

## **Suisun Valley Road Capacity Analysis Summary**

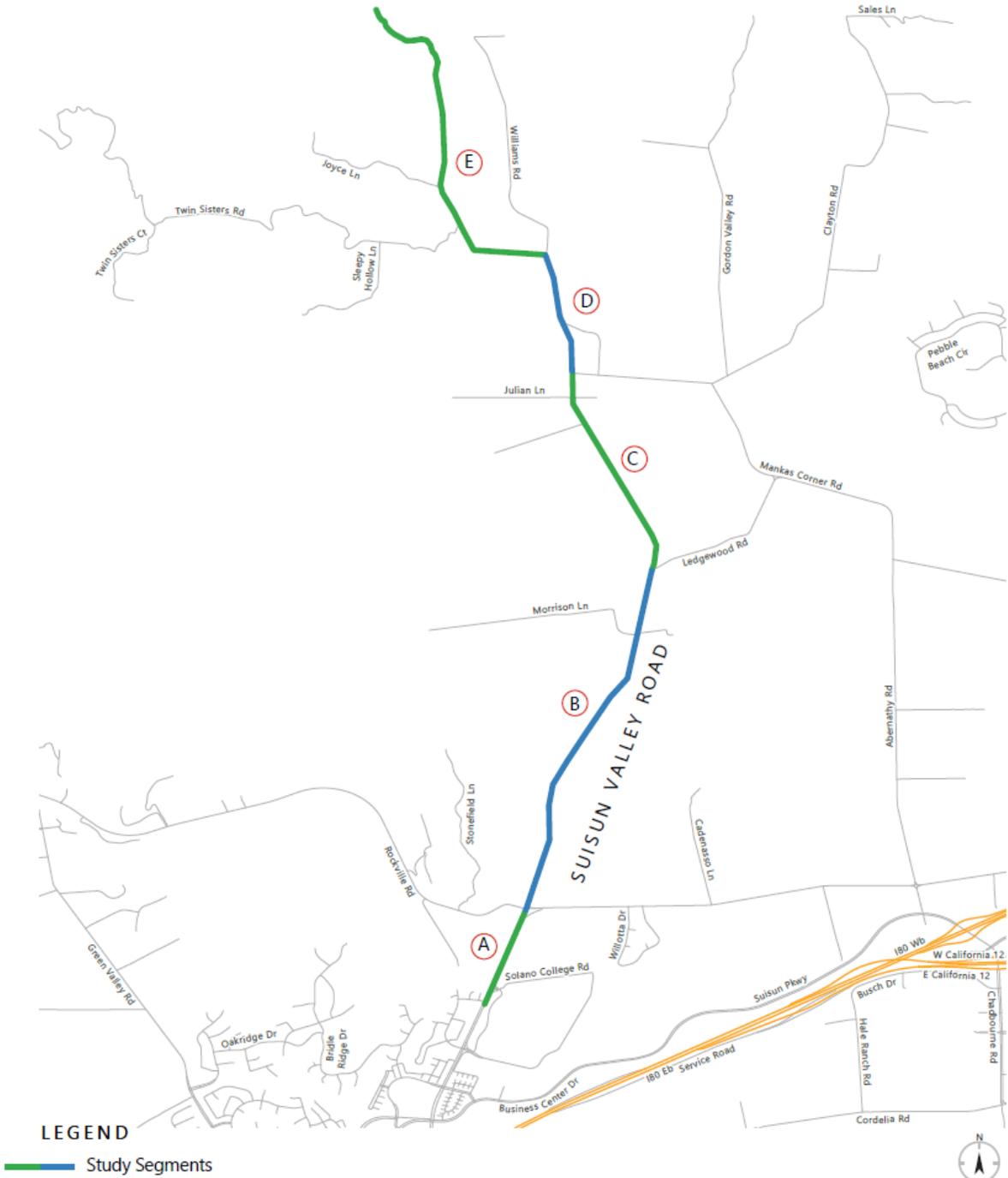
This summary presents the key findings from the Suisun Valley Road Capacity Analysis, focusing on existing and future Level of Service (LOS) conditions, impacts of harvest and non-harvest seasons, and recommended mitigations and improvements for the corridor segments.

