options 1 & 2 Design Year Weekday Midday Peak Hour Traffic Volumes

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## Alternative 3 Options 1 & 2 Design Year Weekday PM Peak Hour Traffic Volumes

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Higher traffic volume impact at the study intersections in the Design Year is because the CHRLF reaches capacity by 2028 with the No Action Alternative resulting in more net new trips for Alternative 3 Options 1 and 2.

As described in Section Chapter 2 Methodology, the primary analysis for the long-range horizon year focuses on the Design Year 2040 consistent with the surrounding jurisdictions transportation planning. Alternative 3 Options 1 and 2 would reach capacity in 2046. The CHRFL traffic grows incrementally. Table 4-19 shows traffic volume impacts for Alternative 3 Options 1 and 2 in 2046 for context of traffic conditions at buildout of the CHRFL with Alternative 3 Options 1 and 2.

	Peak Hou	r Total Ente	ering Vehicles	(2046)	Alternative 3
Study Intersections	No Action	Net New Trips	Alternative 3 Total Traffic	Percent Share	Percent Share Design Year
Weekday AM Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	508	55	563	10%	9%
2. Cedar Grove Rd SE/SE Lake Francis Rd	613	53	666	8%	8%
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,718	52	1,770	3%	3%
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,740	2	1,742	<1%	<1%
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1,700	2	1,702	<1%	<1%
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,180	0	1,180	0%	0%
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,190	0	1,190	0%	0%
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,819	37	1,856	2%	2%
Weekday Midday Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	260	65	325	20%	19%
2. Cedar Grove Rd SE/SE Lake Francis Rd	446	61	507	12%	12%
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,306	62	1,368	5%	4%
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,139	4	1,143	<1%	<1%
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1,009	4	1,013	<1%	<1%
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	570	0	570	0%	0%
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	455	0	455	0%	0%
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,390	41	1,431	3%	3%
Weekday PM Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	438	47	485	10%	10%
2. Cedar Grove Rd SE/SE Lake Francis Rd	589	43	632	7%	7%
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	2,209	43	2,252	2%	2%
4. Issaquah Hobart Rd SE/SE May Valley Rd	2,169	4	2,173	<1%	<1%
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	2,094	4	2,098	<1%	<1%
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,885	0	1,885	0%	0%
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,175	0	1,175	0%	0%
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	2,579	22	2,601	1%	1%

As shown in Table 4-19, generally the Alternative 3 Options 1 and 2 traffic volume impact at the study intersections is the same for both the Design Year and 2046 conditions. The only study intersections where the traffic volume impact is different is along Cedar Grove Road SE. During the AM peak hour, only at the Cedar Grove Road SE/228th Avenue SE intersection and during the midday peak hour the 228th Avenue SE and SR 169 intersections along Cedar Grove Road SE where in 2046 Alternative 3 Options 1 and 2 traffic volume impact would be one percent greater than in the Design Year. As shown in discussion on traffic operations impacts, these intersections in the identified peak hours



have good operations in the future with LOS C or better conditions. Background and CHRLF growth with Alternative 3 Options 1 and 2 in 2046 would not result in impacts beyond those identified in the Design Year.

#### 4.1.5.1.2 Traffic Operations

The traffic operations for the Design Year Alternative 3 Options 1 and 2 are summarized in Table 4-20.

Table 4-20 Alternative 3 Options 1 and 2 Desig	gn Yea	r Week	day Pea	k He	our LOS	S Summa	ary
	No Ac	tion Alte	rnative		l	Alternative	3
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	-	LOS	Delay	WM
Weekday AM Peak Hour							
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB		В	11	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	13	NB		В	14	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	D	44	-		D	52	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	С	34	-		С	34	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	40	-		D	40	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	D	31	WBTL		D	31	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	С	31	-		С	31	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	49	-		D	51	-
Weekday Midday Peak Hour							
1. Cedar Grove Rd SE/228th Ave SE	В	10	SB		В	10	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	15	NB		С	17	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	21	-		С	26	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	А	9	-		А	9	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	А	9	-		А	9	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	В	13	WBTL		В	13	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	9	-		А	9	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	В	17	-		В	17	-
Weekday PM Peak Hour							
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB		В	11	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	С	15	NB		С	16	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	31	-		D	35	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	Е	63	-		Е	63	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	38	-		D	39	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	F	177	WBTL		F	177	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	В	10	-		В	10	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	51	-		D	52	-

Note: Shading indicates intersection operating below LOS standard.

Level of Service (A - F) as defined by the Highway Capacity Manual (TRB, 6th Edition) 1.

Average delay per vehicle in seconds rounded to the whole second. 2.

Worst movement or approach reported for side-street stop-controlled intersections. All other intersections are signalized. SB = southbound, 3. NB = northbound, WBTL = westbound through/left turn movement

As shown in Table 4-20, consistent with the No Action Alternative, most of the study intersections would meet LOS standards under Alternative 3 Options 1 and 2 conditions with the exception of the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE and Issaquah Hobart Road SE/SR 18 WB Ramps intersections which are discussed below.

SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE Intersection - The SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection would operate at LOS D during the weekday AM and PM peak hours with an intersection delay increase of 4 to 8 seconds with



Alternative 3 Options 1 and 2. This study intersection operates below the LOS C standard because of the high traffic volumes along SR 169 during the weekday AM and PM peak hours and only a single through lane in each direction. Mitigation related to this impact is discussed in Chapter 5 Mitigation Measures.

**Issaquah Hobart Road SE/SR 18 WB Ramps Intersection** – The Issaquah Hobart Road SE/SR 18 WB Ramps intersection would operate at LOS D and LOS F during the weekday AM and PM peak hours, respectively; however, no increase in delay with the Alternative 3 Options 1 and 2 is forecast relative to No Action conditions, such that no significant traffic operations impact would occur as a result of Alternative 3 Options 1 and 2.

#### 4.1.5.1.3 Construction

As described for Alternative 1, there would be periodic construction with Alternative 3 Options 1 and 2 resulting in off-site trips higher than typical day-to-day operations. The most intense Alternative 3 Options 1 and 2 construction activity would occur for up to four (4) months during the summer in 2026 as shown on Figure 4-30. Off-site construction activity is temporary and would not occur each year during operations of CHRLF.



Figure 4-30 Estimated Annual Construction Trips at CHRLF – Alternative 3

Construction related trips are estimated to be greatest during the 4th month of construction based on the plan for import and export of soils and equipment. Although 2026 would have the highest annual estimated construction trips, it is anticipated that 2027 would have greater peak hour trips. In addition, 2039 is anticipated to have the highest construction-related traffic within the longer-term horizon. Estimated annual, peak monthly and hourly construction trips for Alternative 3 Options 1 and 2 are summarized in Table 4-21 for 2026, 2027 and 2039.

