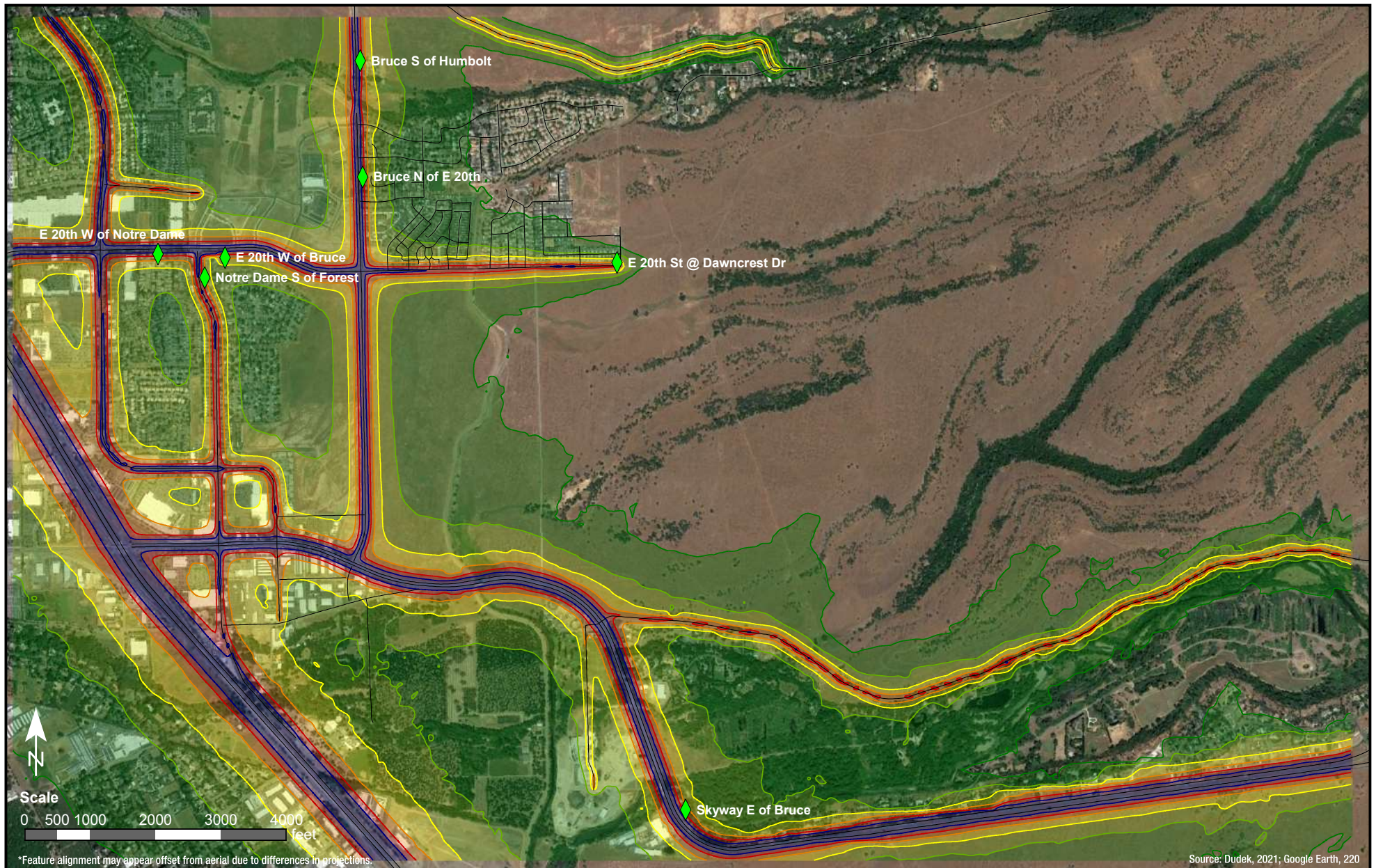


Appendix I

Noise Model Outputs



Signs and Symbols

- Project Area
- ◆ Receiver
- Road axis

Noise Level Ldn, dB(A)

- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- ≥ 70

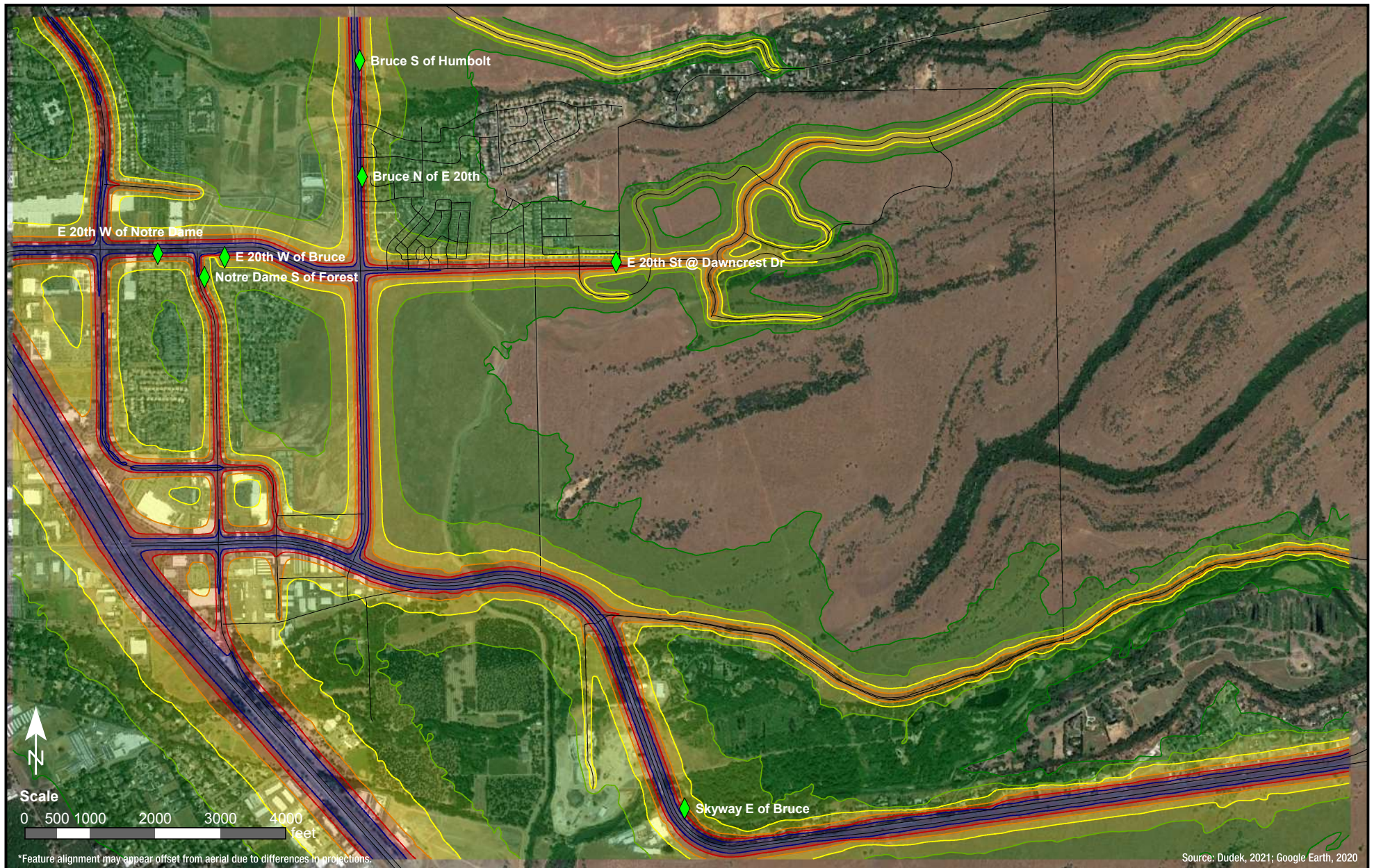
Appendix I Figure 1

Existing Traffic Noise
Day/Night Noise Level Contours, dBA Ldn

City of Chico
Valley Edge Specific Plan

DUDEK

Published: 8/11/2021
Engineer: MJC



Signs and Symbols

- Project Area
- ◆ Receiver
- Road axis

Noise Level Ldn, dB(A)

- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- >= 70

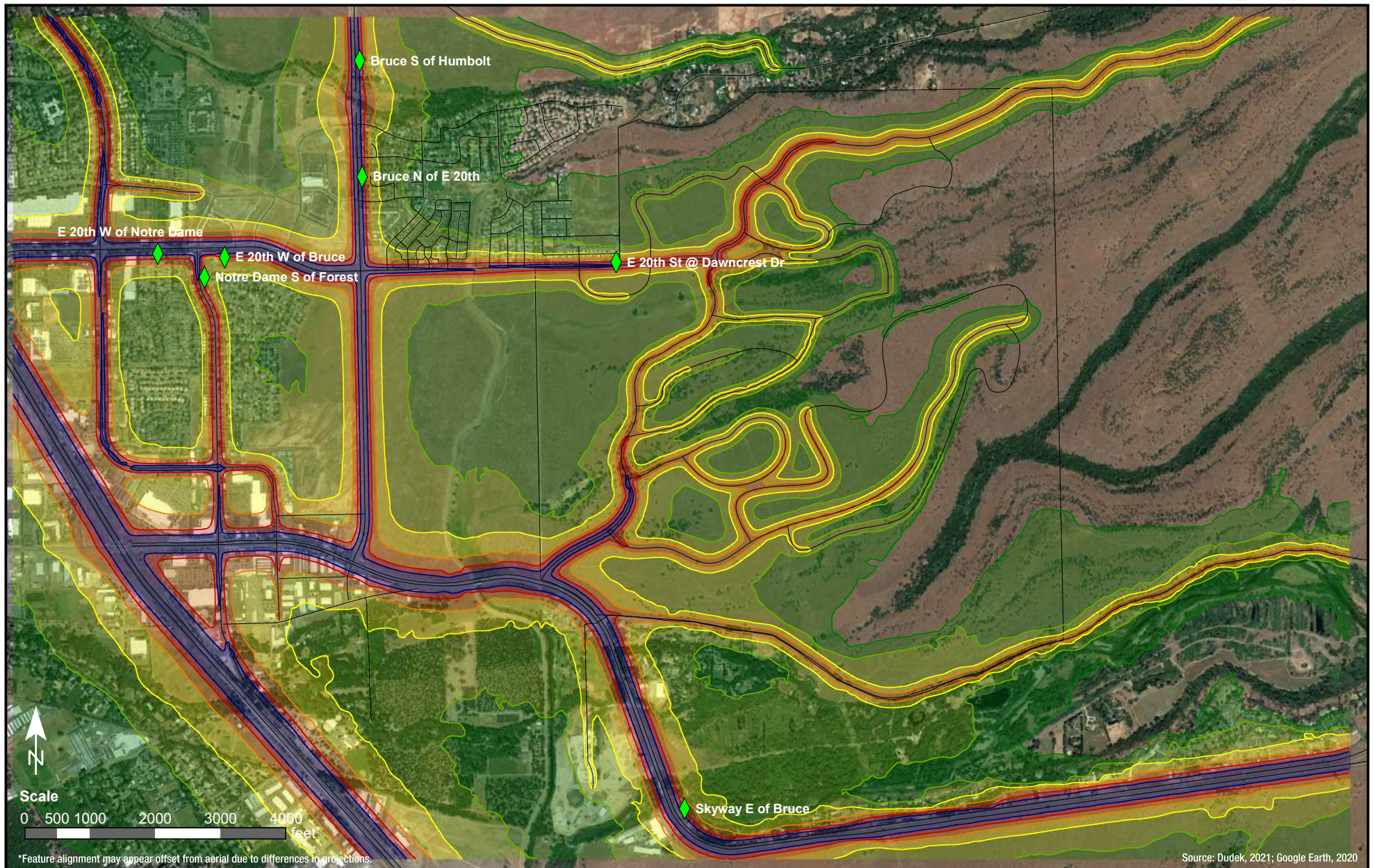
Appendix I Figure 2

Existing Plus Approved Plus Northern Portion of Project Day/Night Noise Level Contours, dBA Ldn

City of Chico
Valley Edge Specific Plan

DUDEK

Published: 8/16/2021
Engineer: MJC



Signs and Symbols

- Project Area
- ◆ Receiver
- Road axis

Noise Level Ldn, dB(A)

- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- ≥ 70

Appendix I Figure 3

Cumulative Plus Project Day/Night Noise Level Contours, dBA Ldn

City of Chico
Valley Edge Specific Plan

DUDEK

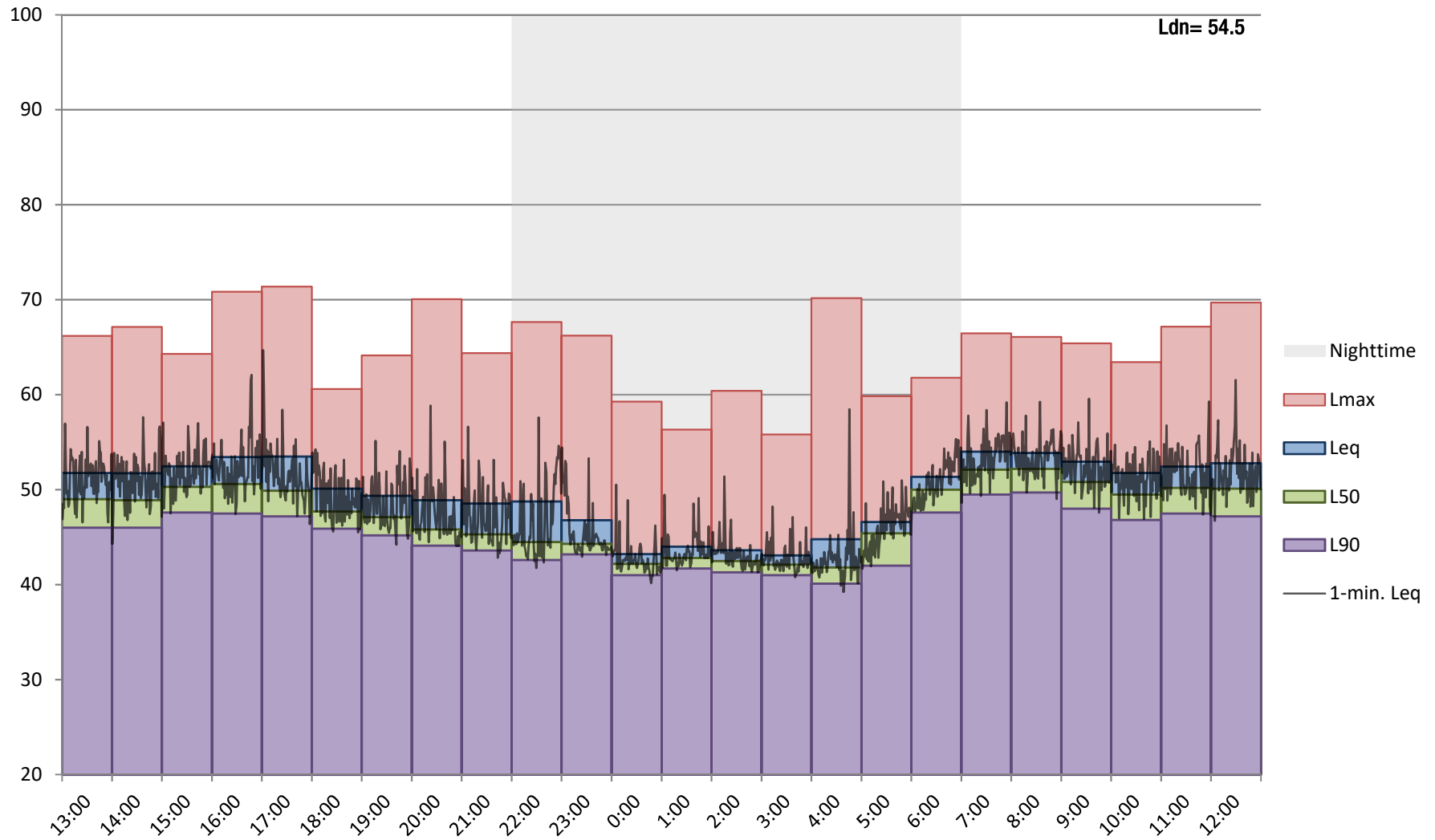
Published: 8/11/2021
Engineer: MJC

Appendix I-1
Long-Term 24 Hour Continuous Noise Monitoring

Project: Valley's Edge Specific Plan EIR
Date: January 27, 2020 to January 28, 2020
Site: LT-1 Southern Plan Area