### **Study Area and Segments**

The analysis focuses on Suisun Valley Road, a two-lane rural corridor serving agricultural, commuter, and tourism traffic. The road is divided into five segments (A to E) from Solano College Road in the south to the northern end of Suisun Valley Road as shown in Figure 1.

Figure 1: Study Area and Study Segments

Figure 1 : Study Area and Study Segments



LEGEND

Study Segments



## Existing Conditions (2025)

All five segments currently operate at LOS A (uncongested) during both non-harvest and harvest seasons. Traffic volumes increase by about 7% during the harvest season due to winery and agritourism activity. Segment A carries the highest volumes, influenced by commuter and delivery traffic near I-80. Safety analysis shows 69 collisions on Suisun Valley Road over 2018-2022, with some fatalities and injuries, mostly low severity but frequent crashes related to speed and turning.

Tables 4 & 5: Existing LOS for Non-Harvest and Harvest Seasons

Table 4: Existing Conditions – Segment Level of Service – Non - Harvest Season

Segment ID	Roadway Segment	# Lanes	2025 Existing Conditions											
			Daily				AM Peak Hour Traffic				PM Peak Hour Traffic			
			Capacity	Average Daily Traffic (V)	Volume-to-capacity (V/C)	Level of service (LOS)	Capacity	AM Peak hour volumes	Volume-to-capacity (V/C)	Level of service (LOS)	Capacity	PM Peak hour volumes	Volume-to-capacity (V/C)	Level of service (LOS)
A	Between Solano College Road and Rockville Road	2	12780	6062	0.47	A	1215	347	0.29	A	1215	513	0.42	A
B	Between Rockville Road and Ledgewood Road	2	12780	4775	0.37	A	1215	197	0.16	A	1215	393	0.32	A
C	Between Ledgewood Road and Mankas Corner Road	2	12780	2986	0.23	A	1215	148	0.12	A	1215	272	0.22	A
D	Between Mankas Corner Road and Williams Road	2	12780	3731	0.29	A	1215	165	0.14	A	1215	563	0.46	A
E	Between Williams Road and North End Point	2	12780	3060	0.24	A	1215	145	0.12	A	1215	517	0.43	A

Note - The capacity value used is derived from Florida DOT rural roadway tables and includes a 10% adjustment factor.