Table 4-21 Estimated Alternative 3 Options 1 and 2 Peak Construction Trips								
Year	Total Annual Trips <sup>1</sup>	Peak Monthly Trips <sup>2</sup>	Peak Hourly Trips <sup>3</sup>					
2026	90,083	25,079	70					
2027	84,945	26,157	73					
2039	44,971	14,990	42					

1. Annual construction trips occur for up to 4 months between June-September.

2. The peak monthly trips occur in the 4th month of construction.

3. The peak hourly trips are calculated based on the peak month of construction activity and assuming the construction trips occur for 12 hours a day for 7 days a week and are evenly distributed.

The table shows the highest hourly construction trips for Alternative 3 Options 1 and 2 occur in 2027 with 73 peak hourly trips. The Alternative 2 constructions trips are slightly higher than Alternative 3 for the near-term or Opening Year horizon. Construction impacts with Alternative 3 would be consistent with those described for Alternatives 1 and 2 including those related to construction of the main



support facility (see section 4.1.4.1.1). Construction impacts would be temporary and Chapter 5 Mitigation Measures describes the construction management plan that would be implemented during all time periods with off-site construction activity.

The Alternative 3 Options 1 and 2 peak hourly construction trips are estimated to be 42 trips in 2039. Relative to the other action alternatives for the Design Year 2040 conditions, Alternative 3 Options 1 and 2 represents the highest estimated construction trips. The peak hour construction trips are distributed to the study area similar to the King County Haul distribution to/from the CHRLF site with approximately 80 percent of trips oriented to/from the north of Cedar Grove Road along SR 169. The construction trips are added to the Alternative 3 Options 1 and 2 Design Year traffic volumes to form the basis of the analysis (see Figure 4-31, Figure 4-32, Figure 4-33). It should be noted that construction would occur in the summer when the surrounding network traffic volumes are typically lower; however, the traffic volume forecasts is based on spring counts.



## Alternative 3 Options 1 & 2 with Construction Design Year Weekday AM Peak Hour Traffic Volumes

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## Alternative 3 Options 1 & 2 with Construction Design Year Weekday Midday Peak Hour Traffic Volumes

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FIGURE 4-32



## Alternative 3 Options 1 & 2 with Construction Design Year Weekday PM Peak Hour Traffic Volumes

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# affic Volumes

Table 4-22 shows the impacts of construction in the Cedar Hills study area for the Alternative 3 Options 1 and 2 Design Year conditions during the weekday peak hours to understand potential temporary impacts with construction. For context, the without construction Alternative 3 Options 1 and 2 conditions are shown.

	No Action Alternative			Alternative 3 without Construction			Alternative 3 with Construction		
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS	Delay	WM	LOS	Delay	/ WM
Weekday AM Peak Hour									
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB	В	11	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	13	NB	В	14	NB	В	15	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	D	44	-	D	52	-	Е	59	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	С	34	-	С	34	-	С	34	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	40	-	D	40	-	D	40	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	D	31	WBTL	D	31	WBTL	D	31	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	С	31	-	С	31	-	С	31	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	49	-	D	51	-	D	54	-
Weekday Midday Peak Hour									
1. Cedar Grove Rd SE/228th Ave SE	В	10	SB	В	10	SB	В	11	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	15	NB	С	17	NB	С	18	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	21	-	С	26	-	С	29	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	А	9	-	А	9	-	А	9	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	А	9	-	А	9	-	А	9	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	В	13	WBTL	В	13	WBTL	В	13	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	9	-	А	9	-	А	9	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	В	17	-	В	17	-	В	17	-
Weekday PM Peak Hour									
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB	В	12	SB
2. Cedar Grove Rd SE/SE Lake Francis Rd	С	15	NB	С	16	NB	С	17	NB
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	31	-	D	35	-	D	38	-
4. Issaquah Hobart Rd SE/SE May Valley Rd	Е	63	-	Е	63	-	Е	63	-
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	38	-	D	39	-	D	42	-
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	F	177	WBTL	F	177	WBTL	F	180	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	В	10	-	В	10	-	В	10	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	51	-	D	52	-	D	55	-

Note: Shading indicates intersection operating below LOS standard.

Level of Service (A - F) as defined by the Highway Capacity Manual (TRB, 6th Edition) 1.

2. Average delay per vehicle in seconds rounded to the whole second.

Worst movement or approach reported for side-street stop-controlled intersections. All other intersections are signalized. SB = southbound, 3. NB = northbound, WBTL = westbound through/left turn movement

As shown in Table 4-22, all of the study intersections would operate at the same LOS with and without construction except the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE and Issaguah Hobart Rd SE/SR 18 WB Ramps intersections. The SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection would reduce to LOS E with construction during the weekday AM peak hour conditions. As described previously, off-site construction impacts would be temporary lasting approximately 4 months and would not occur during all phases of the project. Chapter 5 Mitigation Measures describes the construction management plan that would be implemented during all periods with off-site construction activity.

At the Issaquah Hobart Rd SE/SR 18 WB Ramps intersection, three additional seconds of delay are estimated to occur with construction during the weekday PM peak hour relative to non-construction conditions and the No Action condition. As noted previously, WSDOT has identified a change in traffic control at this intersection from stop controlled to a roundabout, significantly improving operations and reducing the delay from LOS F to LOS D at this location during the weekday PM peak hour both under No Action conditions and the future Alternative 3 with-construction conditions. The construction of the roundabout is not yet funded and therefore was not reflected in the operational analysis. The impacts of construction are temporary and potential mitigation measures are identified in Chapter 5 Mitigation Measures.

#### 4.1.5.2 Landfill Development with Renton Site Option (Option 3)

Alternative 3 Option 3 represents continued operations at the CHRLF with relocation of the main support facilities to the Renton Site. The traffic volumes, operations, and construction impacts are discussed below for Alternative 3 Option 3 during the Opening, Capacity and Design Years in both the Cedar Hills and Renton Site study areas.

#### 4.1.5.2.1 Traffic Volumes

Alternative 3 Option 3 trip generation, distribution, assignment, and study intersection traffic volumes are summarized for the Opening, Capacity and Design Years.

