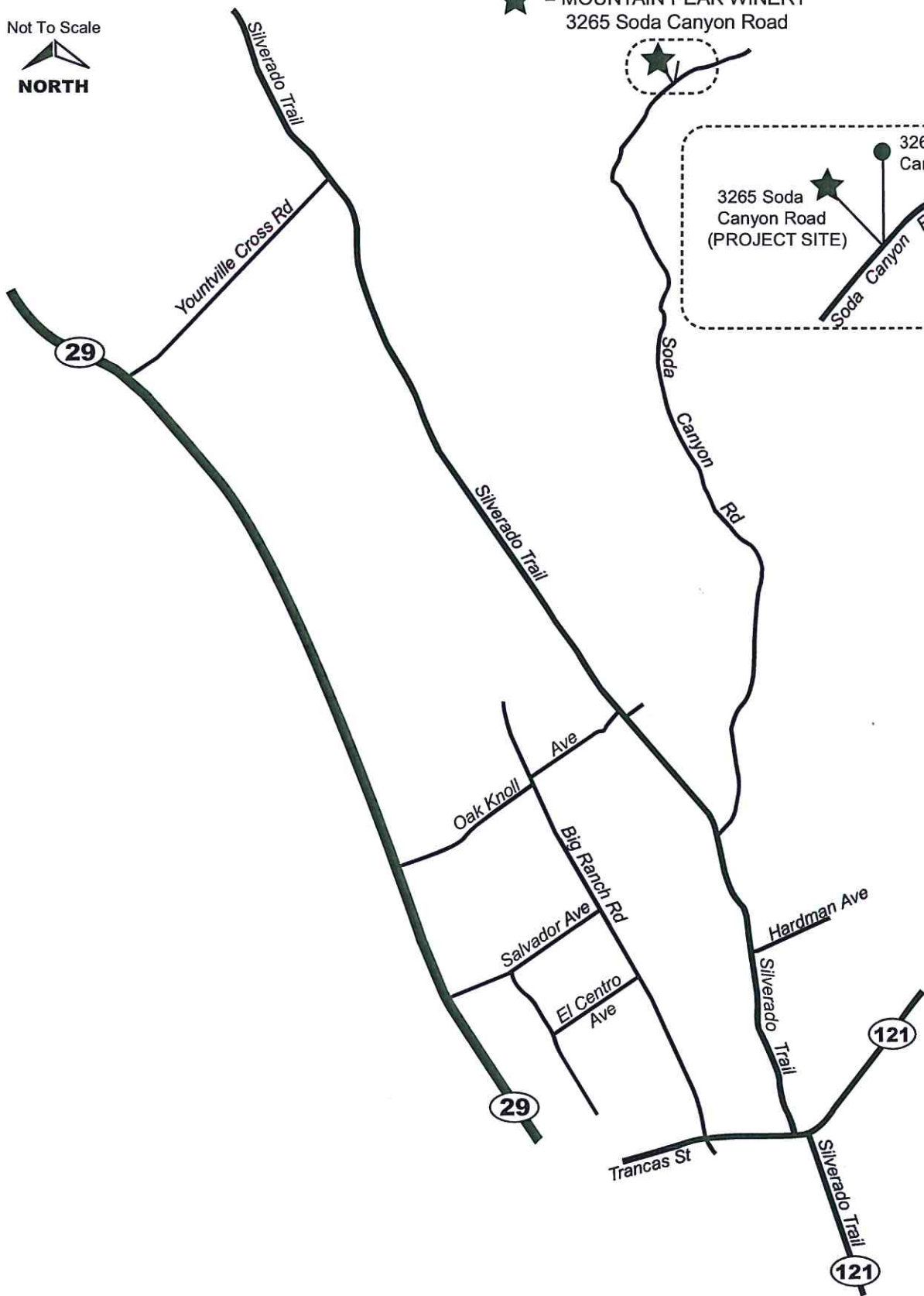


Figures

Not To Scale



★ = MOUNTAIN PEAK WINERY
3265 Soda Canyon Road

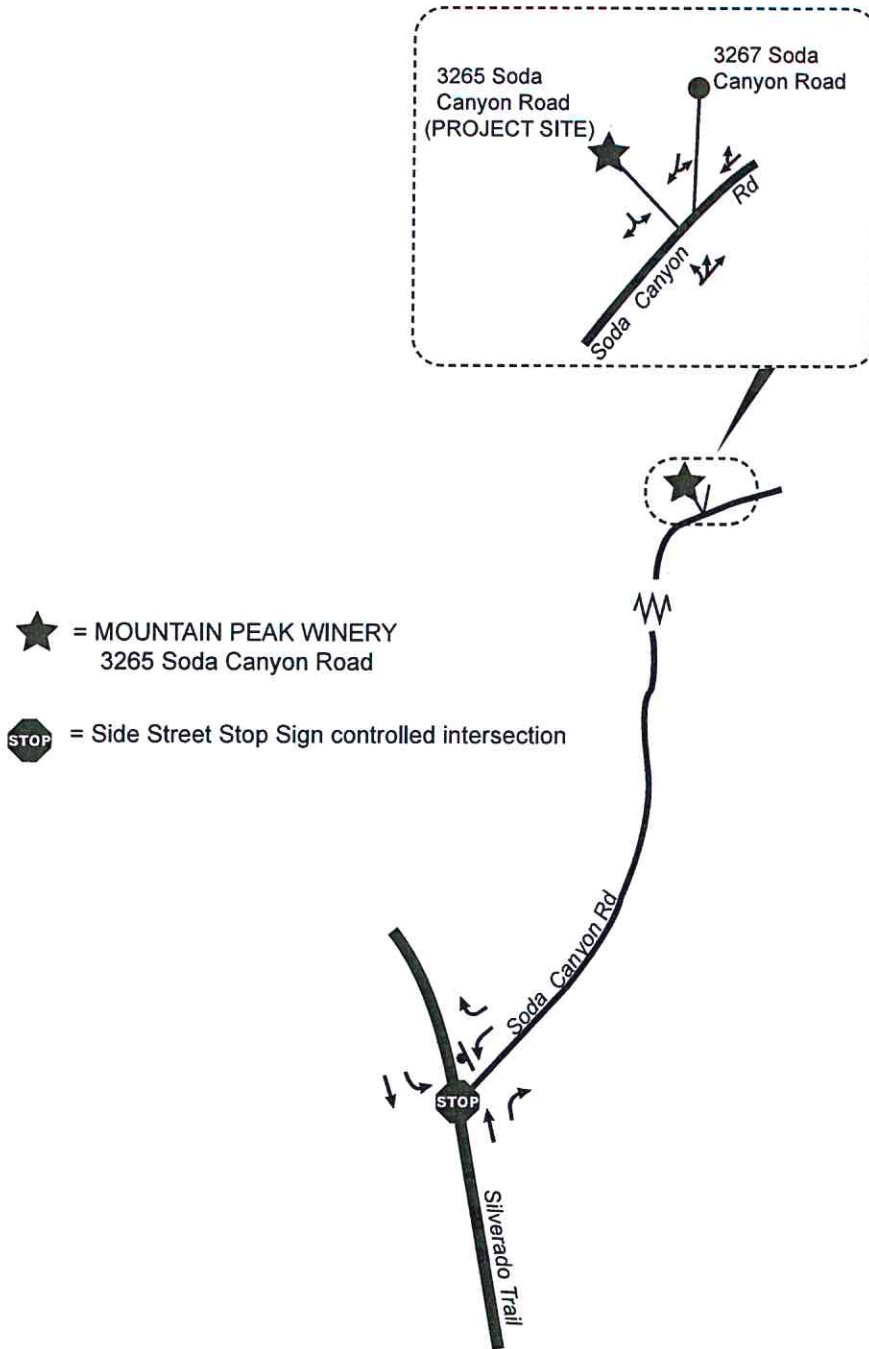


Mountain Peak Winery Traffic Study

Figure 1
Area Map

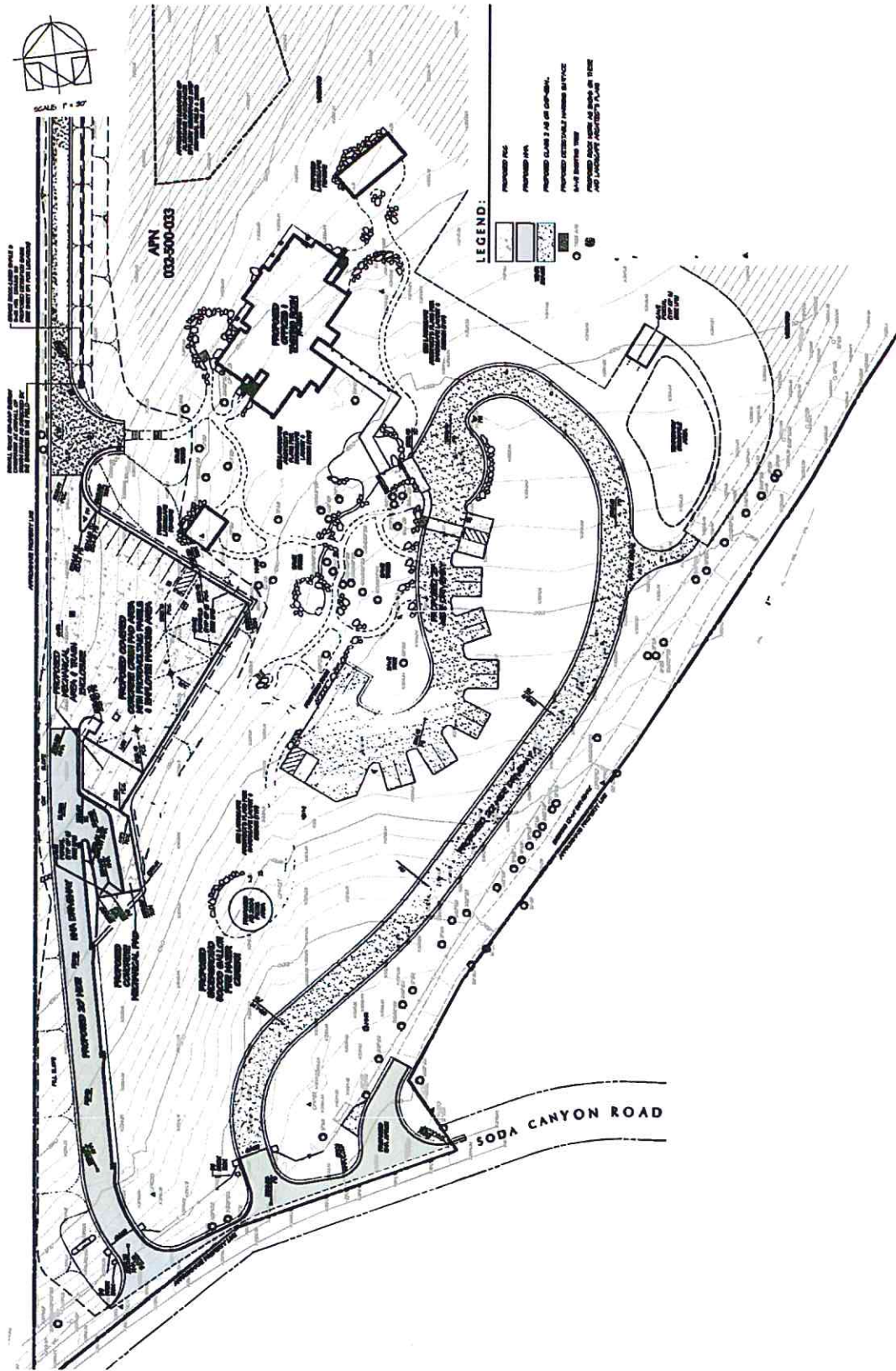


CRANE TRANSPORTATION GROUP



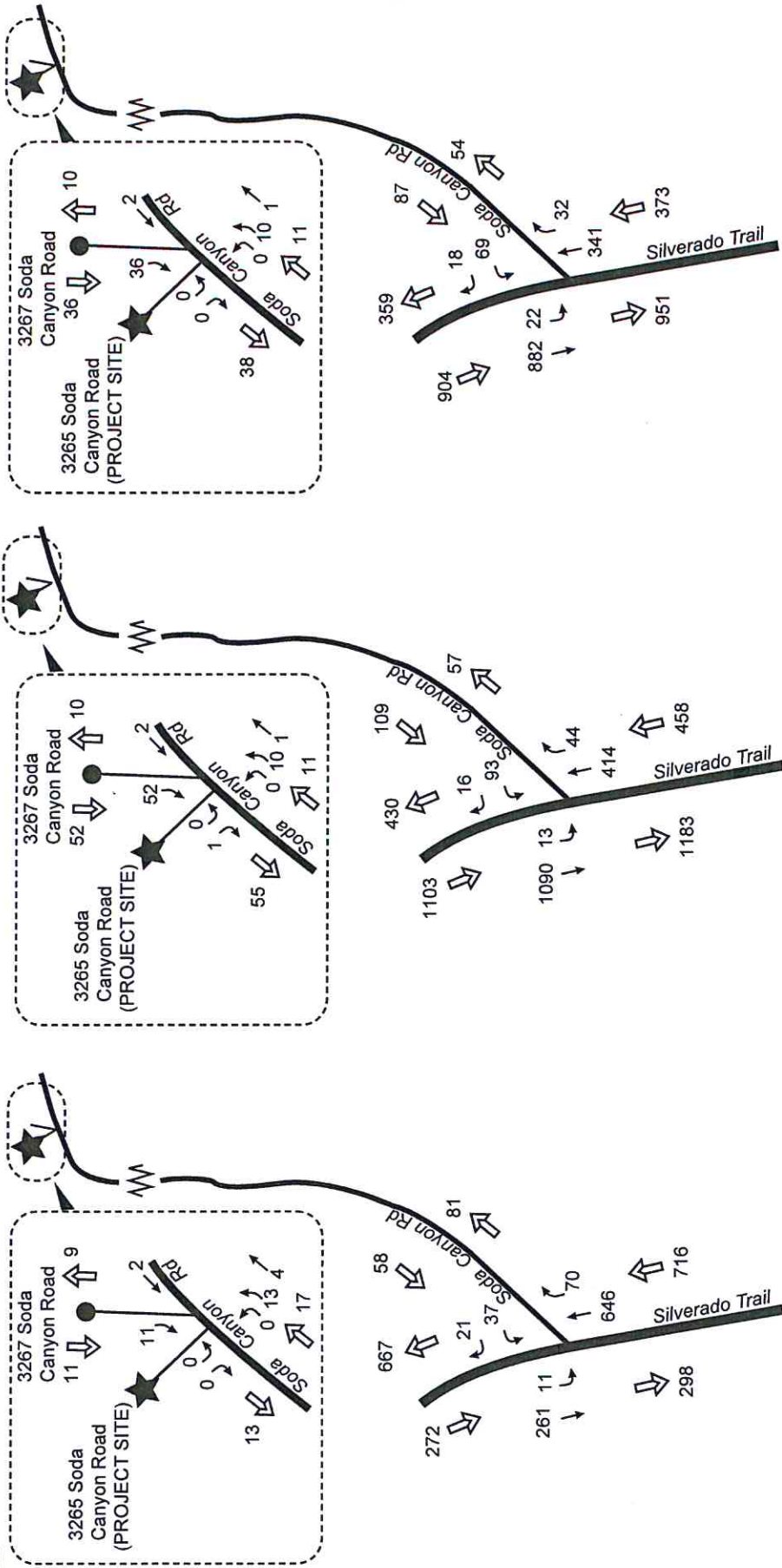
Mountain Peak Winery Traffic Study

Figure 2
Existing Lane Geometrics
and Intersection Control



Mountain Peak Winery Traffic Study

Not To Scale



CRANE TRANSPORTATION GROUP

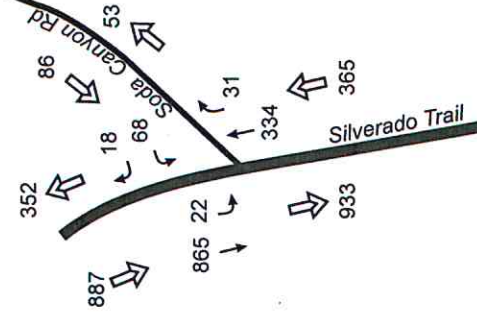
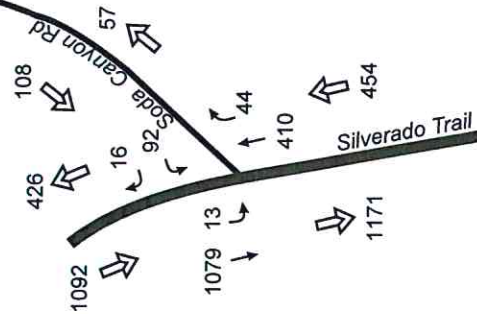
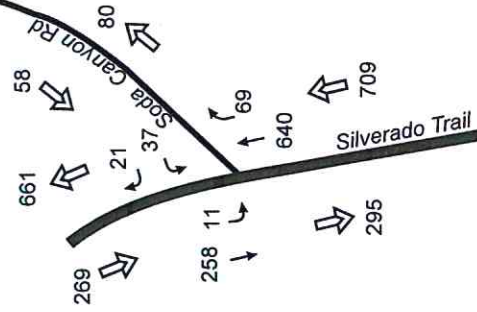
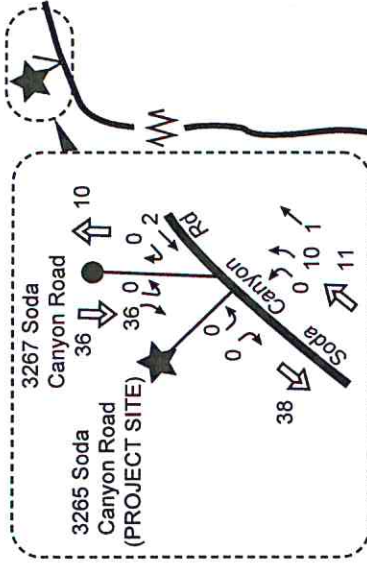
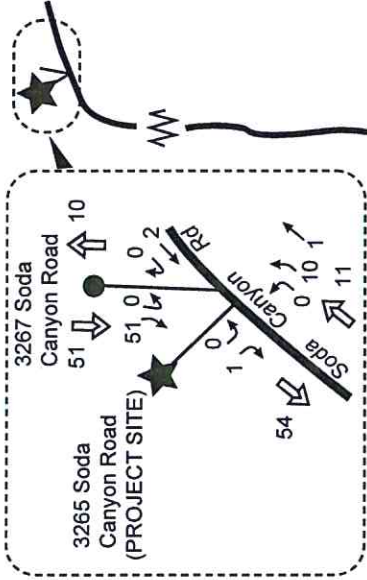
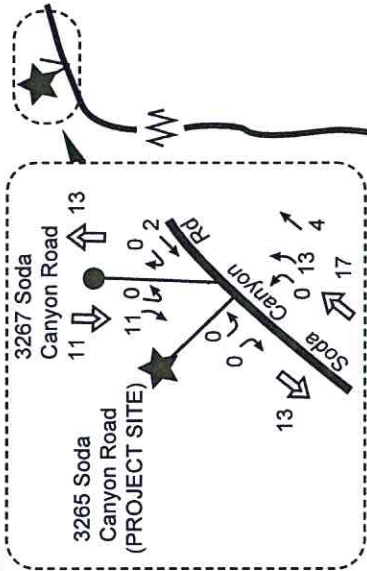
Mountain Peak Winery Traffic Study