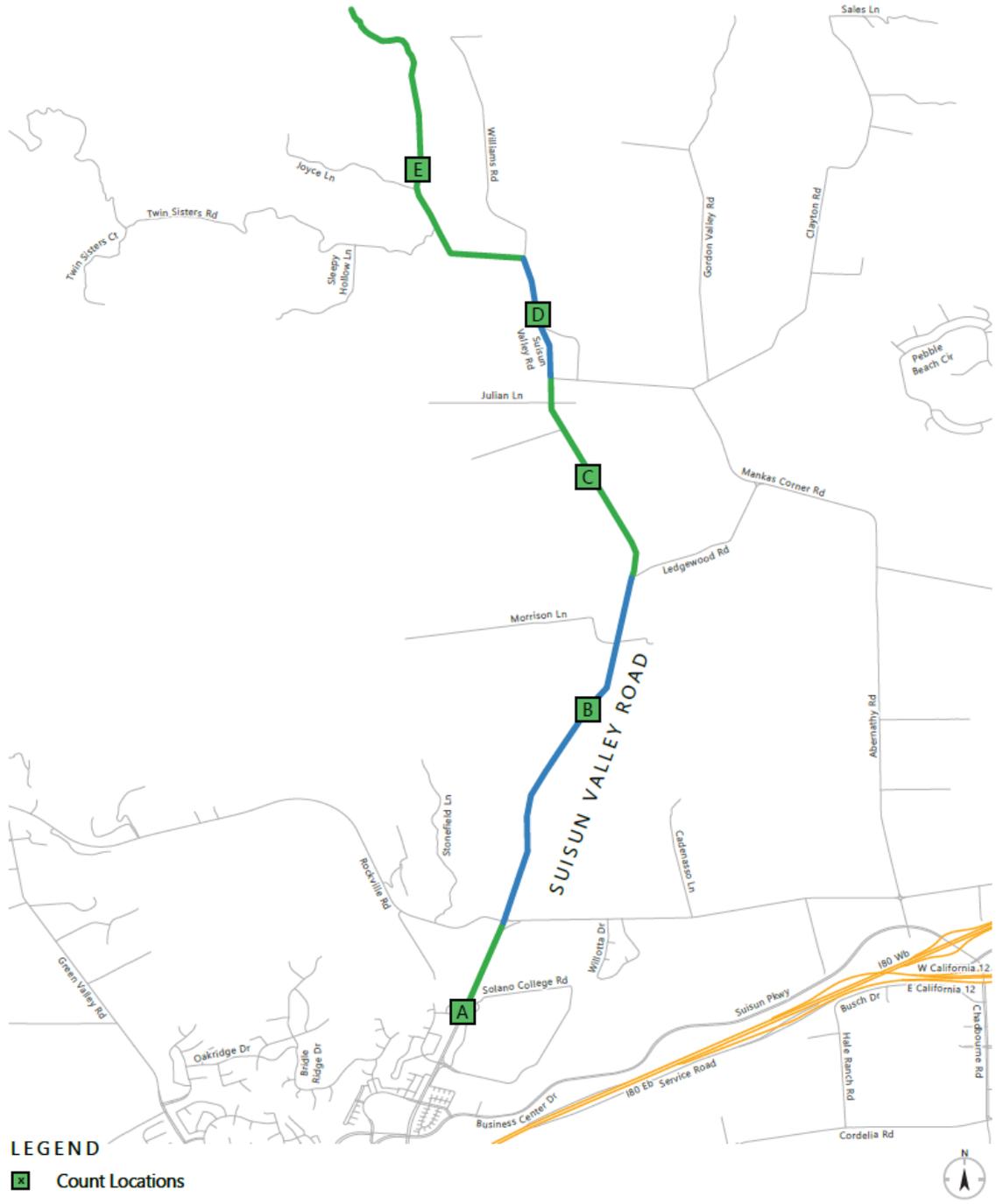
Table 5: Existing Conditions – Segment Level of Service– Harvest Season

Segment ID	Roadway Segment	# Lanes	2025 Existing Conditions (Adjusted for Harvest Season)											
			Daily				AM Peak Hour Traffic				PM Peak Hour Traffic			
			Capacity	Average Daily Traffic (V)	Volume-to-capacity (V/C)	Level of service (LOS)	Capacity	AM Peak hour volumes	Volume-to-capacity (V/C)	Level of service (LOS)	Capacity	PM Peak hour volumes	Volume-to-capacity (V/C)	Level of service (LOS)
A	Between Solano College Road and Rockville Road	2	12780	6486	0.51	A	1215	371	0.31	A	1215	549	0.45	A
B	Between Rockville Road and Ledgewood Road	2	12780	5109	0.40	A	1215	211	0.17	A	1215	421	0.35	A
C	Between Ledgewood Road and Mankas Corner Road	2	12780	3195	0.25	A	1215	158	0.13	A	1215	291	0.24	A
D	Between Mankas Corner Road and Williams Road	2	12780	3992	0.31	A	1215	177	0.15	A	1215	602	0.50	A
E	Between Williams Road and North End Point	2	12780	3274	0.26	A	1215	155	0.13	A	1215	553	0.46	A

Note - The capacity value used is derived from Florida DOT rural roadway tables and includes a 10% adjustment factor.