Hour	Leq	Lmax	L50	L90		Lowermost Level			
13:00	51.7	66.2	49.0	46.0		Leq	Lmax	L50	L90
14:00	51.7	67.1	48.9	46.0	Daytime (7 a.m. - 10 p.m.)	48.5	60.6	45.3	43.6
15:00	52.5	64.3	50.3	47.6	Nighttime (10 p.m. - 7 a.m.)	43.1	55.8	41.8	40.1
16:00	53.4	70.9	50.6	47.5		Average Level			
17:00	53.5	71.4	49.9	47.2		Leq	Lmax	L50	L90
18:00	50.1	60.6	47.7	45.9	Daytime (7 a.m. - 10 p.m.)	52.2	66.5	49.3	46.8
19:00	49.4	64.1	47.1	45.2	Nighttime (10 p.m. - 7 a.m.)	46.7	61.9	44.0	42.3
20:00	48.9	70.1	45.8	44.1		Uppermost-Level			
21:00	48.5	64.4	45.3	43.6		Leq	Lmax	L50	L90
22:00	48.8	67.7	44.5	42.6	Daytime (7 a.m. - 10 p.m.)	54.0	71.4	52.2	49.7
23:00	46.8	66.2	44.3	43.2	Nighttime (10 p.m. - 7 a.m.)	51.3	70.2	50.0	47.6
0:00	43.2	59.3	42.2	41.0		Energy Distribution			
1:00	44.0	56.3	42.8	41.7		Daytime	85%		
2:00	43.6	60.4	42.5	41.3		Nighttime	15%		
3:00	43.1	55.8	42.1	41.0					
4:00	44.8	70.2	41.8	40.1					
5:00	46.6	59.8	45.4	42.0					
6:00	51.3	61.8	50.0	47.6					
7:00	54.0	66.5	52.1	49.5					
8:00	53.9	66.1	52.2	49.7					
9:00	52.9	65.4	50.8	48.0					
10:00	51.8	63.4	49.5	46.8					
11:00	52.4	67.2	50.2	47.5					
12:00	52.8	69.7	50.1	47.2		Calculated L _{dn} , dBA			
						54.5			

Appendix I-1
Valley's Edge Specific Plan EIR - LT-1
January 27, 2020 to January 28, 2020

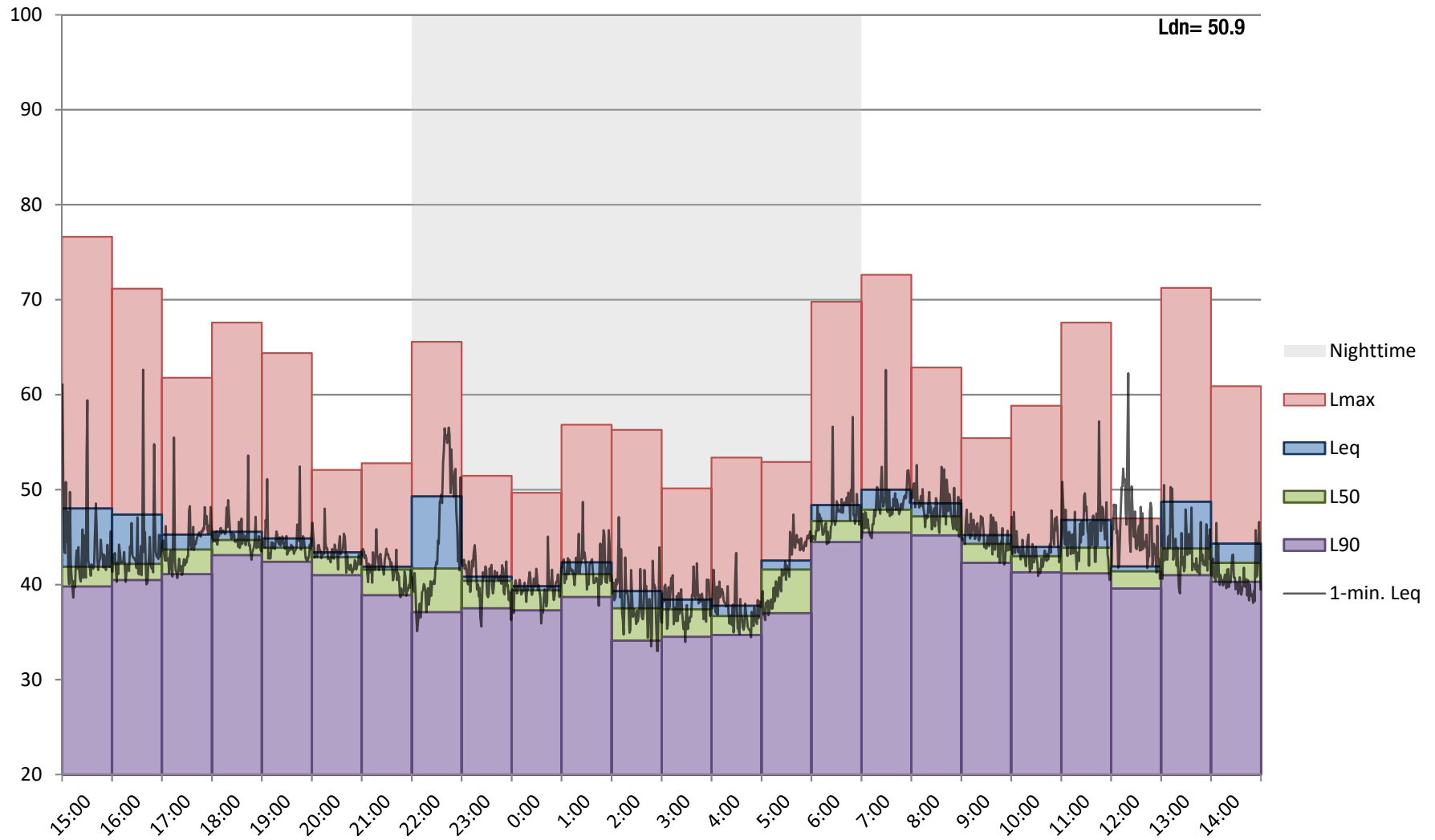


Appendix I-2
Long-Term 24 Hour Continuous Noise Monitoring

Project: Valley's Edge Specific Plan EIR
Date: January 27, 2020 to January 28, 2020
Site: LT-2 Northern Plan Area

Hour	Leq	Lmax	L50	L90		Lowermost Level			
15:00	48.0	76.6	41.9	39.8		Leq	Lmax	L50	L90
16:00	47.4	71.2	42.2	40.5	Daytime (7 a.m. - 10 p.m.)	41.9	47.0	41.4	38.9
17:00	45.3	61.8	43.7	41.1	Nighttime (10 p.m. - 7 a.m.)	37.8	49.7	36.7	34.1
18:00	45.6	67.6	44.7	43.1		Average Level			
19:00	44.9	64.4	43.9	42.4		Leq	Lmax	L50	L90
20:00	43.4	52.1	42.9	41.0	Daytime (7 a.m. - 10 p.m.)	46.4	62.9	43.6	41.5
21:00	41.9	52.8	41.6	38.9	Nighttime (10 p.m. - 7 a.m.)	44.1	56.2	40.3	37.3
22:00	49.3	65.6	41.7	37.1		Uppermost-Level			
23:00	40.9	51.5	40.4	37.5		Leq	Lmax	L50	L90
0:00	39.8	49.7	39.4	37.3	Daytime (7 a.m. - 10 p.m.)	50.0	76.6	47.9	45.5
1:00	42.3	56.8	41.1	38.7	Nighttime (10 p.m. - 7 a.m.)	49.3	69.8	46.7	44.5
2:00	39.3	56.3	37.5	34.1		Energy Distribution			
3:00	38.4	50.1	37.4	34.5		Daytime	74%		
4:00	37.8	53.4	36.7	34.7		Nighttime	26%		
5:00	42.5	52.9	41.6	37.0		Calculated L _{dn} , dBA			
6:00	48.4	69.8	46.7	44.5		50.9			
7:00	50.0	72.6	47.9	45.5					
8:00	48.6	62.9	47.2	45.2					
9:00	45.2	55.4	44.3	42.3					
10:00	44.0	58.8	43.0	41.3					
11:00	46.8	67.6	43.9	41.2					
12:00	41.9	47.0	41.4	39.6					
13:00	48.7	71.2	43.8	41.0					
14:00	44.3	60.9	42.3	40.3					