Figure 4

Existing (2014) Harvest Friday AM & PM and Saturday PM Peak Hour Volumes

Not To Scale

 NORTH



**Friday
 8:00-9:00 AM**

**Friday
 4:30-5:30 PM**

**Saturday
 4:00-5:00 PM**

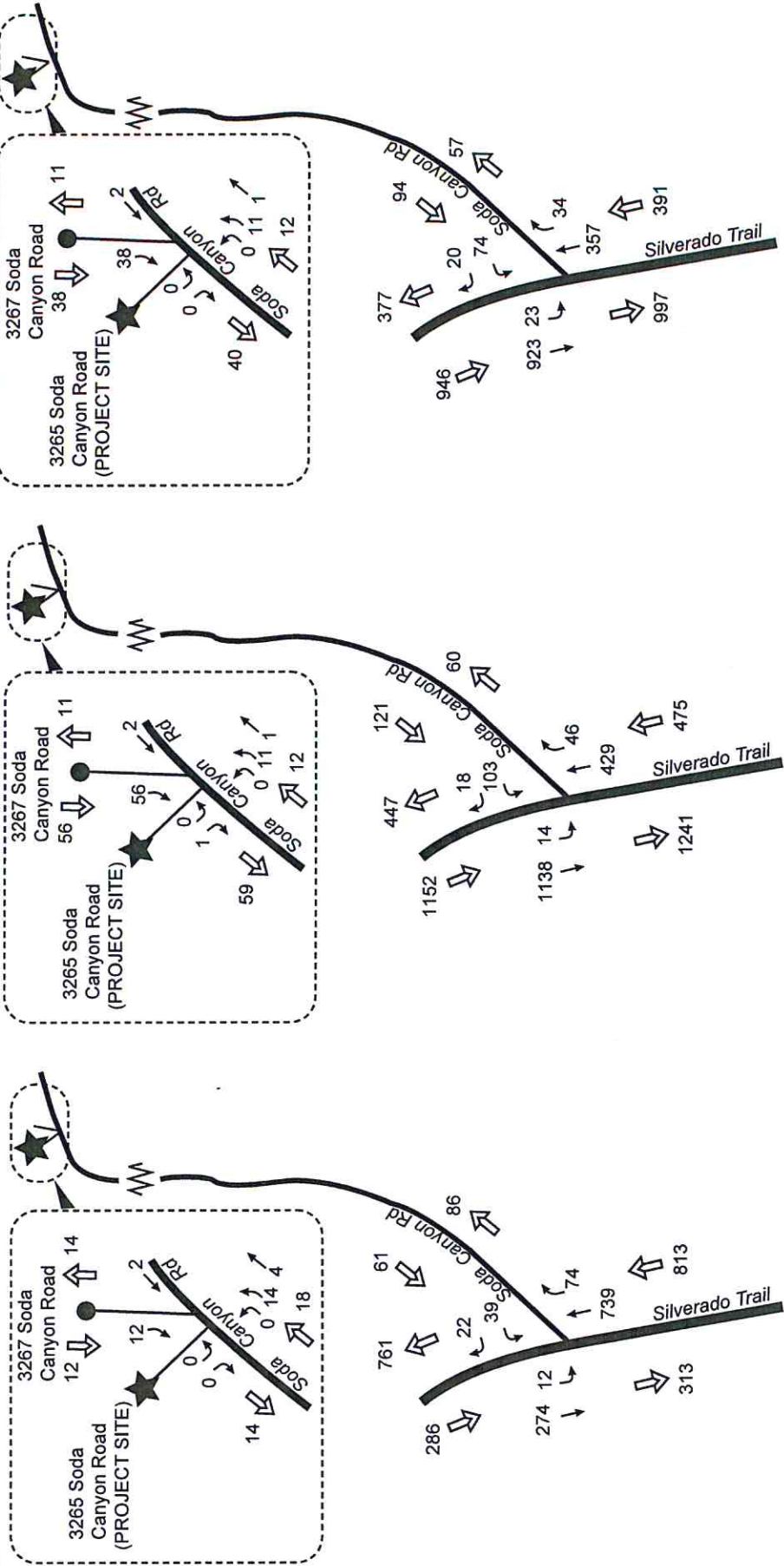
Mountain Peak Winery Traffic Study



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Figure 5
 Existing (2014) Summer Friday AM & PM
 and Saturday PM Peak Hour Volumes

Not To Scale



Friday 8:00-9:00 AM

Friday 4:30-5:30 PM

Saturday 4:00-5:00 PM

Mountain Peak Winery Traffic Study

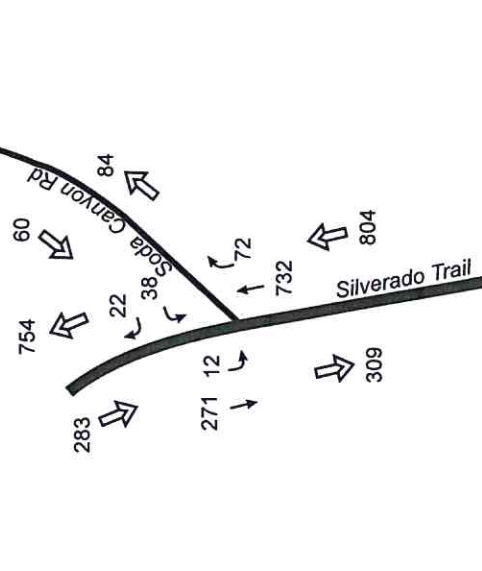
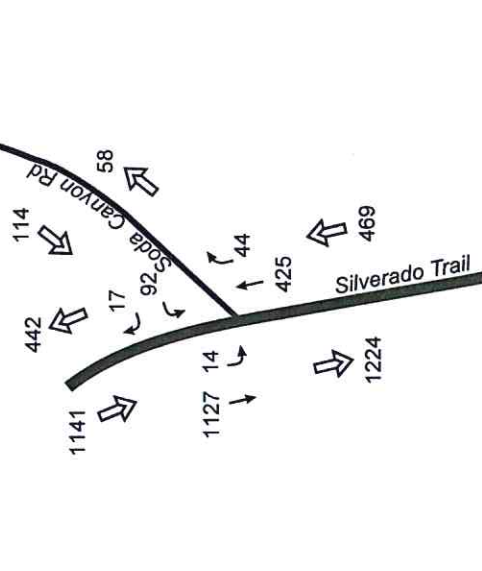
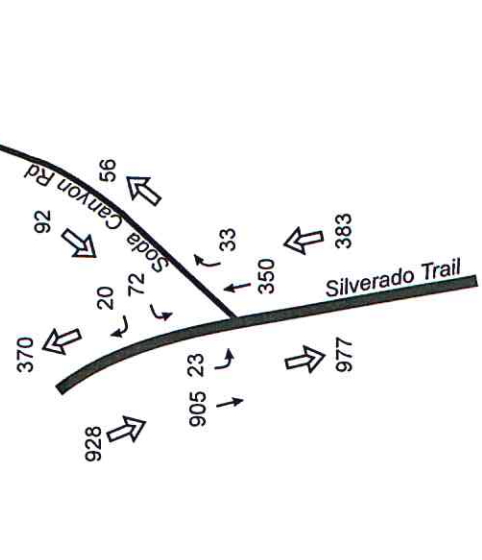
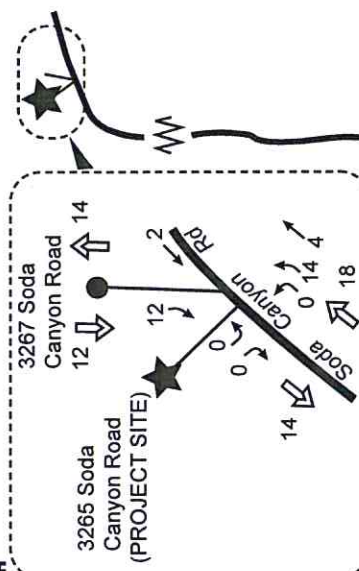
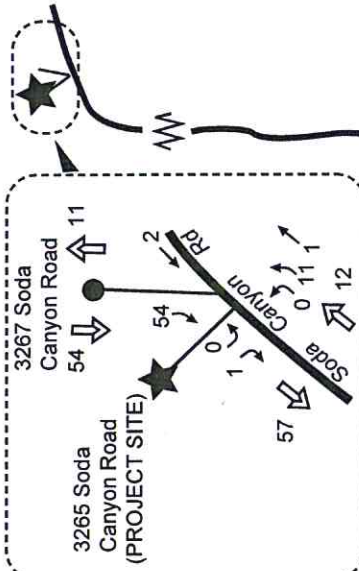
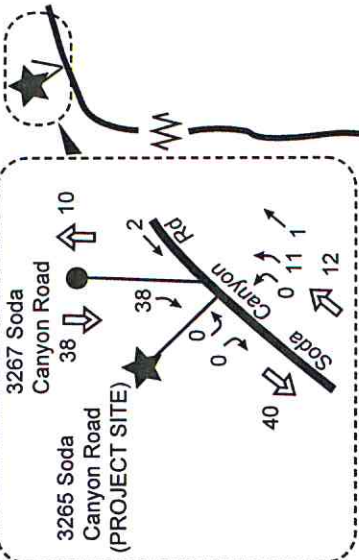