Figure 2: ADT Collection Locations

Figure 2 : ADT Collection Locations



## Future Impact Including Projects

The addition of proposed and upcoming development projects within the Suisun Valley is expected to significantly increase traffic volumes, particularly during peak agritourism periods such as the harvest season. This cumulative growth will notably impact the southern segments of Suisun Valley Road, especially Segment A near the I-80 interchange, where the Level of Service (LOS) is projected to degrade from LOS A to LOS F, indicating severe congestion and potential delays. Segment B is also expected to experience a decline in LOS, approaching capacity limits during peak hours. While the northern segments (C, D, and E) are forecasted to remain within acceptable LOS thresholds, the rising volume-to-capacity ratios suggest emerging constraints that warrant proactive monitoring and mitigation. These changes underscore the need for targeted roadway improvements and strategic planning to maintain operational efficiency and preserve the rural character of the corridor.

Tables 9 & 10: Cumulative Plus-Project Conditions

Table 9: Cumulative (Plus Project) Conditions - Non-Harvest Season

#	Roadway Segment	# Lanes	Cumulative (Plus Project) Conditions - Non Harvest Season											
			Daily						Saturday Peak Hour Traffic					
			Capacity	Average Daily Traffic (V)	Project Volumes	Daily Total Volumes	Volume-to-capacity (V/C)	Level of service (LOS)	Capacity	Existing PM Peak hour volumes	Project Volumes	PM Peak Hour Volumes	Volume-to-capacity (V/C)	Level of service (LOS)
1	Between Solano College Road and Rockville Road	2	12780	6062	4631	10693	0.84	D	1215	513	1127	1640	1.35	F
2	Between Rockville Road and Ledgewood Road	2	12780	4775	3023	7798	0.61	B	1215	393	576	969	0.80	C
3	Between Ledgewood Road and Mankas Corner Road	2	12780	2986	1377	4363	0.34	A	1215	272	283	555	0.46	A
4	Between Mankas Corner Road and Williams Road	2	12780	3731	922	4653	0.36	A	1215	563	200	763	0.63	B
5	Between Williams Road and North End Point	2	12780	3060	505	3565	0.28	A	1215	517	121	638	0.53	A

Note - The capacity value used is derived from Florida DOT rural roadway tables and includes a 10% adjustment factor.