Appendix I-2
Valley's Edge Specific Plan EIR - LT-2
January 27, 2020 to January 28, 2020



Appendix I 2-1
Project-Generated Construction Source Noise Prediction Model
Valley Edge Specific Plan - Site Preparation

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L _{eq} dBA)	Equipment Assumptions	Qty.	Reference Emission Noise Levels (Lmax) at 50 feet ¹	Usage Factor ¹
Threshold*	60.5	83.0	Grader	1	85	0.4
	25	90.7	Dozer	1	85	0.4
	100	78.6	Backhoe	1	80	0.4
	150	75.1				
	200	72.6				
	250	70.7				
	300	69.1				
	350	67.8	Ground Type		Hard	
	400	66.6	Source Height		5	
	450	65.6	Receiver Height		5	
	500	64.7	Ground Factor		0.00	
	550	63.8				
Predicted Noise Level ²					L _{eq} dBA at 50 feet ²	
Grader					81.0	
Dozer					81.0	
Backhoe					76.0	
Predicted Combined Noise Level (L _{eq} dBA at 50 feet)						84.7

Sources:

1 - Obtained from the FHWA Roadway Construction Noise Model, January 2006.

2 - Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006.

$$L_{eq}(\text{equip}) = E.L. + 10 \log (U.F.) - 20 \log (D/50) - 10 G \log (D/50)$$

Where: E.L. = Emission Level;

U.F. = Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Appendix I 2-2
Project-Generated Construction Source Noise Prediction Model
Valley Edge Specific Plan - Grading

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L _{eq} dBA)	Equipment Assumptions	Qty.	Reference Emission Noise Levels (L _{max}) at 50 feet ¹	Usage Factor ¹
Threshold*	70	83.0	Grader	1	85	0.4
	25	92.0	Dozer	1	85	0.4
	100	79.9	Backhoe	1	80	0.4
	150	76.4	Tractor	1	84	0.4
	200	73.9				
	250	72.0				
	300	70.4				
	350	69.0	Ground Type		Hard	
	400	67.9	Source Height		5	
	450	66.9	Receiver Height		5	
	500	65.9	Ground Factor		0.00	
	550	65.1				
			Predicted Noise Level ²		L _{eq} dBA at 50 feet ²	
			Grader		81.0	
			Dozer		81.0	
			Backhoe		76.0	
			Tractor		80.0	
			Predicted Combined Noise Level (L _{eq} dBA at 50 feet)			
			85.9			

Sources:

1 - Obtained from the FHWA Roadway Construction Noise Model, January 2006.

2 - Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006.

$$L_{eq}(\text{equip}) = E.L. + 10 \log (U.F.) - 20 \log (D/50) - 10 \log G \log (D/50)$$

Where: E.L. = Emission Level;

U.F. = Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Appendix I 2-3
Project-Generated Construction Source Noise Prediction Model
Valley Edge Specific Plan - Building Construction

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L _{eq} dBA)	Equipment Assumptions	Qty.	Reference Emission Noise Levels (Lmax) at 50 feet ¹	Usage Factor ¹
Threshold*	67	83.0	Crane	1	85	0.16
	25	91.5	Gradall	1	85	0.4
	100	79.5	Generator	1	82	0.5
	150	76.0	Tractor	1	84	0.4
	200	73.5				
	250	71.5				
	300	70.0				
	350	68.6	Ground Type		Hard	
	400	67.5	Source Height		5	
	450	66.4	Receiver Height		5	
	500	65.5	Ground Factor		0.00	
	550	64.7				
Predicted Noise Level ²					L _{eq} dBA at 50 feet ²	
Crane					77.0	
Gradall					81.0	
Generator					79.0	
Tractor					80.0	
Predicted Combined Noise Level (L _{eq} dBA at 50 feet)					85.5	

Sources:

1 - Obtained from the FHWA Roadway Construction Noise Model, January 2006.

2 - Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006.

$$L_{eq}(\text{equip}) = E.L. + 10 \log (U.F.) - 20 \log (D/50) - 10 G \log (D/50)$$

Where: E.L. = Emission Level;

U.F. = Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Appendix I 2-4
Project-Generated Construction Source Noise Prediction Model
Valley Edge Specific Plan - Paving

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L _{eq} dBA)	Equipment Assumptions	Qty.	Reference Emission Noise Levels (Lmax) at 50 feet ¹	Usage Factor ¹
Threshold*	75	83.0	Concrete Mixer Truck	1	85	0.4
	25	92.5	Paver	1	85	0.5
	100	80.5	Roller	1	85	0.2
	150	77.0	Tractor	1	84	0.4
	200	74.5				
	250	72.5				
	300	71.0				
	350	69.6	Ground Type		Hard	
	400	68.5	Source Height		5	
	450	67.4	Receiver Height		5	
	500	66.5	Ground Factor		0.00	
	550	65.7				
Predicted Noise Level ²					L _{eq} dBA at 50 feet ²	
Concrete Mixer Truck					81.0	
Paver					82.0	
Roller					78.0	
Tractor					80.0	
Predicted Combined Noise Level (L _{eq} dBA at 50 feet)						86.5

Sources:

1 - Obtained from the FHWA Roadway Construction Noise Model, January 2006.

2 - Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006.

$$L_{eq}(\text{equip}) = E.L. + 10 \log (U.F.) - 20 \log (D/50) - 10 G \log (D/50)$$

Where: E.L. = Emission Level;

U.F. = Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

*Project specific threshold

Appendix I 2-5
Project-Generated Construction Source Noise Prediction Model
Valley Edge Specific Plan - Architectural Coating

Location	Distance to Nearest Receiver in feet	Combined Predicted Noise Level (L _{eq} dBA)	Equipment Assumptions	Qty.	Reference Emission Noise Levels (L _{max}) at 50 feet ¹	Usage Factor ¹
Threshold*	22.5	83.0	Compressor (air)	1	80	0.4
	25	82.0				
	100	70.0				
	150	66.5				
	200	64.0				
	250	62.0				
	300	60.5				
	350	59.1	Ground Type		Hard	
	400	58.0	Source Height		5	
	450	56.9	Receiver Height		5	
	500	56.0	Ground Factor		0.00	
	550	55.2				
			Predicted Noise Level ²		L _{eq} dBA at 50 feet ²	
			Compressor (air)		76.0	
Predicted Combined Noise Level (L _{eq} dBA at 50 feet)						76.0

Sources:

1 - Obtained from the FHWA Roadway Construction Noise Model, January 2006.