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Figure 6

2019 Harvest (without Project) Friday AM & PM and Saturday PM Peak Hour Volumes

Not To Scale



**Friday
8:00-9:00 AM**

**Friday
4:30-5:30 PM**

**Saturday
4:00-5:00 PM**

Mountain Peak Winery Traffic Study



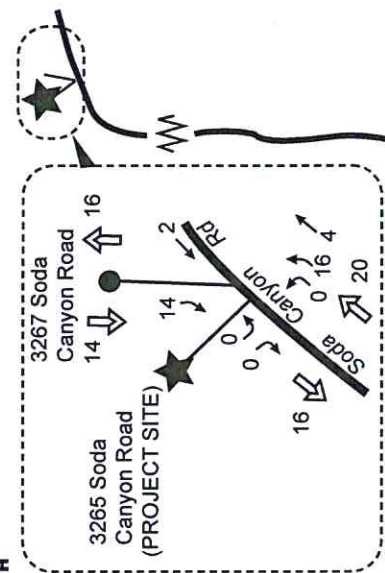
CRANE TRANSPORTATION GROUP

Figure 7

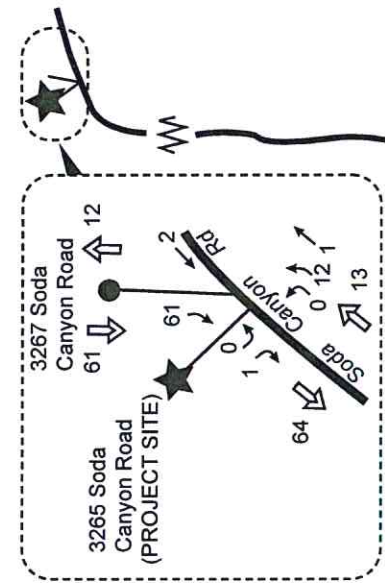
**2019 Summer (without Project) Friday AM & PM
and Saturday PM Peak Hour Volumes**

Not To Scale

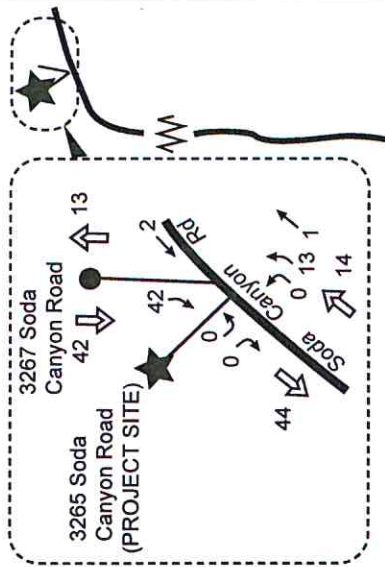
 NORTH



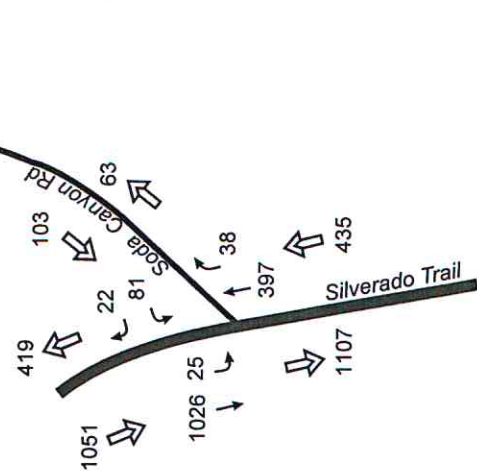
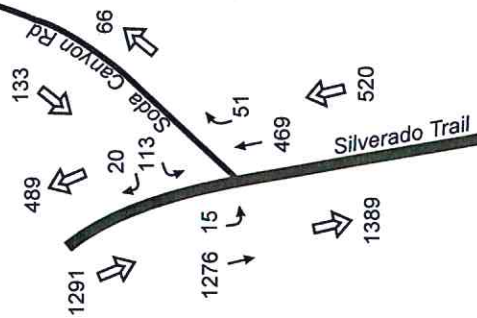
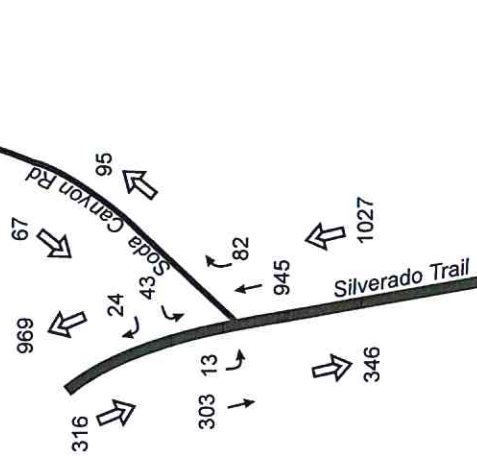
**Friday
 8:00-9:00 AM**



**Friday
 4:30-5:30 PM**



**Saturday
 4:00-5:00 PM**

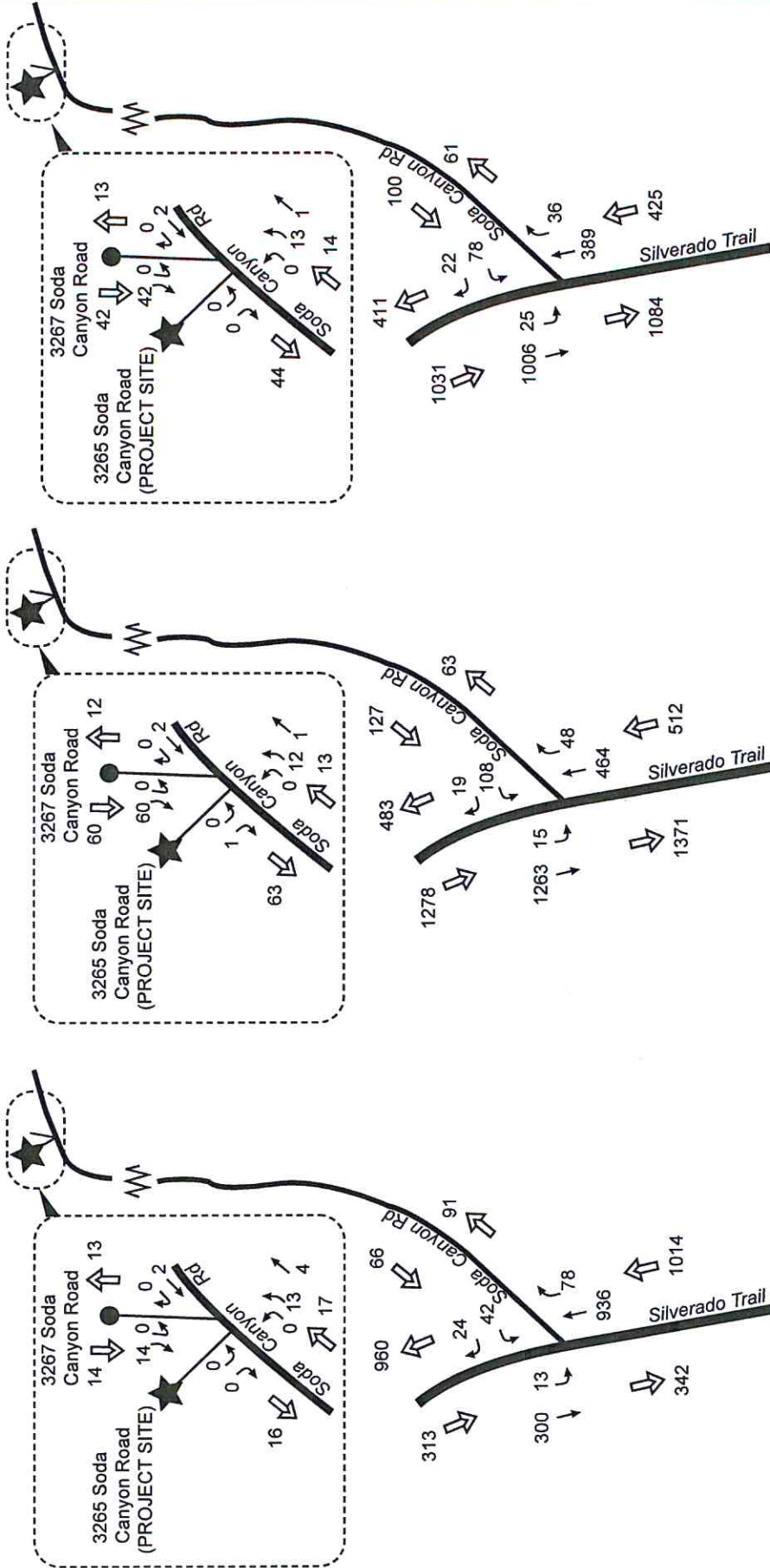


Mountain Peak Winery Traffic Study



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Figure 8
 2030 Harvest (without Project) Friday AM & PM
 and Saturday PM Peak Hour Volumes