#### 4.1.5.2.1.1 Trip Generation

Trip generation forecasts are developed for Alternative 3 for the future Opening Year, Design Year, and estimated year the CHRLF reaches capacity in 2046. Trip generation represents the day-to-day activity of CHRLF operations and cumulative impacts with off-site construction trips are evaluated separately. The trip generation method is described in Section 2.2.2 Alternatives Trip Generation and is consistent for all the Alternatives. Trip generation is considered relative to the No Action Alternative to find the net new trips for Alternative 3 Option 3. As described previously, the CHRLF is estimated to reach capacity in 2046 with Alternative 3 Option 3. A summary of the weekday net new trips for Alternative 3 Option 3. A summary of the weekday net new trips for Alternative 3 Option 3. Existing trips generated at the CHRLF are provided for context. Option 3 would relocate the support facilities to Renton; so, the table summarizes trip generation for the CHRLF and Renton site separately. Detailed trip generation estimates are included in Appendix D.

	Existing	Opening Year Design Year <sup>1</sup>				Capa	Capacity Year 2046			
Alternative	CHRLF/ Tota <mark>l</mark>	CHRLF	Renton Site	Total	CHRLF	Renton Site	Total	CHRLF	Renton Site	Total
Alternative 3 Option 3 Daily Trips <sup>1</sup>	812	510	482	992	654	513	1,167	684	523	1,207
No Action Alternative Daily Trips	812	884	-	884	340	-	340	340	-	340
Net New Daily Trips	0	-374	482	108	314	513	827	344	523	867
		N	let New	Peak Ho	our Altern	ative 3	Option 3 T	rips³		
AM Peak Hour	0	-11	11	0	40	11	51	44	11	55
Midday Peak Hour	0	-20	20	0	41	20	61	44	20	64
PM Peak Hour	0	-52	52	0	-7	52	45	-6	52	46

#### Table 4-23 Alternative 3 Option 3 Weekday Trip Generation

1. Option 3 relocates the support facility to Renton.

The design year trip generation for the No Action Alternative reflects only the remaining staffing related trips because the facilities would have reached capacity before the horizon year of 2040.

3. Net new peak hour trips are relative to the No Action Alternative weekday peak hour trips.

As show in Table 4-23, trips to and from the CHRLF would decrease compared to existing conditions with Alternative 3 Option 3 due to the main support facilities being located at the Renton Site.

The Alternative 3 peak hour net new trip generation is the same for Options 1, 2, and 3; however, with Option 3 there is a change in travel patterns with the main support facilities at the Renton Site. The change in travel patterns results in a reduction in trips in the vicinity of the CHRLF site compared to No Action Alternative and an increase in trips to and from the Renton Site. As shown in Table 4-23, Alternative 3 Option 3 is estimated to generate 108 net new daily trips under Opening Year conditions. This trip generation for Alternative 3 Option 3 is approximately 40 trips less than estimated for Alternative 1 Option 3 (which also includes relocation of support facilities to the Renton Site); so, traffic impacts related to Alternative 3 Option 3 in the Opening Year are similar to or less than Alternative 1 Option 3. No traffic operations analysis is provided for Alternative 3 Option 3 Opening Year conditions, see 4.1.3 Alternative 1 for more detail. Additionally, as shown previously in Figure 4-15 trips occur outside the peak commute periods and typical school operating hours.

Alternative 3 Option 3 is estimated to generate 827 net new daily trips in the Design Year with 51 new trips occurring during the weekday AM peak hour, 61 new weekday Midday peak hour trips and 45 new weekday PM peak hour trips. Alternative 3 Option 3 in the Design Year has the highest trip generation compared to the other action alternatives because the CHRLF would operate until 2046 with Alternative 3.

The Alternative 3 Option 3 estimated trip generation when the CHRLF reaches capacity in 2046 would be 867 net new daily trips with 344 new daily trips occurring at the CHRLF facility and 523 daily trips occurring at the Renton Site. The net new peak hour trip generation for Alternative 3 Option 3 would 55 weekday AM peak hour trips, 64 Midday peak hour trips and 46 PM peak hour trips.

#### 4.1.5.2.1.2 Trip Distribution and Assignment

The trip distributions to/from CHRLF is consistent with the other Alternatives and are shown on Figure 4-1, Figure 4-2, and Figure 4-3. The trip distributions to/from the Renton Site are consistent with the other Alternatives and are shown on

Figure 4-16 and Figure 4-17. The weekday net new peak hour trips for the Design Year are assigned to the study intersections based on the trip distributions. The resulting trip assignment is shown on Figure 4-34 for the weekday AM, Midday, and PM peak hours.

The assigned net new generated traffic is added to the No Action Alternative Design Year weekday peak hour traffic volumes at the study intersections. The resulting Alternative 3 Option 3 Design Year weekday peak hour traffic volumes are shown on Figure 4-35, Figure 4-36, and Figure 4-37.



## Alternative 3 Option 3 Design Year Weekday Peak Hour Trip Assignment

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**FIGURE** 



## Alternative 3 Option 3 Design Year Weekday AM Peak Hour Traffic Volumes

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## Alternative 3 Option 3 Design Year Weekday Midday Peak Hour Traffic Volumes

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## Alternative 3 Option 3 Design Year Weekday PM Peak Hour Traffic Volumes

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Table 4-24 summarizes the percent increase of traffic volumes at the study intersections attributable to Alternative 3 Option 3 during the weekday peak hours for the Design Year conditions.