2 - Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006.

$$L_{eq}(\text{equip}) = E.L. + 10 \log (U.F.) - 20 \log (D/50) - 10 G \log (D/50)$$

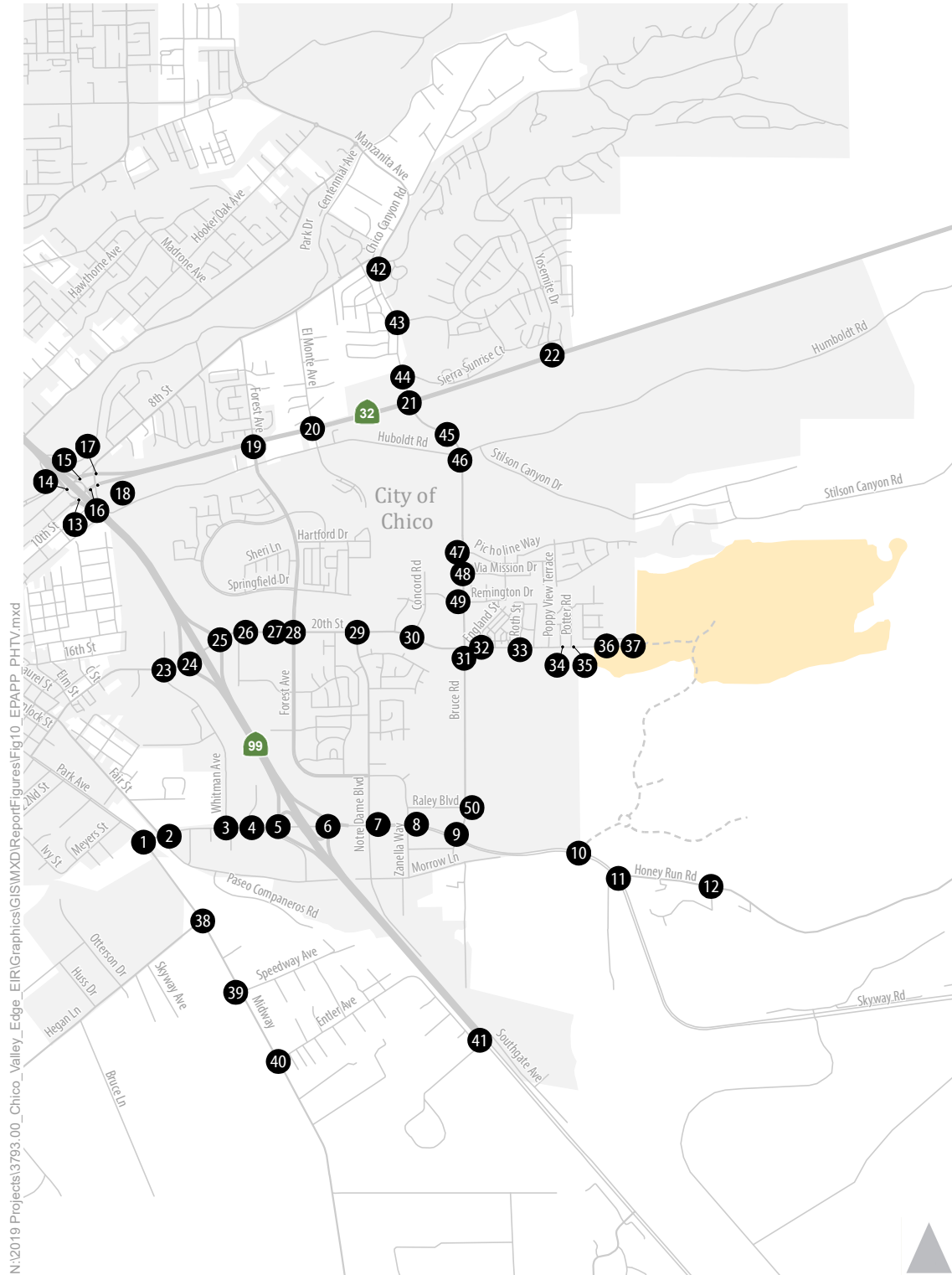
Where: E.L. = Emission Level;

U.F. = Usage Factor;

G = Constant that accounts for topography and ground effects; and

D = Distance from source to receiver.

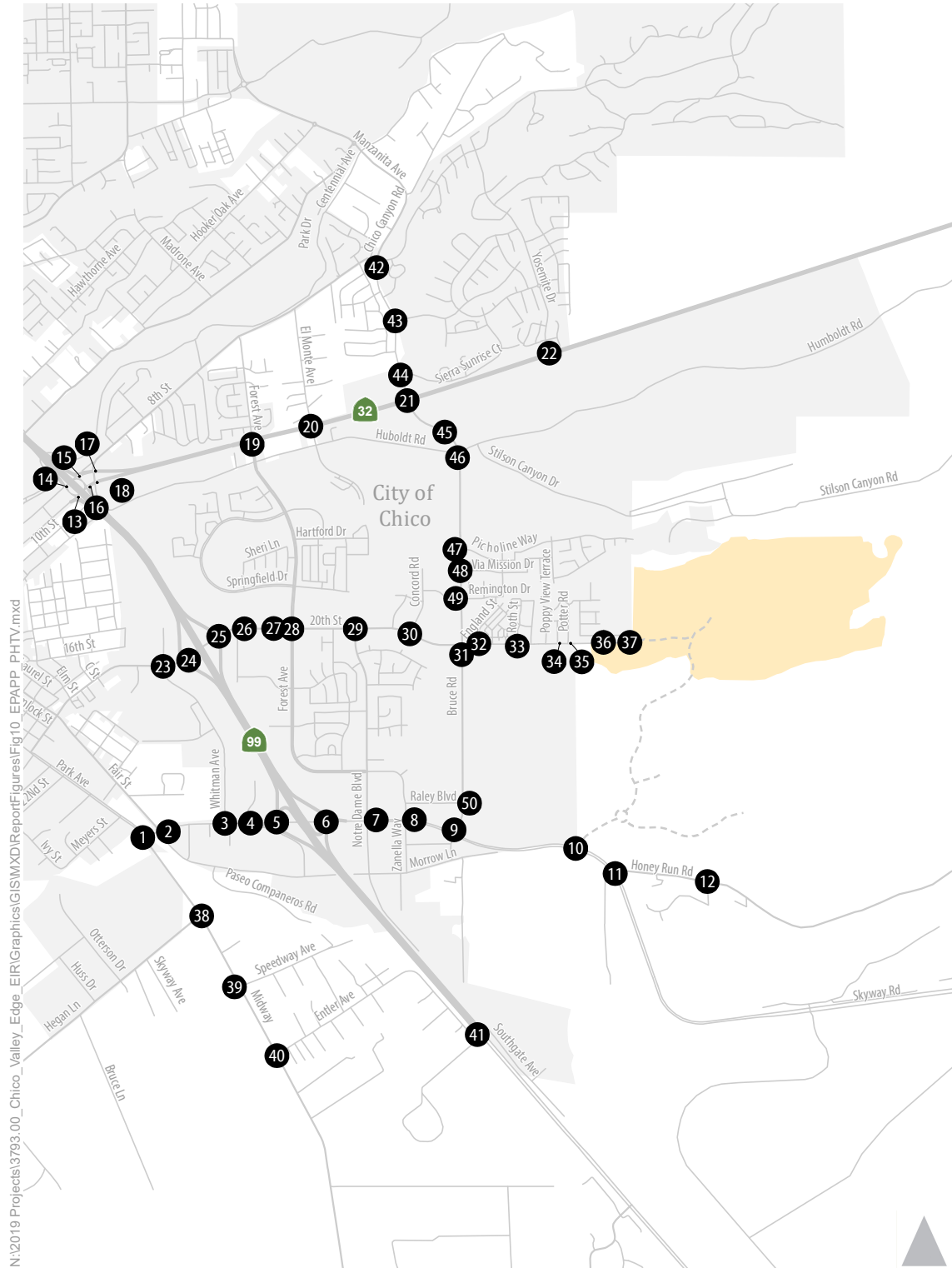
*Project specific threshold



1. Midway/Park Ave/E Park Ave 	2. Fair St /Fair St/E Park Ave 	3. Dr Martin Luther King Jr Pkwy/E Park Ave 	4. Country Dr/E Park Ave /Skyway Rd 	5. SR SB 99 Ramps/Skyway Rd
6. SR 99 NB Off Ramp/Skyway Rd 	7. Notre Dame Blvd/Skyway Rd 	8. Zanella Way/Forest Ave/Skyway Rd 	9. Dominic Dr /Bruce Rd/Skyway Rd 	10. Potter Rd/Skyway Rd
11. Longest Dr/Honey Run Rd/Skyway Rd 	12. Horse Run Ln/Honey Run Rd 	13. SR 99 SB On Ramp/SR 32 	14. SR 99 SB Off Ramp/SR 32 	15. SR 99 NB On Ramp/SR 32
16. SR 99 NB Off Ramp/SR 32 	17. Fir Street North /SR 32 	18. Fir Street South /SR 32 	19. Forest Ave/Hwy 32 	20. El Monte Ave/Hwy 32