**Friday
8:00-9:00 AM**

**Friday
4:30-5:30 PM**

**Saturday
4:00-5:00 PM**

Mountain Peak Winery Traffic Study

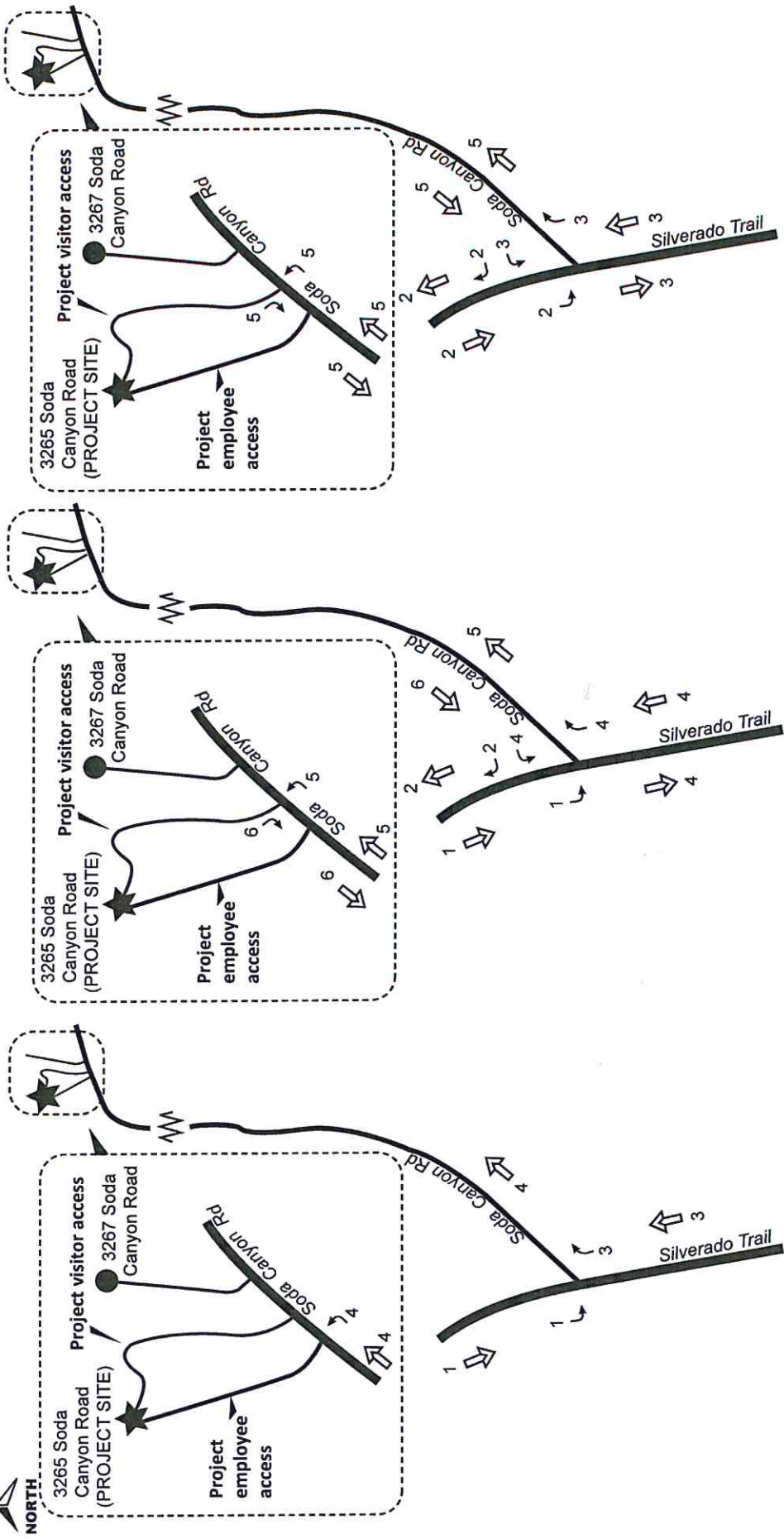


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Figure 9

**2030 Summer (without Project) Friday AM & PM
and Saturday PM Peak Hour Volumes**

Not To Scale



**Friday
8:00-9:00 AM**

**Friday
4:30-5:30 PM**

**Saturday
4:00-5:00 PM**

Mountain Peak Winery Traffic Study



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Figure 10

**Harvest Friday AM & PM and Saturday PM Peak Hour
Project Traffic Increment Volumes**

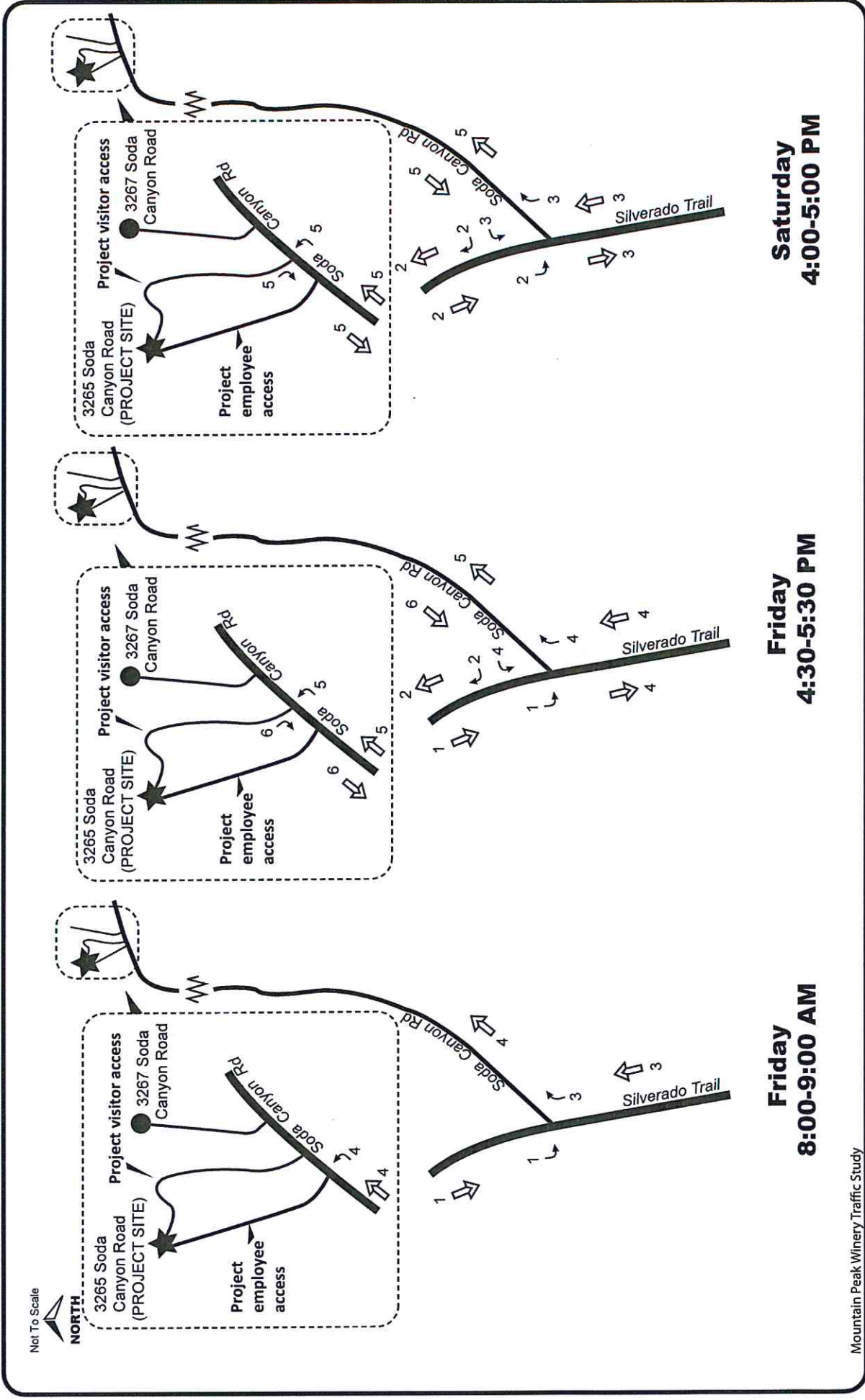
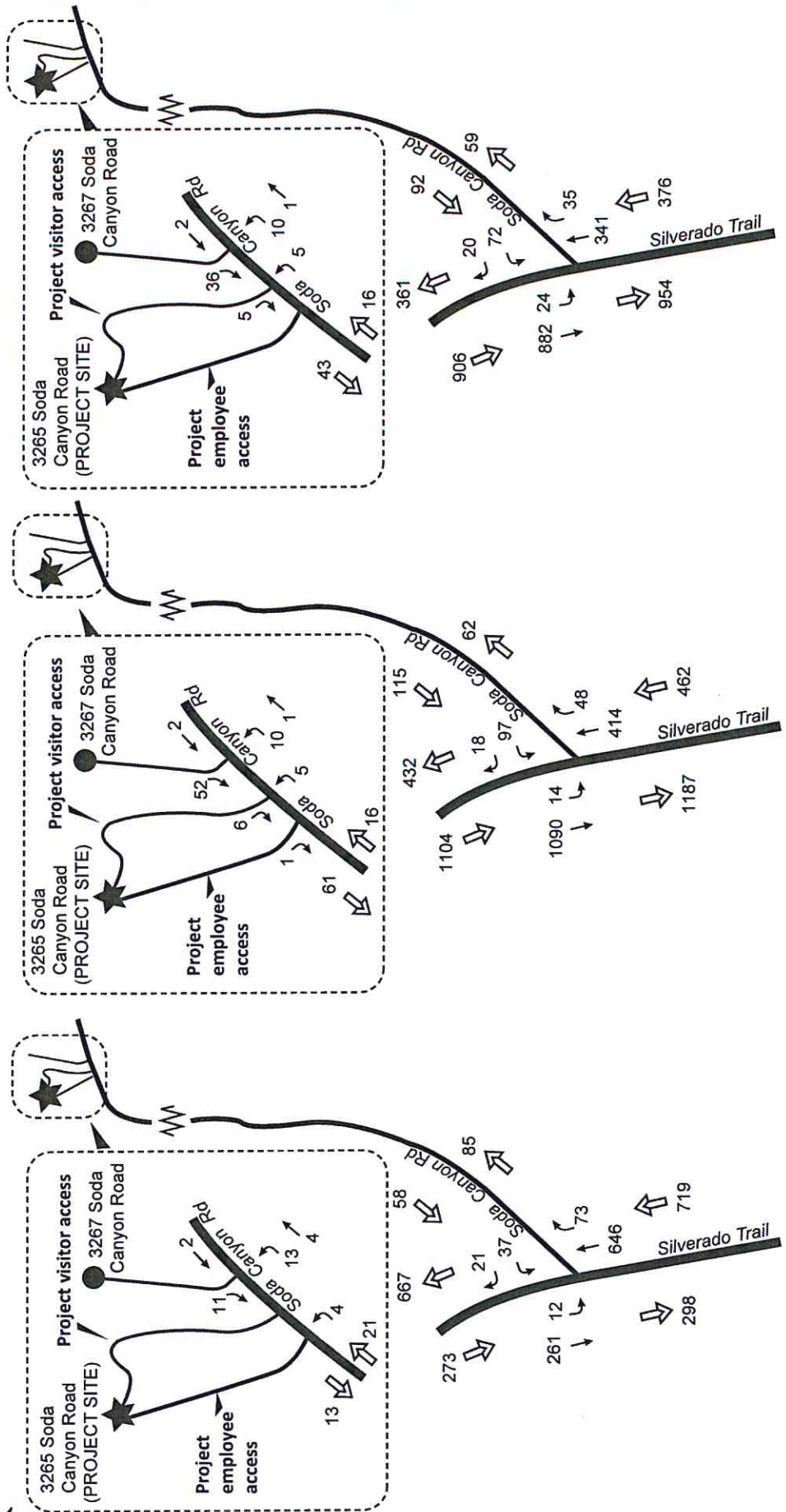


Figure 11
Summer Friday AM & PM and Saturday PM Peak Hour
Project Traffic Increment Volumes

Not To Scale

NORTH



Friday 8:00-9:00 AM

Friday 4:30-5:30 PM

Saturday 4:00-5:00 PM

Mountain Peak Winery Traffic Study



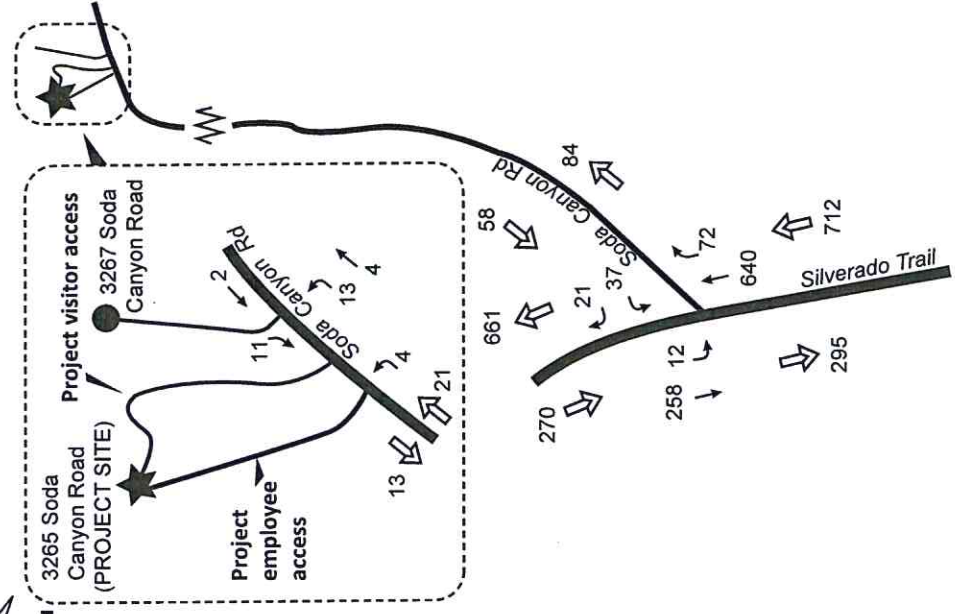
CRANE TRANSPORTATION GROUP

Figure 12

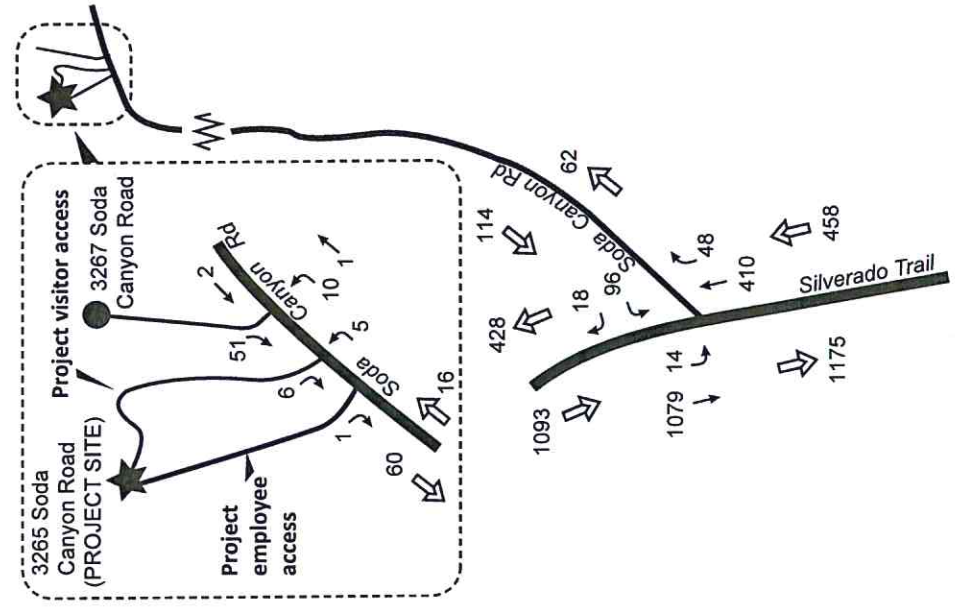
Existing (2014) with Project Harvest Friday AM & PM and Saturday PM Peak Hour Volumes