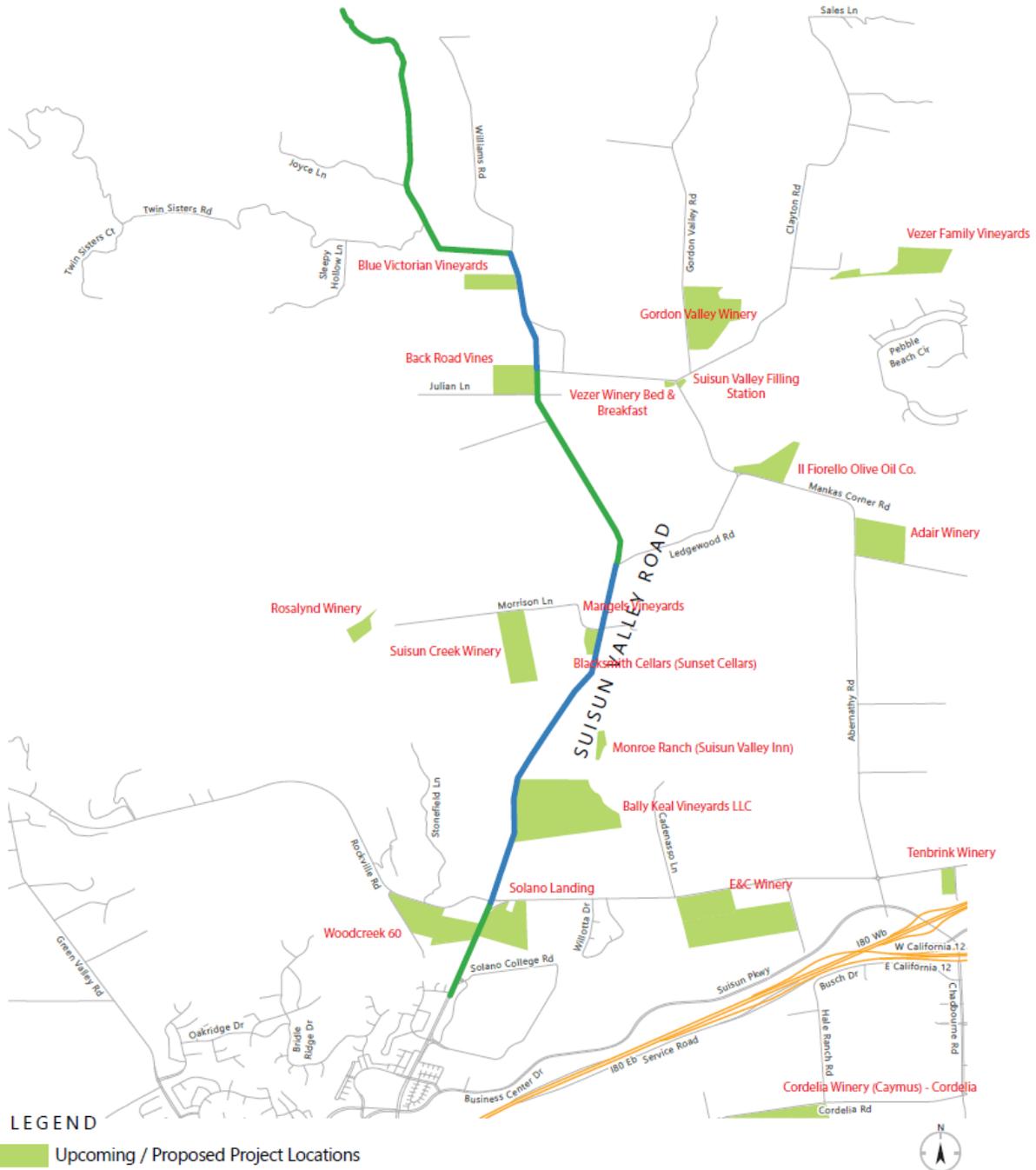
Table 10: Cumulative (Plus Project) Conditions - Harvest Season

#	Roadway Segment	# Lanes	Cumulative (Plus Project) Conditions - Harvest Season											
			Daily						Saturday Peak Hour Traffic					
			Capacity	Average Daily Traffic (V)	Project Volumes	Daily Total Volumes	Volume-to-capacity (V/C)	Level of service (LOS)	Capacity	Existing PM Peak hour volumes	Project Volumes	PM Peak Hour Volumes	Volume-to-capacity (V/C)	Level of service (LOS)
1	Between Solano College Road and Rockville Road	2	12780	6486	4631	11117	0.87	D	1215	549	1127	1676	1.38	F
2	Between Rockville Road and Ledgewood Road	2	12780	5109	3023	8132	0.64	B	1215	421	576	997	0.82	D
3	Between Ledgewood Road and Mankas Corner Road	2	12780	3195	1377	4572	0.36	A	1215	291	283	574	0.47	A
4	Between Mankas Corner Road and Williams Road	2	12780	3992	922	4914	0.38	A	1215	602	200	802	0.66	B
5	Between Williams Road and North End Point	2	12780	3274	505	3779	0.30	A	1215	553	121	674	0.55	A

Note - The capacity value used is derived from Florida DOT rural roadway tables and includes a 10% adjustment factor.