Figure 10A
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Plus Project Conditions



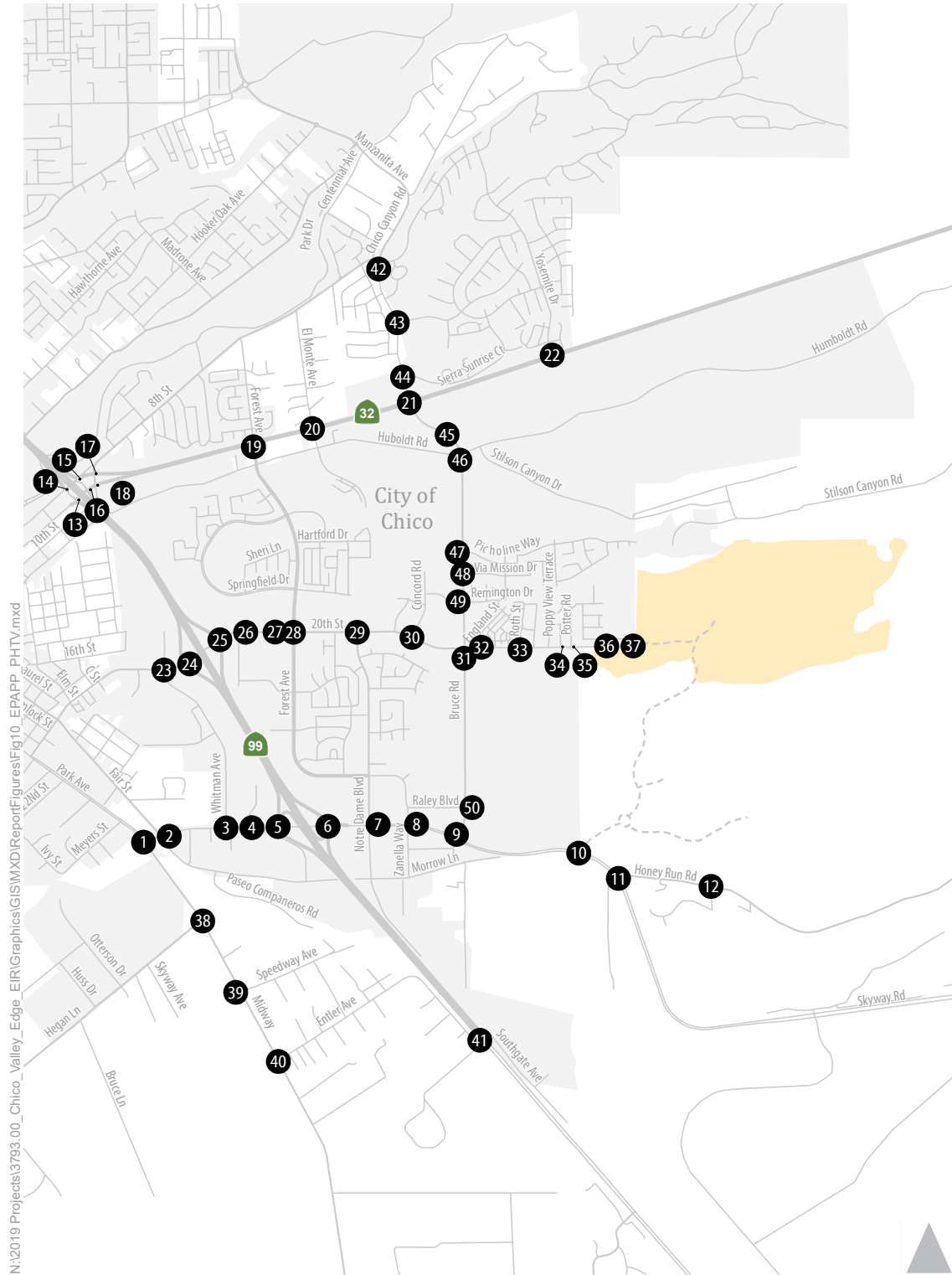


21. Bruce Rd/Hwy 32	22. Yosemite Dr/Hwy 32	23. Dr Martin Luther King Jr Pkwy/E 20th St	24. SR 99 SB Ramp/E 20th St	25. SR 99 NB Ramp/E 20th St
26. Mall Dwy/E 20th St	27. Target Dwy/E 20th St	28. Forest Ave/E 20th St	29. Notre Dame Blvd/E 20th St	30. Concord Ave/E 20th St
31. Bruce Rd/E 20th St	32. Belgium Ave/E 20th St	33. Roth St/E 20th St	34. Poppy View Terrace/E 20th St	35. Potter Rd/E 20th St
36. Autumnfields Way/E 20th St	37. Dawncrest Dr/E 20th St	38. Midway/Hegan Ln	39. Midway/Speedway Ave	40. Midway/Entler Ave

- 1 Study Intersection
- Project Site
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign



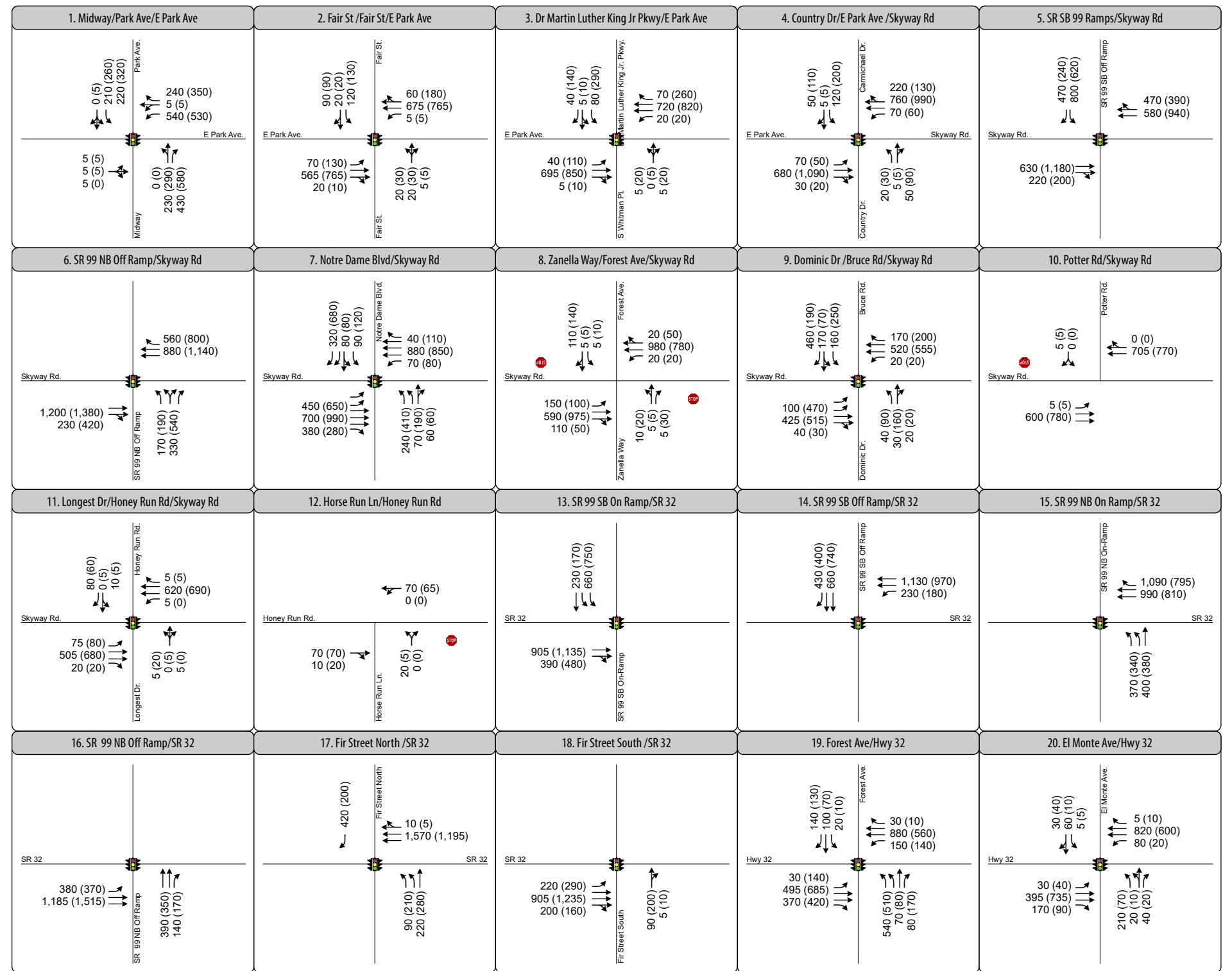
Figure 10B
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Plus Project Conditions