Not To Scale

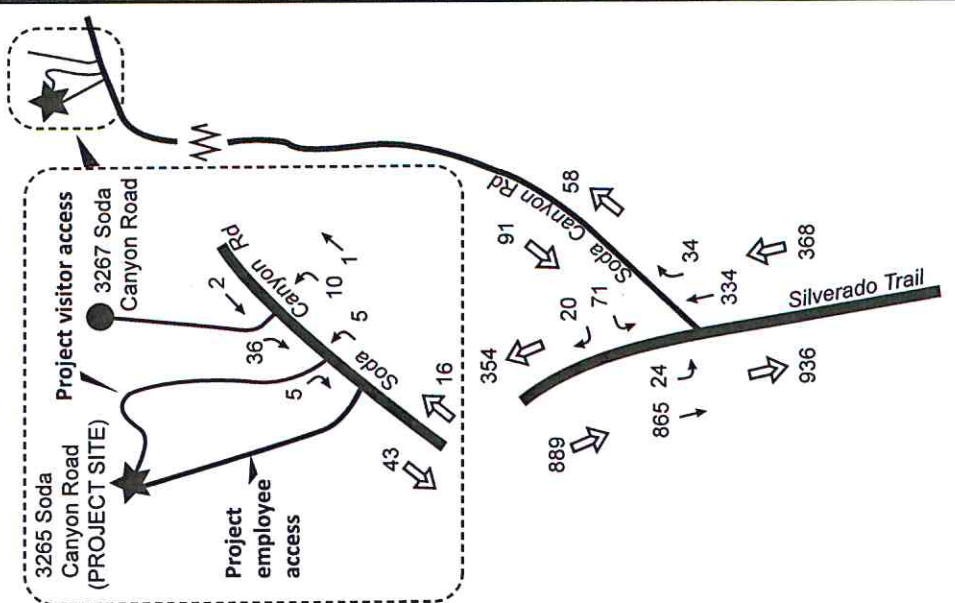
NORTH



Friday 8:00-9:00 AM



Friday 4:30-5:30 PM



Saturday 4:00-5:00 PM

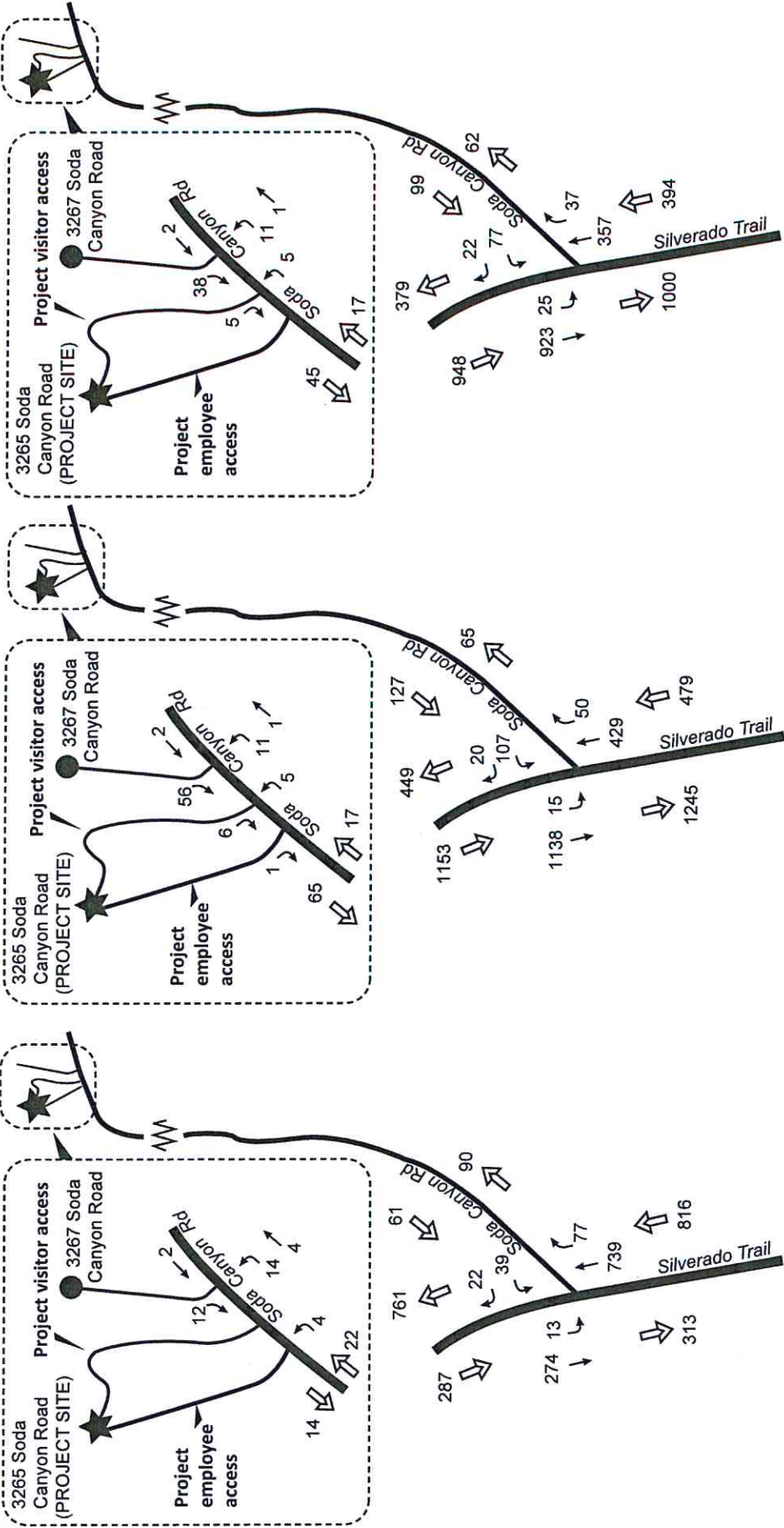
Mountain Peak Winery Traffic Study



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Figure 13
Existing (2014) with Project Summer Friday AM & PM
and Saturday PM Peak Hour Volumes

Not To Scale



Friday 8:00-9:00 AM

Friday 4:30-5:30 PM

Saturday 4:00-5:00 PM

Mountain Peak Winery Traffic Study

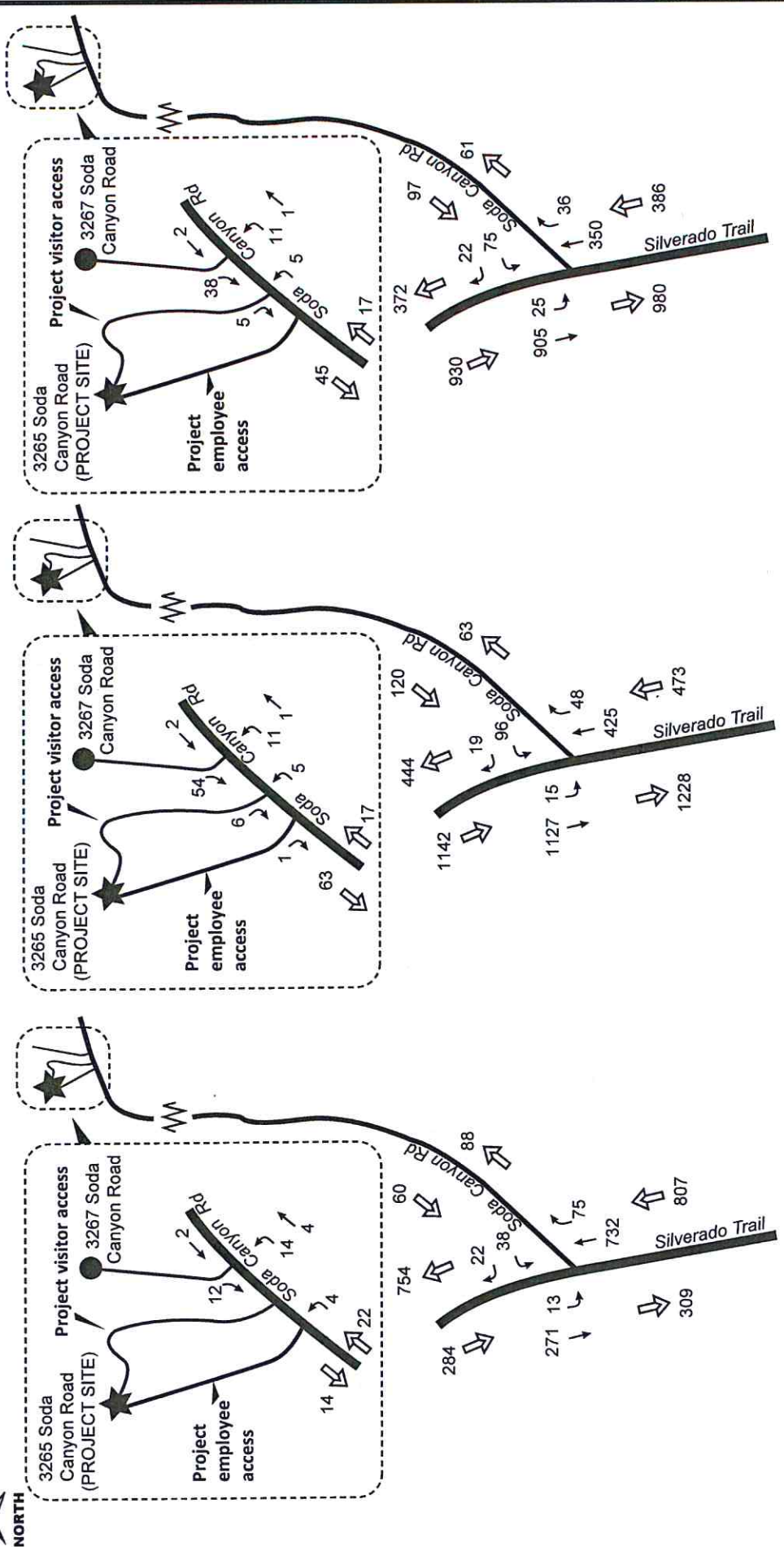


CRANE TRANSPORTATION GROUP

Figure 14

2019 Harvest (with Project) Friday AM & PM and Saturday PM Peak Hour Volumes

Not To Scale



Friday 8:00-9:00 AM

Friday 4:30-5:30 PM

Saturday 4:00-5:00 PM

Mountain Peak Winery Traffic Study

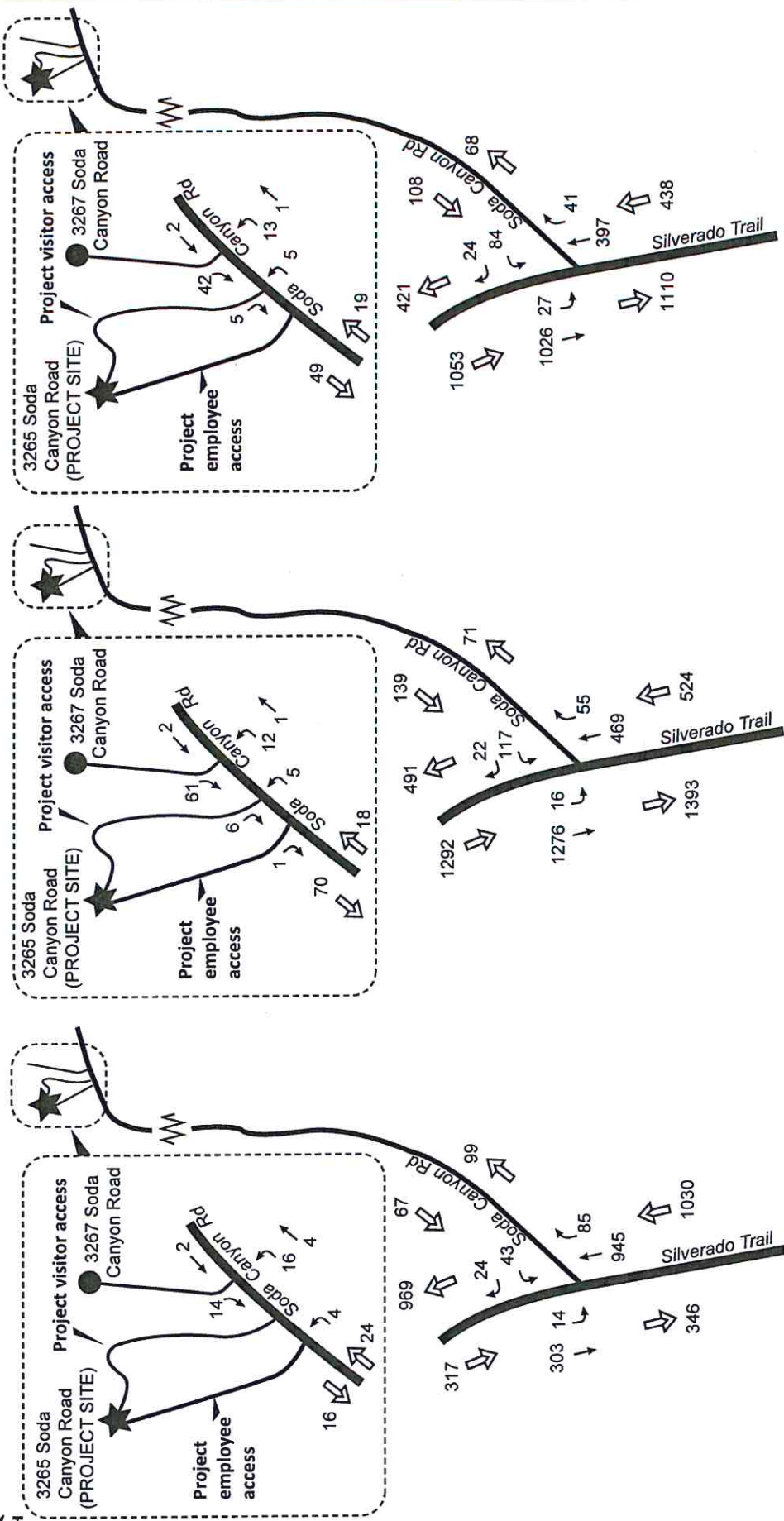


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Figure 15 2019 Summer (with Project) Friday AM & PM and Saturday PM Peak Hour Volumes