	Peak Hour Total Entering Vehicle					
			Alternative 3			
Study Intersections	No Action	Net New Trips	Option 3 Total Traffic	Percent Share <sup>1</sup>		
Weekday AM Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	508	40	548	7%		
2. Cedar Grove Rd SE/SE Lake Francis Rd	603	38	641	6%		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,698	40	1,738	2%		
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,740	2	1,742	<1%		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1,685	2	1,687	<1%		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,170	0	1,170	0%		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,160	0	1,160	0%		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,794	31	1,825	2%		
9. 154th PI SE/SR 169/SE Renton MVH	3,164	31	3,195	1%		
10. 140th Way SE/SR 169/SE Renton MVH	3,609	33	3,642	1%		
11. I-405 NB Ramps/SR 169/SE Renton MVH	3,980	36	4,016	1%		
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	5,074	25	5,099	1%		
13. Sunset Blvd N/NE 3rd St	5,564	20	5,584	<1%		
14. Monterey Dr NE/NE 3rd St	2,923	14	2,937	1%		
15. Edmonds Ave SE/NE 3rd St	2,858	14	2,872	1%		
16. Jefferson Ave NE/NE 3rd St/NE 4th St	2,793	16	2,809	1%		
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	2,404	31	2,435	1%		
Weekday Midday Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	260	40	300	13%		
2. Cedar Grove Rd SE/SE Lake Francis Rd	426	39	465	9%		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,286	42	1,328	3%		
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,129	1	1,130	<1%		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	989	1	990	<1%		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	570	0	570	0%		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	445	0	445	0%		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,370	34	1,404	2%		
9. 154th PI SE/SR 169/SE Renton MVH	2,325	34	2,359	1%		
10. 140th Way SE/SR 169/SE Renton MVH	2,861	35	2,896	1%		
11. I-405 NB Ramps/SR 169/SE Renton MVH	3,403	42	3,445	1%		
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	4,244	33	4,277	1%		
13. Sunset Blvd N/NE 3rd St	4,194	30	4,224	1%		
14. Monterey Dr NE/NE 3rd St	2,353	22	2,375	1%		
15. Edmonds Ave SE/NE 3rd St	2,243	22	2,265	1%		
16. Jefferson Ave NE/NE 3rd St/NE 4th St	2,193	24	2,217	1%		
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	1,991	33	2,024	2%		
Weekday PM Peak Hour						
1. Cedar Grove Rd SE/228th Ave SE	428	-8	420	-2%		
2. Cedar Grove Rd SE/SE Lake Francis Rd	564	-6	558	-1%		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	2,149	2	2,151	<1%		
4. Issaquah Hobart Rd SE/SE May Valley Rd	2,159	-2	2,157	-<1%		

#### Table 4-24 Alternative 3 Option 3 Design Year Traffic Volume Impact



5 Jacobier B. J. B.	0.000	0	0.007	4.07
5. Issaquan Hobart Rd SE/Cedar Grove Rd SE	2,039	-2	2,037	-<1%
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,815	0	1,815	0%
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,130	0	1,130	0%
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	2,479	9	2,488	<1%
9. 154th PI SE/SR 169/SE Renton MVH	3,849	9	3,858	<1%
10. 140th Way SE/SR 169/SE Renton MVH	4,565	14	4,579	<1%
11. I-405 NB Ramps/SR 169/SE Renton MVH	4,346	18	4,364	<1%
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	5,783	42	5,825	1%
13. Sunset Blvd N/NE 3rd St	6,269	50	6,319	1%
14. Monterey Dr NE/NE 3rd St	3,410	47	3,457	1%
15. Edmonds Ave SE/NE 3rd St	3,260	47	3,307	2%
16. Jefferson Ave NE/NE 3rd St/NE 4th St	3,155	52	3,207	2%
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	3,065	8	3,073	<1%

Note: MVH = Maple Valley Highway

1. Represent the percent impact of Alternative 3 Option 3 relative to the No Action Alternative for Design Year conditions.

As shown in Table 4-24, the project share at the Cedar Hills study area intersections are forecast to range between less than one percent to 13 percent during the weekday AM and Midday peak hours and two percent or less during the weekday PM peak hour. During the weekday PM peak hour, the forecast reduction in trips in the Cedar Hills study area is because of the shifting of staff from CHRLF to the Renton Site. For the Renton Site study intersections, the traffic volume impacts are two percent or less for Alternative 3 Option 3 Design Year conditions.

As described in Section Chapter 2 Methodology, the primary analysis for the long-range horizon year focuses on the Design Year 2040 consistent with the surrounding jurisdictions' transportation planning. Alternative 3 Options 3 would reach capacity in 2046. The CHRFL traffic grows incrementally, so, Table 4-25 shows traffic volume impacts for Alternative 3 Option 3 in 2046 for context.

	Peak				
Study Intersections	No Action	Net New Trips	Alternative 3 Option 3 Total Traffic	Percent Share <sup>1</sup>	Alternative 3 Percent Share Design Year <sup>1</sup>
AM Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	508	44	552	8%	7%
2. Cedar Grove Rd SE/SE Lake Francis Rd	613	42	655	6%	6%
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,718	43	1,761	2%	2%
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,740	2	1,742	<1%	<1%
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1,700	2	1,702	<1%	<1%
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,180	0	1,180	0%	0%
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,190	0	1,190	0%	0%
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,819	34	1,853	2%	2%
9. 154th PI SE/SR 169/SE Renton MVH	3,179	34	3,213	1%	1%
10. 140th Way SE/SR 169/SE Renton MVH	3,614	36	3,650	1%	1%
11. I-405 NB Ramps/SR 169/SE Renton MVH	3,995	38	4,033	1%	1%
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	5,079	27	5,106	1%	1%
13. Sunset Blvd N/NE 3rd St	5,584	21	5,605	<1%	<1%
14. Monterey Dr NE/NE 3rd St	2,933	14	2,947	<1%	1%
15. Edmonds Ave SE/NE 3rd St	2,868	14	2,882	<1%	1%
16. Jefferson Ave NE/NE 3rd St/NE 4th St	2,803	16	2,819	1%	1%

#### Table 4-25 Alternative 3 Option 3 2046 Traffic Volume Impact



Final Transportation Discipline Report Cedar Hills Regional Landfill 2020 Site Development Plan

17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	2,409	34	2,443	1%	1%
Midday Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	260	43	303	14%	13%
2. Cedar Grove Rd SE/SE Lake Francis Rd	446	42	488	9%	9%
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	1,306	46	1,352	3%	3%
4. Issaquah Hobart Rd SE/SE May Valley Rd	1,139	1	1,140	<1%	<1%
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	1,009	1	1,010	<1%	<1%
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	570	0	570	0%	0%
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	455	0	455	0%	0%
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	1,390	36	1,426	2%	2%
9. 154th PI SE/SR 169/SE Renton MVH	2,325	36	2,361	1%	1%
10. 140th Way SE/SR 169/SE Renton MVH	2,861	37	2,898	1%	1%
11. I-405 NB Ramps/SR 169/SE Renton MVH	3,413	44	3,457	1%	1%
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	4,244	35	4,279	1%	1%
13. Sunset Blvd N/NE 3rd St	4,204	31	4,235	1%	1%
14. Monterey Dr NE/NE 3rd St	2,353	22	2,375	1%	1%
15. Edmonds Ave SE/NE 3rd St	2,263	22	2,285	1%	1%
16. Jefferson Ave NE/NE 3rd St/NE 4th St	2,203	24	2,227	1%	1%
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	1,991	35	2,026	2%	2%
PM Peak Hour					
1. Cedar Grove Rd SE/228th Ave SE	438	-7	431	-2%	-2%
2. Cedar Grove Rd SE/SE Lake Francis Rd	589	-5	584	-1%	-1%
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	2,209	3	2,212	<1%	<1%
4. Issaquah Hobart Rd SE/SE May Valley Rd	2,169	-2	2,167	-<1%	-<1%
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	2,094	-2	2,092	-<1%	-<1%
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	1,885	0	1,885	0%	0%
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	1,175	0	1,175	0%	0%
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	2,579	10	2,589	<1%	<1%
9. 154th PI SE/SR 169/SE Renton MVH	3,869	10	3,879	<1%	<1%
10. 140th Way SE/SR 169/SE Renton MVH	4,585	15	4,600	<1%	<1%
11. I-405 NB Ramps/SR 169/SE Renton MVH	4,366	18	4,384	<1%	<1%
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	5,818	42	5,860	1%	1%
13. Sunset Blvd N/NE 3rd St	6,339	50	6,389	1%	1%
14. Monterey Dr NE/NE 3rd St	3,440	47	3,487	1%	1%
15. Edmonds Ave SE/NE 3rd St	3,295	47	3,342	1%	2%
16. Jefferson Ave NE/NE 3rd St/NE 4th St	3,185	52	3,237	2%	2%
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	3,075	9	3,084	<1%	<1%