41. SR 99/Southgate Ave/Southgate Ave 	42. Bruce Rd/Chico Canyon Rd/E 8th St 	43. Bruce Rd/Sausalito St/Lakewest Dr 	44. Bruce Rd/Sierra Sunrise Terrace 	45. Bruce Rd/Native Oak Dr
46. Bruce Rd/Humboldt Rd/Humboldt Rd 	47. Bruce Rd/Picholine Way 	48. Bruce Rd/Via Mission Dr 	49. Bruce Rd/Beacon St/Remington Dr 	50. Bruce Rd/Raley Blvd

Figure 10C
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Plus Project Conditions





- 1** Study Intersection
- Turn Lane
- AM (PM)** Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign



Figure 7A
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Conditions

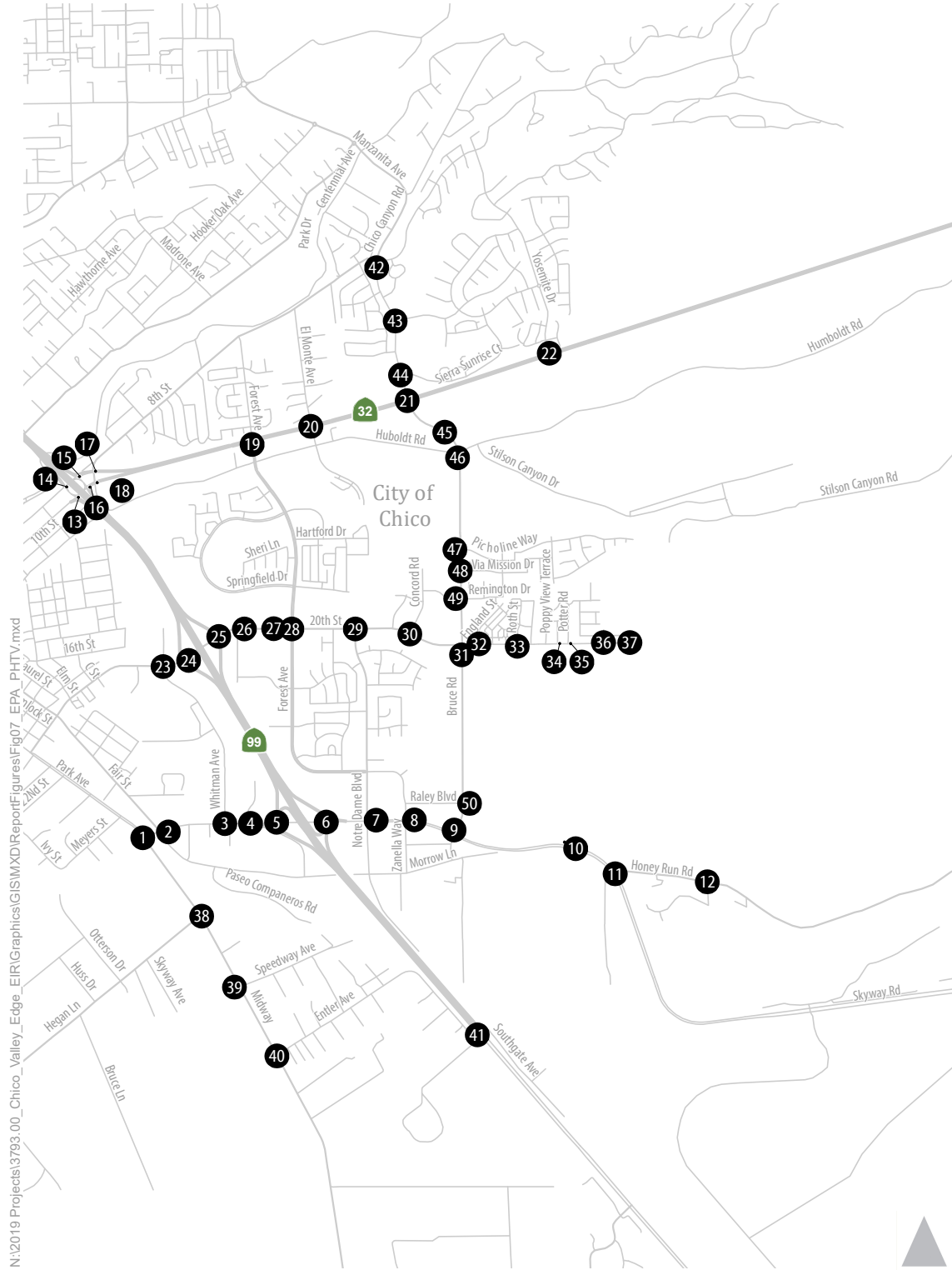


21. Bruce Rd/Hwy 32	22. Yosemite Dr/Hwy 32	23. Dr Martin Luther King Jr Pkwy/E 20th St	24. SR 99 SB Ramp/E 20th St	25. SR 99 NB Ramp/E 20th St
26. Mall Dwy/E 20th St	27. Target Dwy/E 20th St	28. Forest Ave/E 20th St	29. Notre Dame Blvd/E 20th St	30. Concord Ave/E 20th St
31. Bruce Rd/E 20th St	32. Belgium Ave/E 20th St	33. Roth St/E 20th St	34. Poppy View Terrace/E 20th St	35. Potter Rd/E 20th St
36. Autumnfields Way/E 20th St	37. Dawncrest Dr/E 20th St	38. Midway/Hegan Ln	39. Midway/Speedway Ave	40. Midway/Entler Ave