Not To Scale

NORTH



**Friday
 8:00-9:00 AM**

**Friday
 4:30-5:30 PM**

**Saturday
 4:00-5:00 PM**

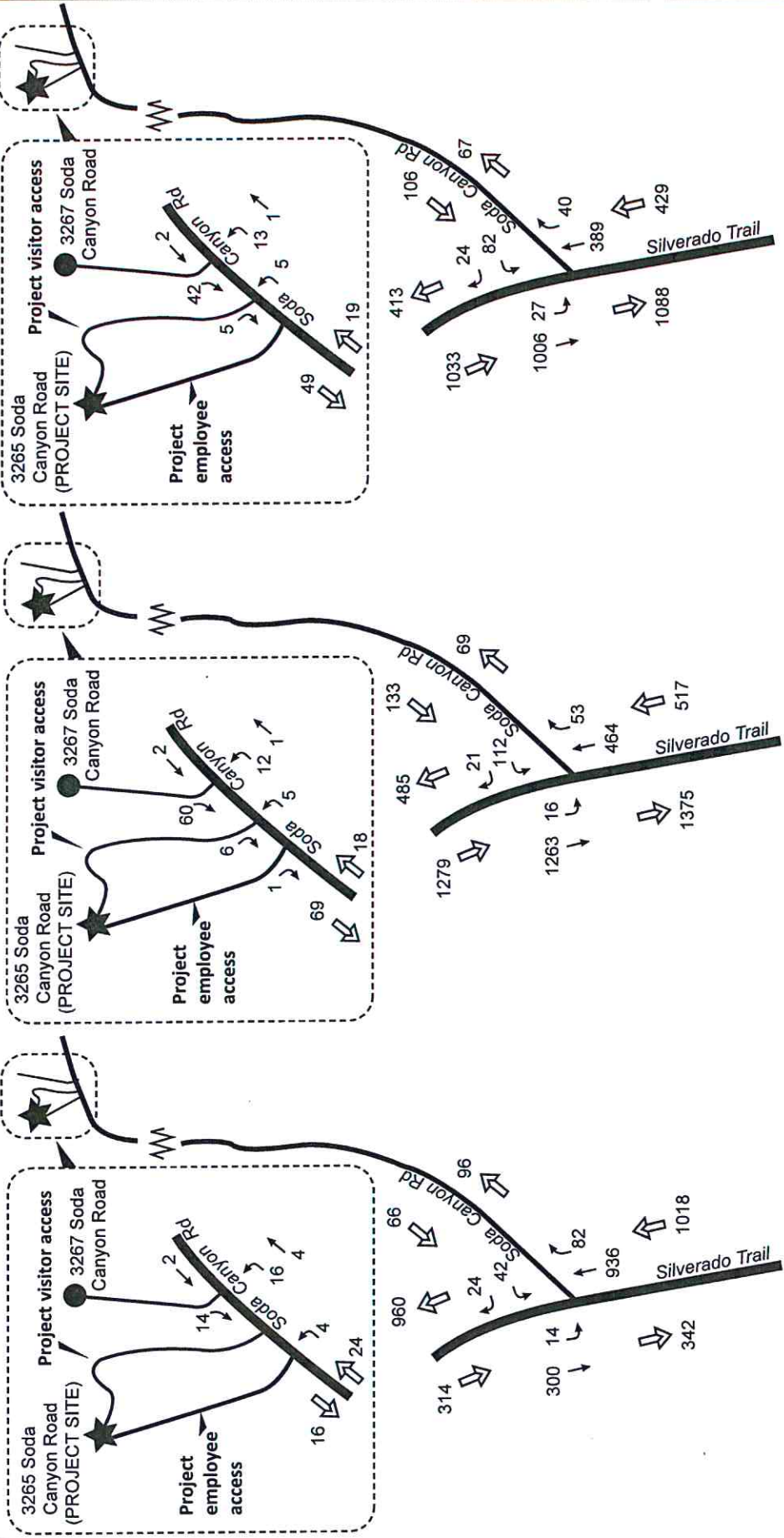
Mountain Peak Winery Traffic Study



CRANE TRANSPORTATION GROUP

Figure 16

**2030 Harvest (with Project) Friday AM & PM
 and Saturday PM Peak Hour Volumes**



**Friday
 8:00-9:00 AM**

**Friday
 4:30-5:30 PM**

**Saturday
 4:00-5:00 PM**

Figure 17
 2030 Summer (with Project) Friday AM & PM
 and Saturday PM Peak Hour Volumes

Tables

Table 1

SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: 2000 Highway Capacity Manual (Transportation Research Board).

Table 2

UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

Source: 2000 Highway Capacity Manual (Transportation Research Board).

Table 3

**INTERSECTION LEVEL OF SERVICE
SILVERADO TRAIL/SODA CANYON ROAD**

EXISTING – 2014

HARVEST

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Soda Canyon Rd.	C-19.3/A-9.3 ⁽¹⁾ A-1.5 ⁽²⁾	C-19.4/A-9.3 A-1.6	F - > 120/ ⁽³⁾ A-8.3 D-27.3	F - > 120/ A-8.4 D-30.7 (0.7%)*	F-76.2/ A-8.2 A-7.4	F-81.7/ A-8.3 A-8.3 (0.7%)*

SUMMER (NON-HARVEST)

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Soda Canyon Rd.	C-19.1/A-9.3 ⁽¹⁾ A-1.5 ⁽²⁾	C-19.2/A-9.3 A-1.6	F - > 120/ ⁽³⁾ A-8.3 D-25.5	F - > 120/ A-8.3 D-28.7 (0.7%)*	F-67.4/ A-8.2 A-6.6	F-73.1/ A-8.2 A-7.5 (0.7%)*

(1) Unsignalized level of service – control delay in seconds. Soda Canyon Road westbound stop sign controlled approach/Silverado Trail southbound left turn.

(2) Unsignalized level of service – control delay in seconds (entire intersection).

(3) Theoretical delay results greater than 120 seconds. Standard traffic engineering industry software does not produce meaningful delay results above 120 seconds.

* (Percent project traffic added to intersection) Less than a 1% increase is not considered a significant impact.

*Year 2010 Highway Capacity Manual (HCM) Analysis Methodology – individual approach or turn movement results
Year 2000 HCM results for overall intersection operation. No overall intersection operation results obtainable from 2010 software.*

Source: Crane Transportation Group

Table 4

INTERSECTION SIGNAL WARRANT EVALUATION

SILVERADO TRAIL/SODA CANYON ROAD

**Do volumes meet peak hour signal
Warrant #3 rural condition criteria?**

EXISTING – 2014

HARVEST

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
No	No	Yes	Yes (0.7%)*	No	No

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
No	No	Yes	Yes (0.7%)*	No	No

* (Percent project traffic.) Less than a 1% increase is not considered a significant impact.

Source: Crane Transportation Group

Table 5A

**ROADWAY SEGMENT LEVEL OF SERVICE
SILVERADO TRAIL & SODA CANYON ROAD**

EXISTING – 2014

HARVEST

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR			FRIDAY PM PEAK HOUR			SATURDAY PM PEAK HOUR					
			W/O PROJECT		WITH PROJECT	W/O PROJECT		WITH PROJECT	W/O PROJECT		WITH PROJECT			
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)		
Silverado Trail South Of Soda Canyon Rd.	NB	1200	716	D	719	D	458	C	462	C	373	C	376	C
	SB	1200	298	B	298	B	1183	E (.986)	1187	E (.989) [0.3%]	951	E (.793)	954	E (.795) [0.3%]
Silverado Trail North Of Soda Canyon Rd.	NB	1200	667	D	667	D	430	C	432	C	359	C	361	C
	SB	1200	272	B	273	B	1103	E (.919)	1104	E (.920) [0.1%]	904	E (.753)	906	E (.755) [0.2%]
Soda Canyon Rd. East of Silverado Trail	EB	810	81	B	85	B	57	A	62	A	54	A	59	A
	WB	810	58	A	58	A	109	C	115	C	87	B	92	B
Soda Canyon Rd. West of Project Access	EB	405	17	A	21	A	11	A	16	A	11	A	16	A
	WB	405	13	A	13	A	55	C	61	C	38	B	43	B

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable “Without Project” operation.

(3) [] = % project traffic added to road segment at locations with unacceptable “Without Project” operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 5B

**ROADWAY SEGMENT LEVEL OF SERVICE
SILVERADO TRAIL & SODA CANYON ROAD**

EXISTING – 2014

SUMMER (NON-HARVEST)

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Soda Canyon Rd.	NB	1200	709	D	712	D	454	C	458	C	365	C	368	C
	SB	1200	295	B	295	B	1171	E (.976)	1175	E (.979) [0.3%]	933	E (.778)	936	E (.780) [0.3%]
Silverado Trail North Of Soda Canyon Rd.	NB	1200	661	D	661	D	426	C	428	C	352	C	354	C
	SB	1200	269	B	270	B	1092	E (.910)	1093	E (.911) [0.1%]	887	E (.739)	889	E (.741) [0.2%]
Soda Canyon Rd. East of Silverado Trail	EB	810	80	B	84	B	57	A	62	A	53	A	58	A
	WB	810	58	A	58	A	108	C	114	C	86	B	91	B
Soda Canyon Rd. West of Project Access	EB	405	17	A	21	A	11	A	16	A	11	A	16	A
	WB	405	13	A	13	A	54	C	60	C	38	B	43	B

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable "Without Project" operation.

(3) [] = % project traffic added to road segment at locations with unacceptable "Without Project" operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 6

**INTERSECTION LEVEL OF SERVICE
SILVERADO TRAIL/SODA CANYON ROAD**

YEAR 2019

HARVEST

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Soda Canyon Rd.	C-22.7/A-9.7 ⁽¹⁾ A-1.7 ⁽²⁾	C-22.8/A-9.7 A-1.7	F - > 120/ ⁽³⁾ A-8.4 D-32.5	F - > 120/ A-8.4 E-35.9 (0.6%)*	F-97.2/ A-8.3 B-10.7	F-105.6/ A-8.3 B-12.1 (0.7%)*

SUMMER (NON-HARVEST)

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Soda Canyon Rd.	C-22.2/A-9.7 ⁽¹⁾ A-1.7 ⁽²⁾	C-22.2/A-9.7 A-1.7	F - > 120/ ⁽³⁾ A-8.4 D-30.2	F - > 120/ A-8.4 D-33.8 (0.6%)*	F-83.4/ A-8.3 A-9.1	F-88.8/ A-8.3 B-10.4 (0.7%)*

(1) Unsignalized level of service – control delay in seconds. Soda Canyon Road westbound stop sign controlled approach/Silverado Trail southbound left turn.

(2) Unsignalized level of service – control delay in seconds (entire intersection).

(3) Theoretical delay results greater than 120 seconds. Standard traffic engineering industry software does not produce meaningful delay results above 120 seconds.

* (Percent project traffic added to intersection) Less than a 1% increase is not considered a significant impact.

*Year 2010 Highway Capacity Manual (HCM) Analysis Methodology – individual approach or turn movement results
Year 2000 HCM results for overall intersection operation. No overall intersection operation results obtainable from 2010 software.*

Source: Crane Transportation Group

Table 7

INTERSECTION SIGNAL WARRANT EVALUATION

SILVERADO TRAIL/SODA CANYON ROAD

**Do volumes meet peak hour signal
Warrant #3 rural condition criteria?**

YEAR 2019

HARVEST

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
No	No	Yes	Yes (0.6%)*	No	Border (0.7%)*

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
No	No	Yes	Yes (0.6%)*	No	Border (0.7%)*

* (Percent project traffic.) Less than a 1% increase is not considered a significant impact.

Source: Crane Transportation Group

Table 8A

**ROADWAY SEGMENT LEVEL OF SERVICE
SILVERADO TRAIL & SODA CANYON ROAD**

YEAR 2019

HARVEST

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Soda Canyon Rd.	NB	1200	813	D	816	D	475	C	479	C	391	C	394	C
	SB	1200	313	B	313	B	1241	F (1.034)	1245	F (1.036) [0.3%]	997	E (.831)	1000	E (.833) [0.3%]
Silverado Trail North Of Soda Canyon Rd.	NB	1200	761	D	761	D	447	C	449	C	377	C	379	C
	SB	1200	286	B	287	B	1152	E (.960)	1153	E (.961) [0.1%]	946	E (.788)	948	E (.790) [0.2%]
Soda Canyon Rd. East of Silverado Trail	EB	810	86	B	90	B	60	A	65	A	57	A	62	A
	WB	810	61	A	61	A	121	C	127	C	94	B	99	C
Soda Canyon Rd. West of Project Access	EB	405	18	A	22	A	12	A	17	A	12	A	17	A
	WB	405	14	A	14	A	59	C	65	C	40	B	45	B

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable "Without Project" operation.

(3) [] = % project traffic added to road segment at locations with unacceptable "Without Project" operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: *Crane Transportation Group*

Table 8B

**ROADWAY SEGMENT LEVEL OF SERVICE
SILVERADO TRAIL & SODA CANYON ROAD**

YEAR 2019

SUMMER (NON-HARVEST)

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR			FRIDAY PM PEAK HOUR			SATURDAY PM PEAK HOUR					
			W/O PROJECT		WITH PROJECT	W/O PROJECT		WITH PROJECT	W/O PROJECT		WITH PROJECT			
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)		
Silverado Trail South Of Soda Canyon Rd.	NB	1200	804	D	807	D	469	C	473	C	383	C	386	C
	SB	1200	309	B	309	B	1224	F (1.020)	1228	F (1.023) [0.3%]	977	E (.814)	980	E (.817) [0.3%]
Silverado Trail North Of Soda Canyon Rd.	NB	1200	754	D	754	D	442	C	444	C	370	C	372	C
	SB	1200	283	B	284	B	1141	E (.951)	1142	E (.952) [0.1%]	928	E (.773)	930	E (.775) [0.2%]
Soda Canyon Rd. East of Silverado Trail	EB	810	84	B	88	B	58	A	63	A	56	A	61	A
	WB	810	60	A	60	A	114	C	120	C	92	B	97	B/C
Soda Canyon Rd. West of Project Access	EB	405	18	A	22	A	12	A	17	A	12	A	17	A
	WB	405	14	A	14	A	57	C	63	C	40	B	45	B

(1) Vol = volume
 (2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable "Without Project" operation.
 (3) [] = % project traffic added to road segment at locations with unacceptable "Without Project" operation. Less than a 1% increase is not considered a significant impact.
 Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.
 Compiled by: Crane Transportation Group



Table 9

**INTERSECTION LEVEL OF SERVICE
SILVERADO TRAIL/SODA CANYON ROAD**

YEAR 2030

HARVEST

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	WO/ PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Soda Canyon Rd.	D-33.7/ B-10.6 ⁽¹⁾ A-2.3 ⁽²⁾	D-34.0/B-10.7 A-2.3	F - > 120/ ⁽³⁾ A-8.5 F-54.3	F - > 120/ A-8.6 F-59.0 (0.6%)*	F - > 120 A-8.4 C-17.1	F - > 120/ A-8.5 C-19.2 (0.6%)*

SUMMER (NON-HARVEST)

LOCATION	FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Silverado Trail/ Soda Canyon Rd.	D-32.4/B- 10.6 ⁽¹⁾ A-2.2 ⁽²⁾	D-32.6/B-10.6 A-2.2	F - > 120/ ⁽³⁾ A-8.5 E-47.2	F - > 120/ A-8.5 F-51.6 (0.6%)*	F - > 120/ A-8.4 B-14.7	F - > 120/ A-8.4 C-16.6 (0.6%)*

⁽¹⁾ Unsignalized level of service – control delay in seconds. Soda Canyon Road westbound stop sign controlled approach/Silverado Trail southbound left turn.

⁽²⁾ Unsignalized level of service – control delay in seconds (entire intersection).

⁽³⁾ Theoretical delay results greater than 120 seconds. Standard traffic engineering industry software does not produce meaningful delay results above 120 seconds.

* (Percent project traffic added to intersection) Less than a 1% increase is not considered a significant impact.