Note: MVH = Maple Valley Highway

1. Represent the percent impact of Alternative 3 Option 3 relative to the No Action Alternative.

As shown in Table 4-25, generally the Alternative 3 Option 3 traffic volume impact at the study intersections is the same for both the Design Year and 2046 conditions. The only study intersection where the traffic volume impact is different is at the 228th Avenue SE/Cedar Grove Road SE during the weekday AM and Midday peak hours. The Alternative 3 Option 3 2046 traffic volume impact would be up to one percent greater than in the Design Year. As shown in the following discussion on traffic operations impacts, the 228th Avenue SE/Cedar Grove Road SE intersection would have good operations in the future with LOS B conditions during the weekday peak hours. The background and CHRLF growth with Alternative 3 Option 3 in 2046 would not result in impacts beyond those identified in the Design Year.



#### 4.1.5.2.2 Traffic Operations

The traffic operations for Alternative 3 Option 3 in the Design Year are summarized in Table 4-26.

Table 4-26 Alternative 3 Option 3 Design Year Weekday Peak Hour LOS Summary								
No Action Alternative					Alternative 3			
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup>	LOS	Delay	WM		
Weekday AM Peak Hour								
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB		
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	13	NB	В	14	NB		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	D	44	-	D	50	-		
4. Issaquah Hobart Rd SE/SE May Valley Rd	С	34	-	С	34	-		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	40	-	D	40	-		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	D	31	WBTL	D	31	WBTL		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	С	31	-	С	31	-		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	49	-	D	51	-		
9. 154th PI SE/SR 169/SE Renton MVH	Е	71	-	Е	71	-		
10. 140th Way SE/SR 169/SE Renton MVH	D	50	-	D	50	-		
11. I-405 NB Ramps/SR 169/SE Renton MVH	D	42	-	D	43	-		
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	F	93	-	F	93	-		
13. Sunset Blvd N/NE 3rd St	E	60	-	Е	58	-		
14. Monterey Dr NE/NE 3rd St	В	14	-	В	14	-		
15. Edmonds Ave SE/NE 3rd St	В	16	-	В	16	-		
16. Jefferson Ave NE/NE 3rd St/NE 4th St	А	10	-	В	10	-		
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	А	7	-	А	7	-		
Weekday Midday Peak Hour								
1. Cedar Grove Rd SE/228th Ave SE	В	10	SB	В	10	SB		
2. Cedar Grove Rd SE/SE Lake Francis Rd	В	15	NB	С	16	NB		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	21	-	С	24	-		
4. Issaquah Hobart Rd SE/SE May Valley Rd	А	9	-	А	9	-		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	А	9	-	А	9	-		
6. Issaquah Hobart Rd SE/SR 18 WB Ramps	В	13	WBTL	В	13	WBTL		
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	А	9	-	А	9	-		
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	В	17	-	В	17	-		
9. 154th PI SE/SR 169/SE Renton MVH	С	34	-	С	34	-		
10. 140th Way SE/SR 169/SE Renton MVH	D	39	-	D	39	-		
11. I-405 NB Ramps/SR 169/SE Renton MVH	С	27	-	С	27	-		
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	D	44	-	D	45	-		
13. Sunset Blvd N/NE 3rd St	D	42	-	D	42	-		
14. Monterey Dr NE/NE 3rd St	А	10	-	А	10	-		
15. Edmonds Ave SE/NE 3rd St	D	39	-	D	39	-		
16. Jefferson Ave NE/NE 3rd St/NE 4th St	А	8	-	А	8	-		
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	А	8	-	А	8	-		
Weekday PM Peak Hour								
1. Cedar Grove Rd SE/228th Ave SE	В	11	SB	В	11	SB		
2. Cedar Grove Rd SE/SE Lake Francis Rd	С	15	NB	В	15	NB		
3. SR 169/SE Renton MVH/Cedar Grove Rd SE	С	31	-	С	30	-		
4. Issaquah Hobart Rd SE/SE May Valley Rd	Е	63	-	Е	63	-		
5. Issaquah Hobart Rd SE/Cedar Grove Rd SE	D	38	-	D	38	-		



6. Issaquah Hobart Rd SE/SR 18 WB Ramps	F	177	WBTL	F	177	WBTL
7. Issaquah Hobart Rd SE/ SR 18 EB Ramps	В	10	-	В	10	-
8. SE Jones Rd/196th Ave SE/SR 169/SE Renton MVH	D	51	-	D	53	-
9. 154th PI SE/SR 169/SE Renton MVH	Е	78	-	Е	78	-
10. 140th Way SE/SR 169/SE Renton MVH	D	43	-	D	43	-
11. I-405 NB Ramps/SR 169/SE Renton MVH	В	17	-	В	17	-
12. I-405 SB On-Ramp/SR 169/SE Renton MVH/Sunset Blvd N	Е	80	-	Е	78	-
13. Sunset Blvd N/NE 3rd St	Е	59	-	Е	60	-
14. Monterey Dr NE/NE 3rd St	А	10	-	А	10	-
15. Edmonds Ave SE/NE 3rd St	D	36	-	D	37	-
16. Jefferson Ave NE/NE 3rd St/NE 4th St	В	14	-	В	17	-
17. 149th Ave SE/SR 169/SE Renton Maple Valley Hwy	В	11	-	В	11	-

Note: Shading indicates intersection operating below LOS standard.