Figure 4: Proposed and Upcoming Projects

Figure 4 : Proposed and Upcoming Projects



## Tables 11 & 12: Modeled Growth Plus Project Conditions

**Table 11: Modeled Growth Plus Project Conditions (Peak Hour) - Non-Harvest Season**

Segment	Cumulative Volumes (from Model)	New Project Trips	Capacity	Total Trip Generation from Proposed Projects	Total Volume	V/C Ratio (No Project)	LOS (No Project)	V/C Ratio (With Project)	LOS (With Project)	Status	Available Capacity (No Project)	Available Capacity (With Project)
Segment A	625	0	1215	1127	1752	0.51	A	1.44	F	Over Capacity	590	(537)
Segment B	479	0	1215	576	1055	0.39	A	0.87	D	OK	736	160
Segment C	332	0	1215	283	615	0.27	A	0.51	A	OK	883	600
Segment D	686	0	1215	200	886	0.56	A	0.73	C	OK	529	329
Segment E	630	0	1215	121	751	0.52	A	0.62	B	OK	585	464

Note - The capacity value used is derived from Florida DOT rural roadway tables and includes a 10% adjustment factor.

**Table 12: Modeled Growth Plus Project Conditions (Peak Hour) - Harvest Season**

Segment	Cumulative Volumes (from Model)	New Project Trips	Capacity	Total Trip Generation from Proposed Projects	Total Volume	V/C Ratio (No Project)	LOS (No Project)	V/C Ratio (With Project)	LOS (With Project)	Status	Available Capacity (No Project)	Available Capacity (With Project)
Segment A	669	0	1215	1127	1796	0.55	A	1.48	F	Over Capacity	546	(581)
Segment B	513	0	1215	576	1089	0.42	A	0.90	D	OK	702	126
Segment C	355	0	1215	283	638	0.29	A	0.53	A	OK	860	577
Segment D	734	0	1215	200	934	0.60	B	0.77	C	OK	481	281
Segment E	674	0	1215	121	795	0.55	A	0.65	B	OK	541	420

Note - The capacity value used is derived from Florida DOT rural roadway tables and includes a 10% adjustment factor.

### Critical Impacted Areas and Segment Attention Levels

The corridor is divided into five segments (A to E) for detailed analysis:

- **Segment A (Solano College Road to Rockville Road):** The most urbanized and heavily trafficked segment, serving as the gateway to Suisun Valley and connecting to Interstate 80. It has the highest traffic volumes and is the primary bottleneck. This segment is classified as **CRITICAL** due to exceeding capacity (LOS F) during peak Saturday harvest season, with a volume-to-capacity (V/C) ratio of 1.48, indicating severe congestion and queuing. Figure 5 (Trip Distribution): Illustrates that 90% of traffic enters the valley from the south (Segment A), explaining why the southern segments are the most critical.
- **Segment B (Rockville Road to Ledgewood Road):** Active with wineries and agritourism businesses, showing increased traffic during weekends and seasonal events. It is designated as **HIGH ATTENTION**, approaching capacity limits (LOS D/E) during peak harvest PM hours with a V/C ratio near 0.99, signaling that operational interventions will likely be needed soon.
- **Segments C, D, and E:** More rural with lower traffic volumes but geometric and safety constraints, especially Segment C with tight curves and limited shoulders. These segments are **STABLE BUT EMERGING**, operating at LOS A to C but with rising V/C ratios and safety concerns that warrant monitoring and targeted safety improvements.

Figure 5: Regional and Segment-wise Trip Distribution

Figure 5 : Regional and Segment-wise Trip Distribution



## **Conclusions**

Suisun Valley Road currently operates well within capacity, but cumulative development near the I-80 interchange will cause significant congestion during peak agritourism periods. Segment A is the critical bottleneck, with Segment B also showing signs of strain. Remaining segments are stable but require monitoring.

## **Recommended Mitigations and Improvements**

Prioritize any capacity-increasing improvements near the I-80 gateway (Segment A). Consider operational interventions in Segment B. Continue safety improvements aligned with HSIP rural safety initiatives. Use the Excel-based capacity tool for ongoing monitoring and CEQA review to balance growth with rural character preservation.