*Year 2010 Highway Capacity Manual (HCM) Analysis Methodology – individual approach or turn movement results
Year 2000 HCM results for overall intersection operation. No overall intersection operation results obtainable from 2010 software.*

Source: Crane Transportation Group

Table 10

INTERSECTION SIGNAL WARRANT EVALUATION

SILVERADO TRAIL/SODA CANYON ROAD

**Do volumes meet peak hour signal
Warrant #3 rural condition criteria?**

YEAR 2030

HARVEST

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
No	No	Yes	Yes (0.6%)*	Yes	Yes (0.6%)*

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR		FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
No	No	Yes	Yes (0.6%)*	Yes	Yes (0.6%)*

* (Percent project traffic.) Less than a 1% increase is not considered a significant impact.

Source: Crane Transportation Group

Table 11A

**ROADWAY SEGMENT LEVEL OF SERVICE
SILVERADO TRAIL & SODA CANYON ROAD**

YEAR 2030

HARVEST

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR				FRIDAY PM PEAK HOUR				SATURDAY PM PEAK HOUR			
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Soda Canyon Rd.	NB	1200	1027	E (.856)	1030	E (.858) [0.3%]	520	C	524	C	435	C	438	C
	SB	1200	346	C	346	C	1389	F (1.158)	1393	F (1.161) [0.3%]	1107	E (.923)	1110	E (.925) [0.3%]
Silverado Trail North Of Soda Canyon Rd.	NB	1200	969	E (.801)	969	E (.801) [0.0%]	489	C	491	C	419	C	421	C
	SB	1200	316	B	317	B	1291	F (1.076)	1292	F (1.077) [0.1%]	1051	E (.876)	1053	E (.878) [0.2%]
Soda Canyon Rd. East of Silverado Trail	EB	810	95	B	99	C	66	A	71	A	63	A	68	A
	WB	810	67	A	67	A	133	C	139	C	103	C	108	C
Soda Canyon Rd. West of Project Access	EB	405	20	A	24	A	13	A	18	A	14	A	19	A
	WB	405	16	A	16	A	64	C	70	C	44	B	49	B/C

(1) Vol = volume
 (2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable "Without Project" operation.
 (3) [] = % project traffic added to road segment at locations with unacceptable "Without Project" operation. Less than a 1% increase is not considered a significant impact.
 Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.
 Compiled by: Crane Transportation Group



Table 11B

**ROADWAY SEGMENT LEVEL OF SERVICE
SILVERADO TRAIL & SODA CANYON ROAD**

YEAR 2030

SUMMER (NON-HARVEST)

LOCATION	DIRECTION	DIRECTIONAL CAPACITY (VEH/HR)	FRIDAY AM PEAK HOUR			FRIDAY PM PEAK HOUR			SATURDAY PM PEAK HOUR					
			W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT		W/O PROJECT		WITH PROJECT	
			VOL ⁽¹⁾	LOS (V/C) ⁽²⁾	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)	VOL	LOS (V/C)
Silverado Trail South Of Soda Canyon Rd.	NB	1200	1015	E (.846)	1018	E (.848) [0.3%]	513	C	517	C	426	C	429	C
	SB	1200	342	C	342	C	1374	F (1.145)	1378	F (1.148) [0.3%]	1085	E (.904)	1088	E (.907) [0.3%]
Silverado Trail North Of Soda Canyon Rd.	NB	1200	960	E (.800)	960	E (.800) [0.0%]	483	C	485	C	411	C	413	C
	SB	1200	313	B	314	B	1278	F (1.065)	1279	F (1.066) [0.1%]	1031	E (.859)	1033	E (.861) [0.2%]
Soda Canyon Rd. East of Silverado Trail	EB	810	92	B	96	B	64	A	69	A	62	A	67	A
	WB	810	66	A	66	A	127	C	133	C	101	C	106	C
Soda Canyon Rd. West of Project Access	EB	405	20	A	24	A	13	A	18	A	14	A	19	A
	WB	405	16	A	16	A	63	C	69	C	44	B	49	B/C

(1) Vol = volume

(2) LOS (V/C) = level of service (volume to capacity ratio) at locations with unacceptable "Without Project" operation.

(3) [] = % project traffic added to road segment at locations with unacceptable "Without Project" operation. Less than a 1% increase is not considered a significant impact.

Analysis Methodology Source: Napa County General Plan Update EIR Technical Memorandum for Traffic and Circulation Supporting the Findings and recommendations, Dowling Associates, February 9, 2007.

Compiled by: Crane Transportation Group

Table 12

PROJECT TRIP GENERATION MOUNTAIN PEAK WINERY

HARVEST

FRIDAY

	TOTAL	HOURS	AM PEAK HOUR TRIPS						PM PEAK HOUR TRIPS							
			7-8 AM		8-9 AM*		3-4 PM		4-5 PM		5-6 PM		4:30-5:30*			
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT		
Admin Employees – Full Time	5	8AM-6PM	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Admin Employees – Part Time	4	9AM-6PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Full Time	9	6AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Part Time	4	6AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tours/Tasting Employees	5	8AM-6PM	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom Crush Grape Delivery Trucks – 8/year	1/day	Between 6AM-6PM ⁽¹⁾	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grape Outhaul Trucks from Winery Vineyards Being Eliminated (84/year)	-(1-2/day)	Between 6AM-6PM ⁽²⁾	0	0	0	0	0	-1	-1	0	0	0	0	0	0	0
Visitors	80 total = 31 vehicles ⁽³⁾	10AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL			10	0	4	0	0	0	0	0	0	0	0	0	0	0

* Peak traffic hours at Silverado Trail/Soda Canyon Road intersection.

(1) Grapes typically delivered in the morning.

(2) Grape outhaul from vineyards to Napa being eliminated, typically during the morning.

(3) 2.6 visitors/vehicle average on weekdays per County data.

Source: Mountain Peak Winery project applicant; Compiled by: Crane Transportation Group



Table 13

**PROJECT TRIP GENERATION
MOUNTAIN PEAK WINERY**

**HARVEST
SATURDAY**

	TOTAL	HOURS	TRIPS													
			2-3 PM		3-4 PM		4-5 PM*		5-6 PM							
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT		
Admin Employees – Full Time	5	8AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Admin Employees – Part Time	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Full Time	9	6AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Part Time	4	6AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tours/Tasting Employees	5	8AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom Crush Grape Delivery Trucks – 8/year	1/day	Between 6AM-6PM ⁽¹⁾	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grape Outhaul Trucks from Winery Vineyards Being Eliminated (84/year)	-(1-2/day)	Between 6AM-6PM ⁽²⁾	-1	-1	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	80 total = 29 vehicles ⁽³⁾	10AM-6PM	6	5	5	6	5	5	6	5	5	5	0	5	0	5
TOTAL			5	4	5	6	5	5	6	5	5	5	0	5	0	5

* Peak traffic hour at Silverado Trail/Soda Canyon Road intersection.

(1) Grapes typically delivered in the morning.

(2) Grape outhaul from vineyards to Napa being eliminated, typically during the morning.

(3) 2.8 visitors/vehicle average on Saturdays per County data.

Source: Mountain Peak Winery project applicant; Compiled by: Crane Transportation Group

Table 14

**PROJECT TRIP GENERATION
MOUNTAIN PEAK WINERY**

SUMMER NON-HARVEST

FRIDAY

	TOTAL	HOURS	AM PEAK HOUR TRIPS						PM PEAK HOUR TRIPS							
			7-8 AM		8-9 AM*		3-4 PM		4-5 PM		5-6 PM		4:30-5:30*			
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT		
Admin Employees – Full Time	5	8AM-6PM	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Admin Employees – Part Time	4	9AM-6PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Full Time	6	6AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Part Time	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tours/Tasting Employees	5	8AM-6PM	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	80 total = 31 vehicles ⁽¹⁾	10AM-6PM	0	0	0	0	6	7	5	6	0	5	6	0	5	6
TOTAL			10	0	4	0	6	7	5	6	0	5	6	0	5	6

* Peak traffic hours at Silverado Trail/Soda Canyon Road intersection.

⁽¹⁾ 2.6 visitors/vehicle average on weekdays per County data.

Source: Mountain Peak Winery project applicant; Compiled by: Crane Transportation Group

Table 15

**PROJECT TRIP GENERATION
MOUNTAIN PEAK WINERY**

SUMMER NON-HARVEST

SATURDAY

	TOTAL	HOURS	TRIPS											
			2-3 PM		3-4 PM		4-5 PM*		5-6 PM					
			IN	OUT	IN	OUT	IN	OUT	IN	OUT				
Admin Employees – Full Time	5	8AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0
Admin Employees – Part Time	0		0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Full Time	6	6AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Part Time	0		0	0	0	0	0	0	0	0	0	0	0	0
Tours/Tasting Employees	5	8AM-6PM	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	80 total = 29 vehicles ⁽¹⁾	10AM-6PM	6	5	5	6	5	5	5	5	5	5	5	5
TOTAL			6	5	5	6	5	5	5	5	5	5	5	5

* Peak traffic hour at Silverado Trail/Soda Canyon Road intersection.

⁽¹⁾ 2.8 visitors/vehicle average on Saturdays per County data.

Source: Mountain Peak Winery project applicant; Compiled by: Crane Transportation Group

Table 16

**PROJECT TRIP GENERATION SUMMARY
MOUNTAIN PEAK WINERY**

HARVEST

FRIDAY AM PEAK HOUR* (8:00-9:00)		FRIDAY PM PEAK HOUR* (4:30-5:30)		SATURDAY PM PEAK HOUR* (4:00-5:00)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
4	0	5	6	5	5

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR* (8:00-9:00)		FRIDAY PM PEAK HOUR* (4:30-5:30)		SATURDAY PM PEAK HOUR* (4:00-5:00)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
4	0	5	6	5	5

* Peak hour at the Silverado Trail/Soda Canyon Road intersection.

Source: Mountain Peak Winery; compiled by Crane Transportation Group

Table 17

COUNTY OF NAPA LEFT TURN WARRANT GRAPH at Private Road and Driveway Intersections