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 6th Edition)

2. Average delay per vehicle in seconds rounded to the whole second.

3. Worst movement or approach reported for side-street stop-controlled intersections.

4. Evaluated using HCM 2000 because HCM 6th Edition does not evaluate the specific phasing of the intersection.

Table 4-26 shows that the study intersections under the Design Year Alternative 3 Option 3 would operate at the same LOS as the No Action Alternative with increases in delay of approximately 3 seconds or less. The study intersections meet the LOS standards during the weekday AM, Midday, and PM peak hours with the exception of the following intersections:

- SR 169/SE Renton Maple Valley Highway/Cedar Grove Rd SE during the AM peak hour
- Issaquah Hobart Rd SE/SR 18 WB Ramps during the AM and PM peak hours
- 154th Place SE/SR 169/SE Renton MVH during the AM and PM peak hours
- I-405 SB On-Ramp/SR 169/SE Renton Maple Valley Highway/Sunset Blvd N during the AM peak hour

With the exception of SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE, which is discussed below, the remaining 3 intersections have no change in delay during the identified peak hours relative to the No Action Alternative, such that, no significant traffic operations impact would occur as a result of Alternative 1 Option 3.

**SR 169/SE Renton Maple Valley Highway/Cedar Grove Rd SE** – During the weekday AM peak hour, the SR 169/SE Renton Maple Valley Highway/Cedar Grove Rd SE intersection would operate at LOS D under both the No Action Alternative and Alternative 3 Option 3 for the Design Year. The SR 169/SE Renton Maple Valley Highway/ Cedar Grove Rd SE intersection would not meet the LOS standard in the future with or without Alternative 3. The intersection is forecast to have an increase in delay of approximately 7 seconds with Alternative 3 Option 3 relative to No Action conditions. Mitigation related to this impact is discussed in Chapter 5 Mitigation Measures.

#### 4.1.5.2.3 Construction

Alternative 3 Option 3 construction impacts at the CHRLF and surrounding study area are the same as those described for Alternative 3 Options 1 and 2. Alternative 3 Option 3 also generates temporary construction impacts at the Renton Site related to construction of the support facility. The impacts of temporary construction at the Renton Site would be consistent with those described for Alternative 1 Option 3.

### 4.2 Indirect and Cumulative Impacts

Secondary and cumulative impacts on the transportation system in each study area are included in the analysis of direct impacts including consideration of vehicular and non-motorized travel. The



primary analysis considers increases in all modes of travel including pedestrians associated with the RTC expansion and growth in the Renton area and potential conflicts with the action alternative Option 3. It is noted that the KCSW trucking associated with hauling/mobilizing occurs during the off-peak periods when pedestrian volumes are anticipated to be lower (see Figure 4-15 Opening Year Trips by Time of Day for Alternative 1 Option 3 at Renton Site). Cumulative impacts with the combined effects of traffic being generated by increases in capacity of the CHRLF and construction activities are also included in the analysis. Mitigation measures related to construction is described in Chapter 5 Mitigation Measures.

#### 4.2.1 CHRLF Operations

King County waste haul operations currently take place 7-days a week and is assumed in the analysis described in the previous sections. There is a potential that future operations could be 5-days a week. The change in operations to 5-days a week is not part of the Cedar Hills Regional Landfill 2020 Site Development Plan and could occur with or without the CHRLF project. A sensitivity analysis was conducted to evaluate potential changes in impacts if operations of the waste haul trucks were change to 5-days a week (weekdays only). The key assumptions for 5-day operations review include:

- All Alternatives If implemented, the 5-day operations could occur under all Alternatives (both No Action and Action) since it would occur regardless of the Cedar Hills Regional Landfill 2020 Site Development Plan.
- Weekly King County Waste Haul Trips The total forecast weekly King County Waste Haul trips would remain unchanged (no change in forecast tonnage); however, to transfer the same tonnage, more trips would take place on the weekdays. KCSWD has indicated that slightly more trips would occur at the beginning of the week (Monday and Tuesday) compared with end of the week (Thursday and Friday). The distribution of CHRLF trips over the week is illustrated on Figure 4-38 including a comparison of 5- and 7-day operations.
- **Staffing** –The staffing totals would also be reduced on the weekends, consistent with the totals seen after the facility has reached capacity. Weekend staff and contractors would be related to trucking and maintenance of the environmental control systems at the CHRLF.



Figure 4-38 Weekly Distribution of King County Waste Haul Truck Trips

The detailed trip generation for the 5-day operations is included in Appendix D.

Based on the assumptions noted above for the 5-day operations, a comparison of trip generation for the 5- and 7-day operations is summarized in Table 4-27. The trip generation for the 5-day operations is based on the peak weekday trips, which as shown on Figure 4-38, occurs at the beginning of the week on Monday and Tuesday.

		Opening Year				
	No Action	Alternative 1 <sup>2</sup>	Net New (Alt 1 relative to NA)	No Action <sup>1</sup>	Alternative 3 <sup>2</sup>	Net New (Alt 3 relative to NA)
Daily Trips						
7-Day Operations	884	926	+ 42	340	1,028	688
5-Day Operations	954	996	+ 42	340	1,118	778
Difference	+ 70	+ 70	-	-	+ 90	+ 90
AM Peak Hour						
7-Day Operations	48	53	+5	10	61	+51
5-Day Operations	52	57	+5	10	69	+59
Difference	+4	+4	-	-	+8	+8
Midday Peak Hour						
7-Day Operations	64	69	+5	18	79	+61
5-Day Operations	70	75	+5	18	89	+71
Difference	+6	+6	-	-	+10	+10
PM Peak Hour						
7-Day Operations	89	89	0	47	92	+45
5-Day Operations	92	92	0	47	96	+49
Difference	+3	+3	-	-	+4	+4

The Design Year trip generation for No Action reflects the remaining trucking and trucking/maintenance staff related trips because the facility 1 would reach capacity before the horizon year of 2040.

Alternatives 1 and 3 reflect Options 1 and 2 conditions.

As shown in the Table 4-27 trip generation summary, under the Opening Year condition, there would be up to 6 additional trips per peak hour or 70 trips on the peak weekday with the change from 7-day to 5-day operations. Under the Design Year condition, the change in operations is up to 10 trips per peak hour or 90 trips on the peak weekday with the change from 7-day to 5-day operations.

Given the minimal increase in trips with the potential change to 5-day operations, the impacts of the alternatives are anticipated to be similar to 7-day operations described in the previous sections. The analysis identified potential alternative impacts at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Rd SE intersection. An additional review was completed at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Rd SE intersection to verify potential impacts with the 5day operations. Table 4-28 summarizes the intersection operations analysis at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Rd SE intersection.

### Table 4-28 Intersection LOS at SR 169/SE Renton Maple Valley Hwy/Cedar Grove Rd SE with 5-Day Operations

SP 160/SE Penton Maple Valley	No Action	Alternative	Action Alternat	Action Alternative Options 1 and 2 <sup>3</sup>		
Hwy/Cedar Grove Rd SE	LOS <sup>1</sup> Delay <sup>2</sup>		LOS	Delay		
Opening Year						
Weekday AM Peak Hour	D	50	D	50		
Weekday Midday Peak Hour	С	24	С	24		
Weekday PM Peak Hour	С	26	С	26		
Design Year						
Weekday AM Peak Hour	D	44	E	53		
Weekday Midday Peak Hour	С	21	С	27		
Weekday PM Peak Hour	С	31	D	35		

Note: Shading indicates intersection operating below LOS standard.

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 6th Edition)

Average delay per vehicle in seconds rounded to the whole second.
 Opening Year = Alternative 1, Design Year = Alternative 3.

The forecast operations at the SR 169/SE Renton Maple Valley Hwy/Cedar Grove Rd SE with 5-day operations are consistent with the 7-day operations presented previously with the delay within 1 second of the 7-day operations. A change in delay of 1 second is not anticipated to result in different mitigation measures for the 5- and 7-day operations. Mitigation related to this impact is discussed in Chapter 5 Mitigation Measures.

### 4.3 Alternative Construction Considerations

As described in the primary analysis, construction trips would occur with the action alternatives periodically through the life of the project for up to four (4) months in some years. Temporary construction trips would be added to the typical daily and hourly trip generation of the action alternatives to form the basis of the analysis. The alternatives analysis assumes the travel patterns of construction trips are similar to the King County Haul trips with trips dispersed throughout the region.

KCSW may also identify a specific site where soil import/export may be stored resulting in construction trips being concentrated at one location. The specific location of such a site is not determined; however, if a site was identified then localized construction impacts in the immediate vicinity of the site would be greater than evaluated as part of the alternatives construction analysis. A more detailed evaluation of the local traffic impacts and mitigations would be conducted if a specific site is identified as part of the construction for the alternatives. Consistent with the Opening Year and Design Year analysis above, any construction impacts would be temporary and Chapter 5 Mitigation Measures describes the construction management plan that would be implemented during all construction periods with off-site trips. A similar construction management plan would be anticipated even with a specific site for soil import/export.

### 5 Mitigation Measures

This chapter presents mitigation measures that would offset or reduce potential impacts of the action alternatives. The impacts of the action alternatives described in Chapter 4 Environmental Impacts are similar, which would result in similar mitigation measures for the action alternatives.

### 5.1 Intersection Improvement

The evaluation of the Alternatives showed that the action alternatives would have a significant traffic operations impact at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection. No other significant traffic operations impacts requiring mitigation are identified in the Cedar Hills and Renton Site study areas.

### 5.1.1 Timing of Traffic Impact

The SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection would operate below the LOS C standard in the Opening Year for the No Action Alternative and the action alternatives for Options 1, 2 and 3 during the weekday AM peak hour. The action alternatives would not increase delay at this intersection in the Opening Year; so, there are no significant impacts that would require mitigation at this intersection in the short-term.

The long-term Design Year analysis shows that Alternative 3 Options 1, 2 and 3 would have a significant traffic operations impact at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection. The intersection would operate at LOS D during the weekday AM peak hour, which is below the LOS C standard, and Alternative 3 Options 1, 2 and 3 would increase delay relative to the No Action Alternative. In addition, with Alternative 3 Options 1 and 2 the intersection operations would be reduced from LOS C with the No Action Alternative to LOS D during the weekday PM peak hour.

KCSWD projects annual incremental increases in CHRLF traffic with the No Action Alternative and all the action alternatives. The evaluation of Opening and Design Year conditions bookends when impacts are anticipated with the action alternatives. Trips associated with waste tonnage increases are consistent with all action alternatives and it is anticipated that sometime between 2025 and 2040 before CHRLF reaches capacity the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection would be impacted by the action alternatives. The Design Year analysis of Alternatives 1 and 2 Options 1, 2 and 3 showed the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection would not be impacted in the Design Year because the CHRLF would reach capacity and close to landfilling before 2040; however, these alternatives would impact the intersection before reaching capacity.

A year-by-year evaluation of increases in action alternatives traffic was conducted to find the timing for the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection significant traffic operations impact. The analysis shows that the action alternatives would impact the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection by approximately 2029. This timing corresponds to when the CHRLF would reach capacity with the No Action Alternative.

### 5.1.2 Potential Improvement

The SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection is under WSDOT's jurisdiction. WSDOT requires an Intersection Control Evaluation (ICE) be prepared as part of the design for intersection improvements. Before planning, designing and construction, the mitigation for SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE WSDOT would require the ICE to finalize the improvement. A review of intersection operations shows that provision of an approximately 100-foot northbound (or northwest bound) right-turn lane along SR 169 would mitigate the potential traffic impact of the Acton Alternatives. Installation of the right-turn lane is recommended with all the action alternatives (Alternatives 1, 2, 3 with Options 1, 2, and 3). Table 5-1 provides a



summary of intersection operations with the proposed mitigation measure. Traffic operations are shown for Alternative 3 Options 1 and 2 in the Design Year representing the highest traffic levels projected at this intersection.

Table 5-1 Design Year Intersection LOS with Right-Turn Lane Mitigation							
SR 169/SE Renton Manle Valley	No Action Alternative		Alternative 3 C No Mit	Options 1 and 2 igation	Alternative 3 Options 1 and 2 with Mitigation		
Hwy/Cedar Grove Rd SE	LOS <sup>1</sup>	Delay <sup>2</sup>	LOS	Delay	LOS	Delay	
Weekday AM Peak Hour	D	44	D	52	С	26	
Weekday Midday Peak Hour	С	21	С	26	В	19	
Weekday PM Peak Hour	С	31	D	35	С	35	

Note: Shading indicates intersection operating below LOS standard.

1. Level of Service (A - F) as defined by the Highway Capacity Manual (TRB, 6th Edition)

2. Average delay per vehicle in seconds rounded to the whole second.

As shown in Table 5-1, construction of a right-turn lane at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection would mitigate the impacts of the action alternatives.