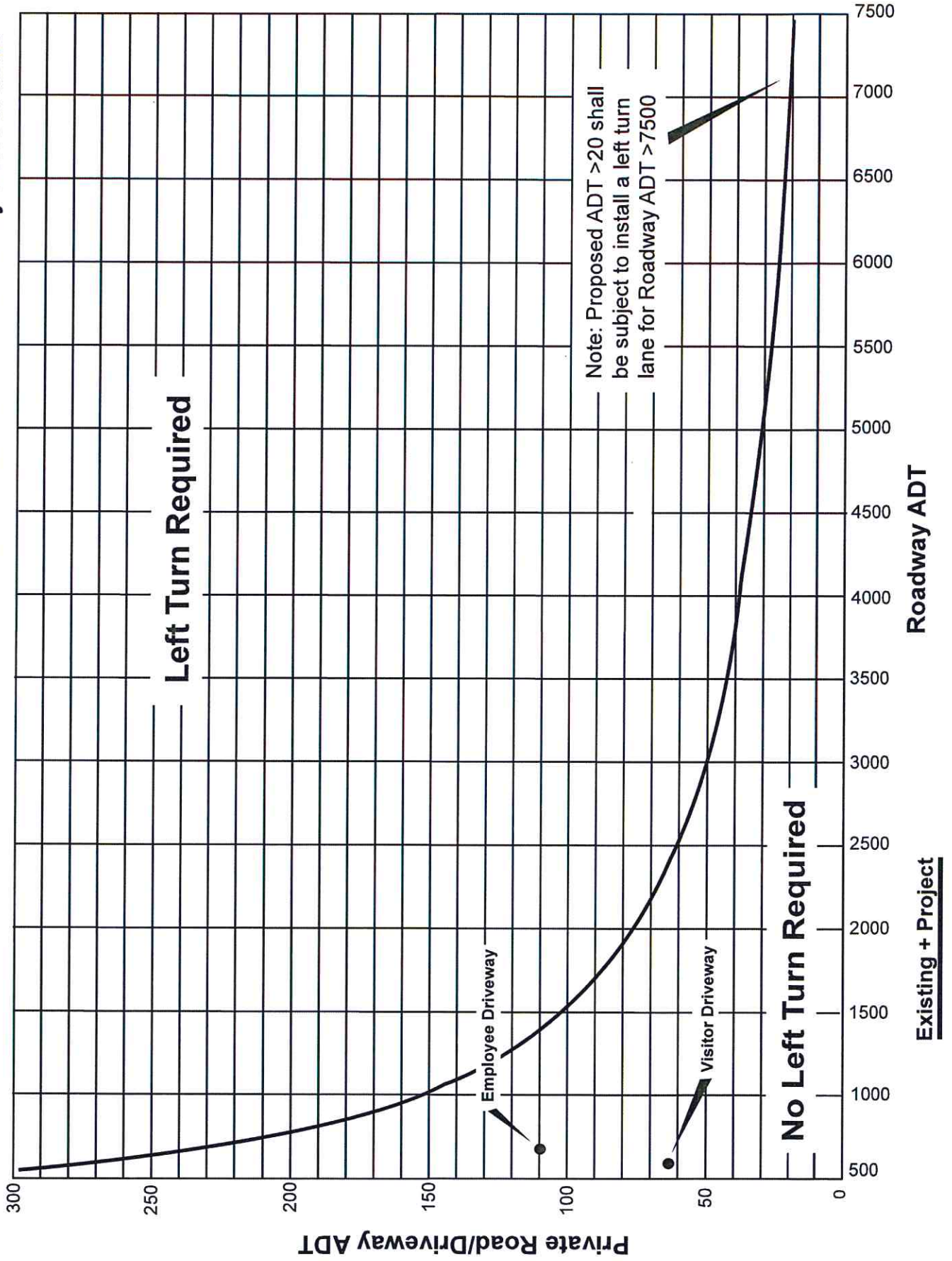


Table 18

MOUNTAIN PEAK WINERY MARKETING EVENT TRAFFIC DETAILS

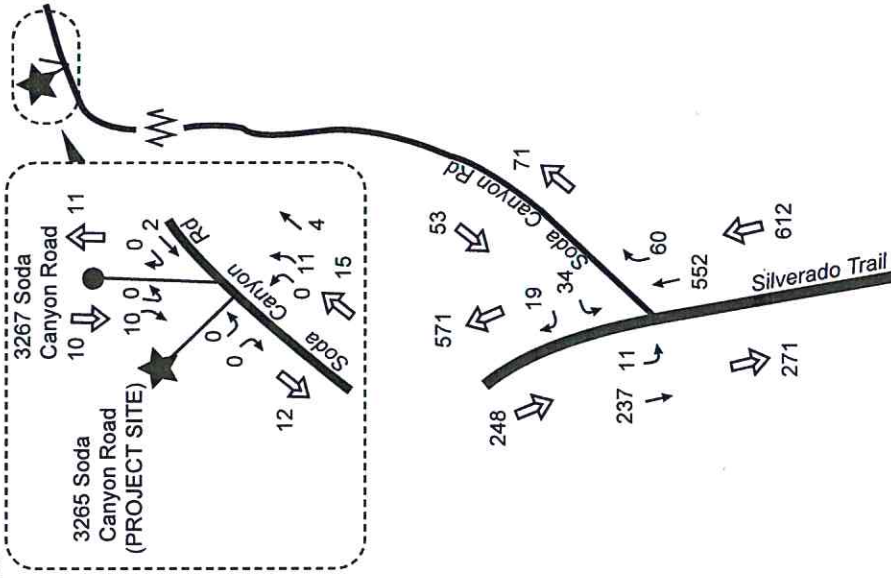
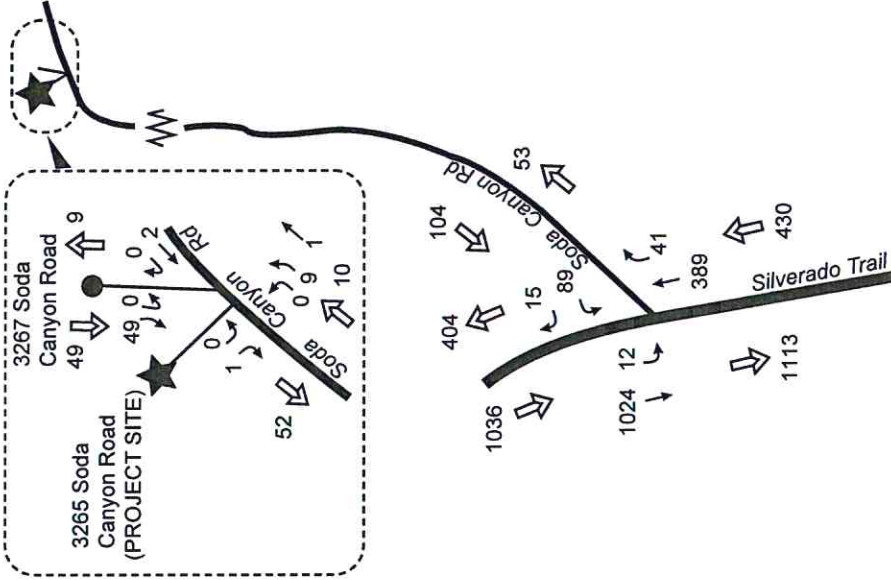
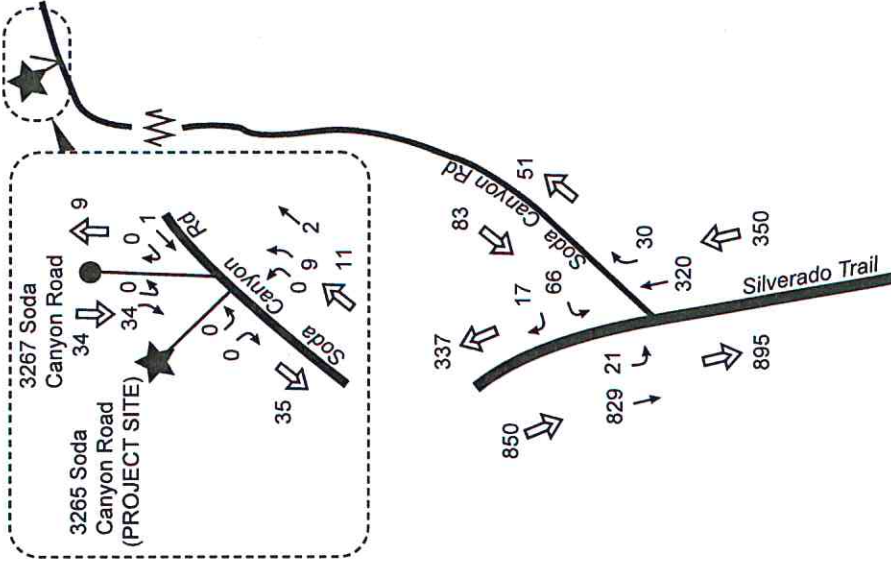
MARKETING EVENT	STAFF/GUEST CATEGORY	# OF PEOPLE	# OF VEHICLES	TIMES	REGULAR VISITATION ELIMINATED DURING MARKETING EVENT?
Food & Wine Pairing (6 per month)	Guests	3 @ 24 3 @ 12	9-10 autos 5 autos	May occur Between 10:00 AM & 10:00 PM. Typically 3 hours long. Any day, but mostly weekends.	Yes
	Extra Winery Staff	0	N/A		
	Caterers	4	1		
	Entertainers	2	1		
	Delivery vehicles	2	1		
	Florist	1	1		
Marketing (4 per year)	Guests	75	27-29 autos	Will occur during off peak traffic hours along Silverado Trail. Typically 3 hours long. Any day, but mostly weekends.	Yes
	Extra Winery Staff	0	N/A		
	Caterers	4	1		
	Entertainers	2	1		
	Delivery vehicles	2	1		
	Florist	1	1		
Wine Auction (2 per year)	Guests	125	45 autos*	May occur between 10:00 AM & 10:00 PM Typically 3 hours long. Saturday or Sunday	Yes
	Extra Winery Staff	0	N/A		
	Caterers	4	1		
	Entertainers	2	1		
	Delivery vehicles	2	1		
	Florist	1	1		

* Shuttle buses and more than adequate on-site parking for smaller events. But morning shuttles will come from legal off-site parking/gathering area (like hotels).

Source: Mountain Peak Winery applicant

Appendix

Not To Scale



**Saturday May 2013
4:00-5:00 PM**

**Friday May 2013
4:30-5:30 PM**

**Friday January 2015
8:00-9:00 AM**

Mountain Peak Winery Traffic Study

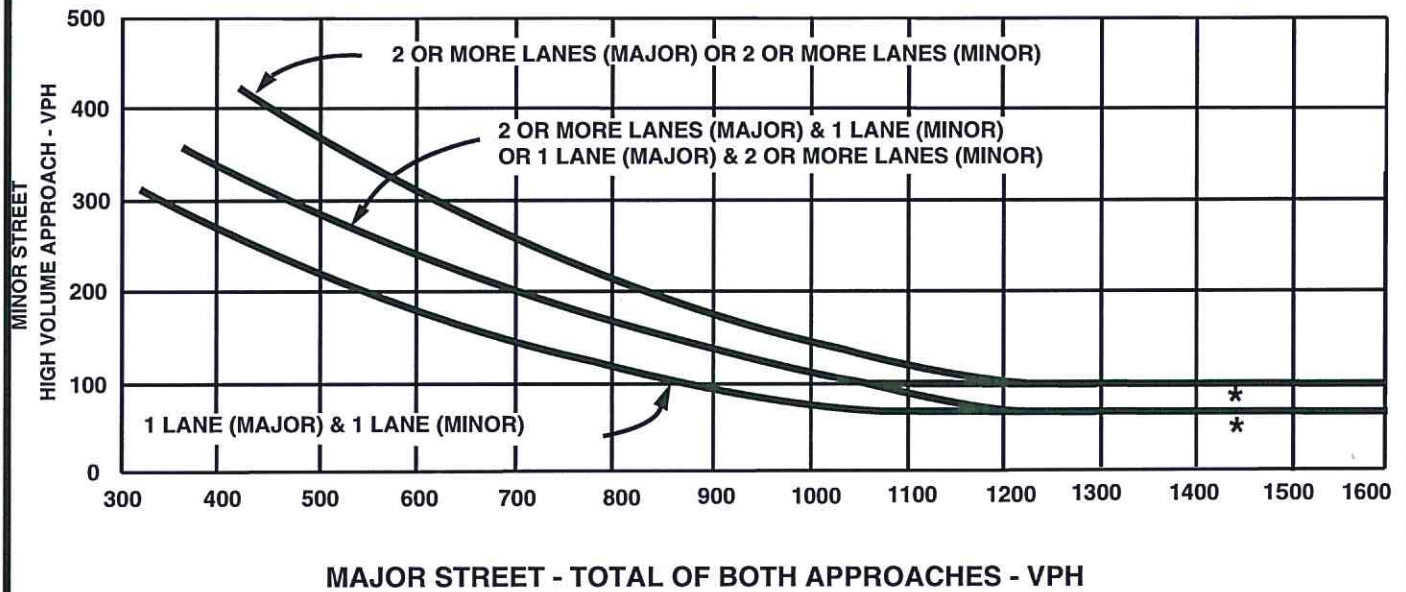


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**Appendix Figure 1
Year 2013 May Friday & Saturday PM and
Year 2015 Friday AM Peak Hour Volumes**

Appendix

**PEAK HOUR VOLUME WARRANT #3
(Rural Area)**



*** NOTE**

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE

Source: California Manual on Uniform Traffic Control Devices, 2010



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Rural Area Peak Hour Volume Warrant #3

Appendix
MOUNTAIN PEAK WINERY
EMPLOYEE, VISITOR & TRUCK INFORMATION

HARVEST CONDITIONS	NON-HARVEST CONDITIONS
<p>A. Full-time admin employees # on Weekdays <u>5</u> # on Saturday <u>5</u> Work hours: Weekday 8AM to 6PM Saturday 8AM to 6PM</p>	<p>Full-time admin employees # on Weekdays <u>5</u> # on Saturday <u>5</u> Work hours: Weekday 8AM to 6PM Saturday 8AM to 6PM</p>
<p>B. Full-time production employees # on Weekdays <u>9</u> # on Saturday <u>9</u> Work hours: Weekday 6AM to 6PM Saturday 6AM to 6PM</p>	<p>Full-time production employees # on Weekdays <u>6</u> # on Saturday <u>6</u> Work hours: Weekday 6AM to 6PM Saturday 6AM to 6PM</p>
<p>C. Part-time production employees # on Weekdays <u>4</u> # on Saturday <u>4</u> Work hours: Weekday 6AM to 6PM Saturday 6AM to 6PM</p>	<p>Part-time production employees # on Weekdays <u>0</u> # on Saturday <u>0</u> Work hours: Weekday NA Saturday NA</p>
<p>D. Part-time administration employees # on Weekdays <u>4</u> # on Saturday <u>0</u> Work hours: Weekday 9AM to 6PM Saturday NA</p>	<p>Part-Time Administration Employees # on Weekdays <u>4</u> # on Saturday <u>0</u> Work hours: Weekday 9AM to 6PM Saturday NA</p>
<p>E. Tours & tasting employees # on Weekdays <u>5</u> # on Saturday or Sunday <u>5</u> Work hours: Weekday 8AM to 6PM Saturday 8AM to 6PM Sunday 8AM to 6PM</p>	<p>Tours & tasting employees # on Weekdays <u>5</u> # on Saturday or Sunday <u>5</u> Work hours: Weekday 8AM to 6PM Saturday 8AM to 6PM Sunday 8AM to 6PM</p>

Appendix
MOUNTAIN PEAK WINERY
EMPLOYEE, VISITOR & TRUCK INFORMATION

HARVEST CONDITIONS	NON-HARVEST CONDITIONS
<p>F. Grape Delivery Trucks to Winery (8% of Production) # on Weekdays <u>1</u> # on Saturday <u>1</u> Delivery hours: Weekday 6AM to 6PM Saturday 6AM to 6PM # days of grape delivery: Any day of the week during harvest. Total of 4 trucks/year.</p>	<p>No grape delivery</p>
<p>G. Grape Outhaul Trucks from Winery Vineyards Being Eliminated from Soda Canyon Road # on Weekdays <u>1-2</u> # on Saturday <u>1-2</u> Outhaul hours: Weekday 6AM to 6PM Saturday 6AM to 6PM # days of grape outhaul: Any day of the week during harvest. Total of 84 trucks being eliminated.</p>	<p>No grape outhaul</p>
<p>H. Maximum tours/tasting visitors (by appointment) # on Weekdays <u>80</u> # on Saturday <u>80</u> Hours: Weekday 10:00 AM to 6:00 PM Saturday 10:00 AM to 6:00 PM Maximum 350 visitors/week</p>	<p>Maximum tours/tasting visitors (by appointment) # on Weekdays <u>80</u> # on Saturday <u>80</u> Hours: Weekday 10:00 AM to 6:00 PM Saturday 10:00 AM to 6:00 PM Maximum 350 visitors/week</p>
<p>I. Other employees? # on Weekdays <u>none</u> # on Saturday <u>none</u> Work hours: Weekday _____ to _____ Saturday _____ to _____</p>	<p>Other employees? # on Weekdays <u>none</u> # on Saturday <u>none</u> Work hours: Weekday _____ to _____ Saturday _____ to _____</p>

Appendix
MOUNTAIN PEAK WINERY
EMPLOYEE, VISITOR & TRUCK INFORMATION

HARVEST CONDITIONS	NON-HARVEST CONDITIONS
J. Other trucks?* # on Weekdays < 1/week # on Saturday _____ Work hours: Weekday 8:00 AM to 6:00 PM	Other trucks?* # on Weekdays < 1/week # on Saturday _____ Work hours: Weekday 8:00 AM to 6:00 PM
K. Mobile bottling No activity	Mobile bottling 10 days/year max 1 truck in by 8AM/out at 6PM

Percent grapes grown on site = 92%

Percent grapes imported to the site that will come from the north on Silverado Trail = 90%

Percent grapes imported to the site that will come from the south on Silverado Trail = 10%

* Glass, cork, label, barrel deliveries & bottled product pickup.