#### 5.1.3 Traffic Monitoring

The intersection mitigation measure is intended to offset the potential transportation impact of the action alternatives that would occur in approximately 2029. The increase in capacity of the landfill with the action alternatives will occur for the next 17- to 26-years depending on the action alternative. The transportation mitigation should be implemented when the impact would occur. The Applicant is coordinating with WSDOT on an agreement for a traffic monitoring program to ensure the appropriate mitigation is in place in a timely manner.

### 5.2 Construction Management Plan

Traffic impacts related to construction would be temporary and would occur periodically throughout the life of the CHRLF during the summer months. The primary analysis presented is based on spring traffic data and traffic volumes are generally lower during the summer with school not being in session; so, actual traffic operations may be better than presented for the action alternatives.

Off-site construction activity would be related to the import and export of soils. The Applicant will develop a Construction Management Plan (CMP) describing procedures for construction activity including such as truck routes and hours of operation. The CMP would be based on more detailed information on construction activity based on a refined design for the CHRLF including more detail related to soil import and export, specific information from the contractor on numbers and types of trucks and working with the agencies. All action alternatives would include development of the CMP.

When it occurs, off-site construction traffic would occur 7-days a week over a 12-hour period. The following would be considered in the CMP to mitigate potential impacts of construction activity:

- Construction activities would be scheduled so that the most intensive activities in terms of construction traffic are spread out over time and minimize the intensity during peak periods of traffic congestion, where possible.
- Truck routes would be identified, and consideration would be given to not routing all traffic via SR 169 to reduce the impact at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection. Not all construction trips are routed to/from SR 169 for the primary analysis. The primary analysis shows there is capacity at the Issaquah Hobart Road SE intersections with SE May Valley Road and Cedar Grove Road SE to accommodate the temporary trips related to construction.
- Manual traffic control (flaggers) could be provided at the CHRLF access and SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection, as appropriate.



Section 5.1 Intersection Improvement describes the potential right-turn lane to mitigate long-term impacts of the action alternatives. If this mitigation is implemented, construction impacts would be less than described in Chapter 4 Environmental Impacts. Table 5-2 shows the traffic operations of the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection during construction with implementation of the right-turn lane.

Table 5-2 Design Year Intersection LOS During Construction with Right-Turn Lane Mitigat         Alternative 3 Options 1 and 2         No Action Alternative       Alternative 3 Options 1 and 2         with Construction No       with Construction No         Mitigation       Mitigation								
Hwy/Cedar Grove Rd SE	LOS <sup>1</sup>	Delay <sup>2</sup>	LOS	Delay	LOS	Delay		
Weekday AM Peak Hour	D	44	E	59	С	29		
Weekday Midday Peak Hour	С	21	С	29	С	21		
Weekday PM Peak Hour	С	31	D	38	D	38		

Note: Shading indicates intersection operating below LOS standard.

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 6th Edition)

2. Average delay per vehicle in seconds rounded to the whole second.

As shown in Table 5-2, construction of the right-turn lane would improve operations of the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection during construction for the weekday AM and Midday peak hours; however, it would not fully mitigate the impacts of construction during the weekday PM peak hour. As described previously, the CMP would be implemented to mitigate the temporary impacts during construction.

### 5.3 Transportation Impact Fee

Renton requires development to pay a transportation impact fee to offset potential impacts to the transportation system. The transportation impact fees are based on the *2021-2022 City of Renton Fee Schedule*, July 2021. King County and WSDOT do not have a transportation impact fee program. Renton transportation impact fees would only be required with Option 3 with the relocation of the main support facilities to the Renton Site. The support facilities include a 17,000 square-foot administrative building and a 30,000 square-foot maintenance facility. Table 5-3 provides a preliminary estimate of the Renton transportation impact fee. The maintenance facility is assumed to be equivalent to a light industrial use.

Table 5-3 Preliminary Estimate of Renton Transportation Impact Fee with Option 3								
Land Use	Development Size	Impact Fee Rate <sup>1</sup>	Impact Fee					
Administrative Building (General Office)	17,000 square-feet	\$14.58 per square foot	\$247,860					
Maintenance Facility (Light Industrial)	30,000 square feet	\$9.50 per square foot	<u>\$285,000</u>					
Net New \$532,860								
1. Fee based on 2021-2022 City of Renton Fee Schedule, July 2021.								

As shown in Table 5-3, with Option 3, the preliminary fee estimate for the action alternatives is \$532,860. This fee estimate is preliminary and would be reviewed and finalized by Renton during the permitting of the support facility.

### 6 Significant Unavoidable Adverse and Secondary Impacts

The action alternatives would increase the capacity of the CHRLF allowing for it to remain open for an additional 9 to 18-years beyond what would occur with the No Action Alternative. KCSWD anticipates that the tonnage of waste to the CHRLF would grow annually, which would result in additional trips to and from the CHRLF. With implementation of the proposed intersection mitigation, there would be no significant and unavoidable impacts related solely to the increase in capacity of the CHRLF.

The I-405 Southbound On-Ramp/SR 169/SE Renton Maple Valley Highway/Sunset Boulevard N, Issaquah Hobart Road SE/SR 18 Westbound Ramps and 154th Place SE/SR 169/SE Renton MVH intersections operates at LOS E or F during the weekday AM and PM peak hours. These intersections would also have poor operations with the No Action Alternative and action alternatives in both the Opening and Design Year conditions. The action alternatives would not increase delay at this intersection. The I-405 Southbound On-Ramp/SR 169/SE Renton Maple Valley Highway/Sunset Boulevard N, Issaquah Hobart Road SE/SR 18 Westbound Ramps and 154th Place SE/SR 169/SE Renton MVH intersections impacts are considered a cumulative significant and unavoidable adverse impacts that would occur with or without the action alternatives. It is noted that WSDOT has an unfunded planned improvement Issaquah Hobart Road SE/SR 18 Westbound Ramps to provide roundabout. An analysis with the roundabout shows that the Issaquah Hobart Road SE/SR 18 Westbound Ramps intersection may continue to operate at LOS D for the Design Year condition under the No Action and alternative action conditions. WSDOT currently has a LOS C standard at the Issaquah Hobart Road SE/SR 18 Westbound Ramps intersection.

There may be secondary impacts related to construction of the northbound right-turn lane at the SR 169/SE Renton Maple Valley Highway/Cedar Grove Road SE intersection as part of the proposed mitigation for the action alternatives. Providing the right-turn lane may require shifting the existing Cedar River Trail to accommodate the new turn lane at the intersection. In addition, based on current conditions and regulations, the intersection is in the FEMA 100-year preliminary floodplain and regulatory floodplain as well as within an area that supports fish passage. Mitigation may be required related to the floodplain and fish passage conditions.