- 1 Study Intersection
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign



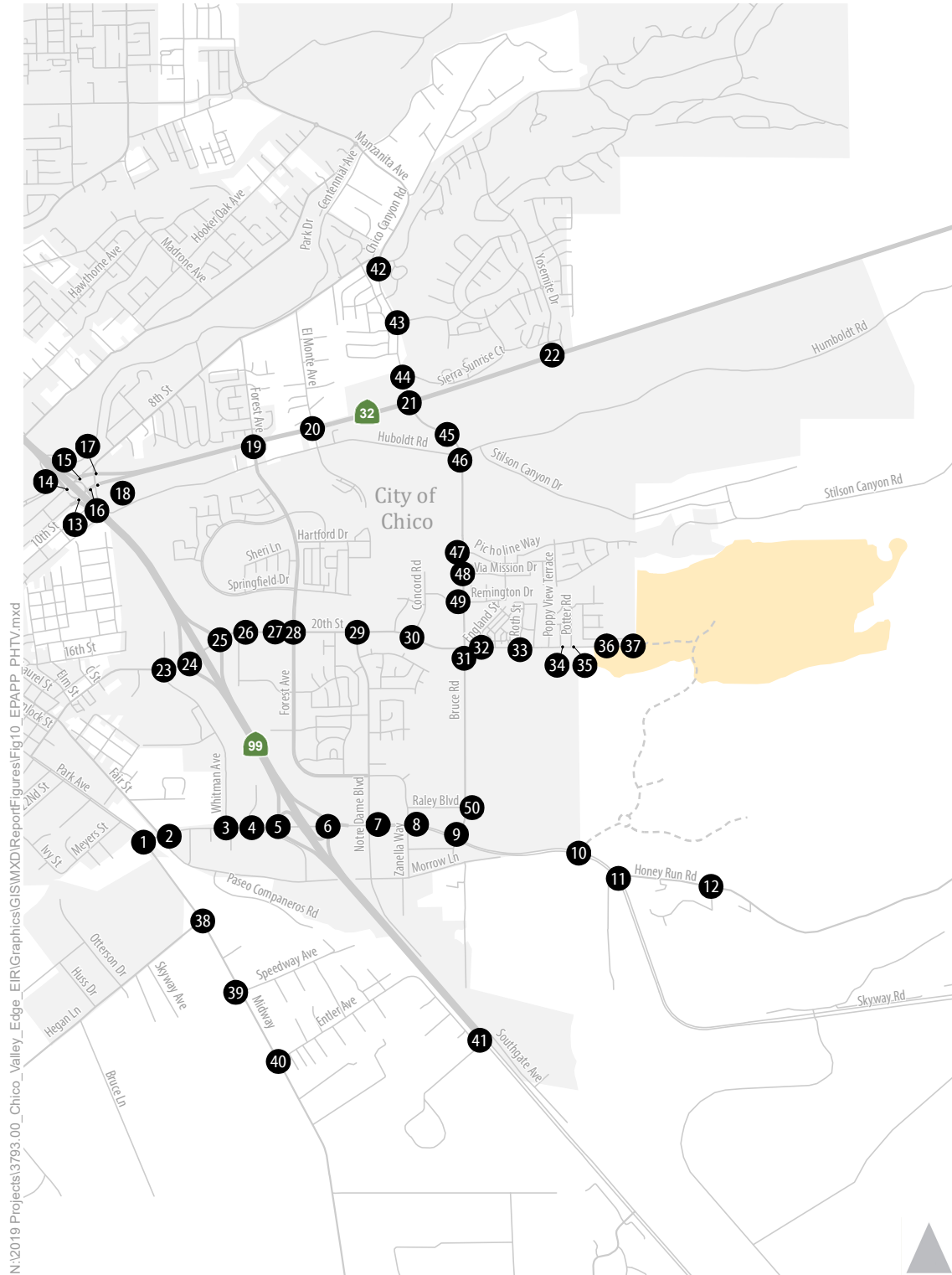
Figure 7B
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Conditions



41. SR 99/Southgate Ave/Southgate Ave	42. Bruce Rd/Chico Canyon Rd/E 8th St	43. Bruce Rd/Sausalito St/Lakewest Dr	44. Bruce Rd/Sierra Sunrise Terrace	45. Bruce Rd/Native Oak Dr
46. Bruce Rd/Humboldt Rd/Humboldt Rd	47. Bruce Rd/Picholine Way	48. Bruce Rd/Via Mission Dr	49. Bruce Rd/Beacon St/Remington Dr	50. Bruce Rd/Raley Blvd

Figure 7C
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Conditions

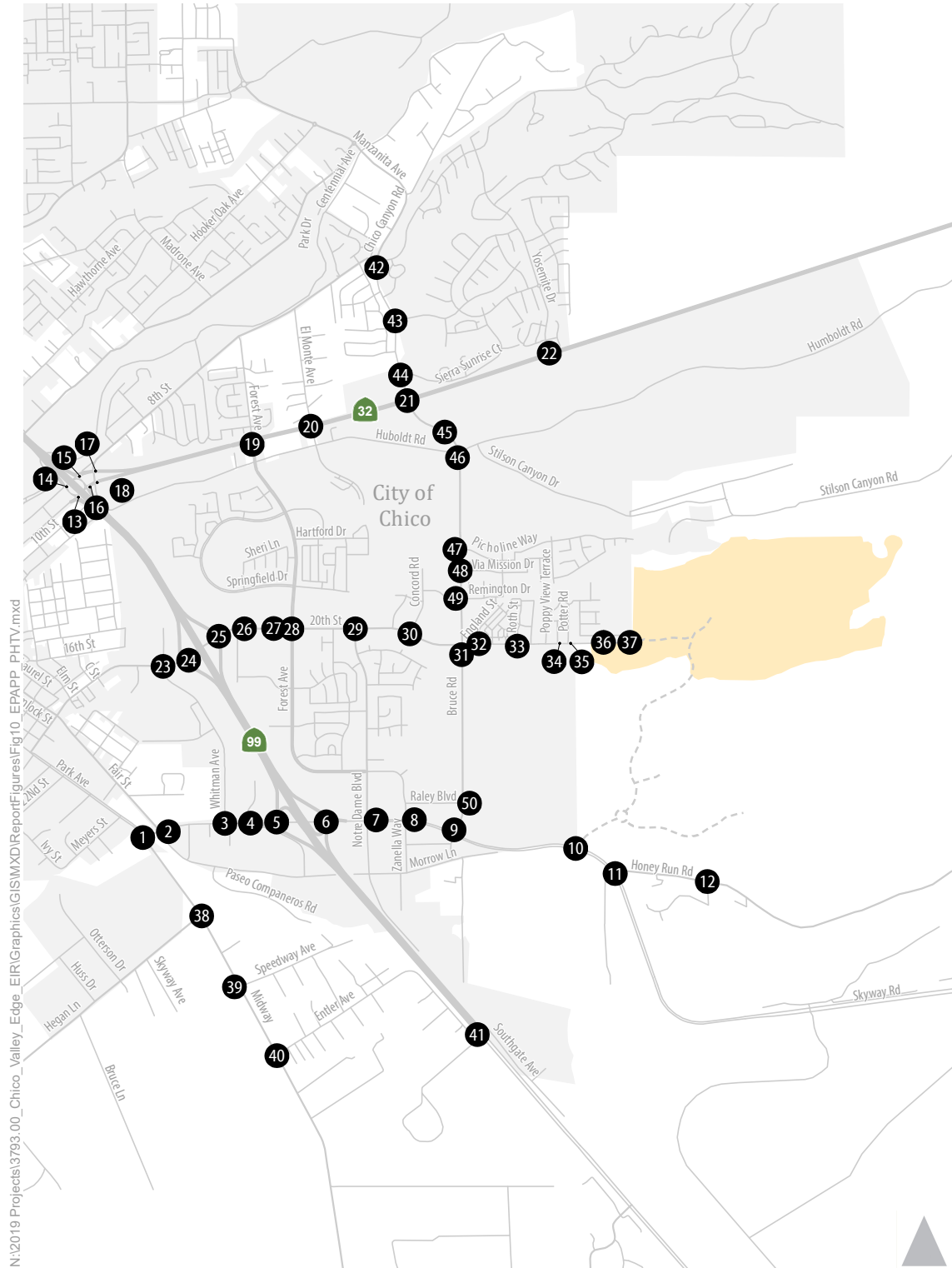




1. Midway/Park Ave/E Park Ave 	2. Fair St /Fair St/E Park Ave 	3. Dr Martin Luther King Jr Pkwy/E Park Ave 	4. Country Dr/E Park Ave /Skyway Rd 	5. SR SB 99 Ramps/Skyway Rd
6. SR 99 NB Off Ramp/Skyway Rd 	7. Notre Dame Blvd/Skyway Rd 	8. Zanella Way/Forest Ave/Skyway Rd 	9. Dominic Dr /Bruce Rd/Skyway Rd 	10. Potter Rd/Skyway Rd
11. Longest Dr/Honey Run Rd/Skyway Rd 	12. Horse Run Ln/Honey Run Rd 	13. SR 99 SB On Ramp/SR 32 	14. SR 99 SB Off Ramp/SR 32 	15. SR 99 NB On Ramp/SR 32
16. SR 99 NB Off Ramp/SR 32 	17. Fir Street North /SR 32 	18. Fir Street South /SR 32 	19. Forest Ave/Hwy 32 	20. El Monte Ave/Hwy 32

Figure 10A
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Plus Project Conditions

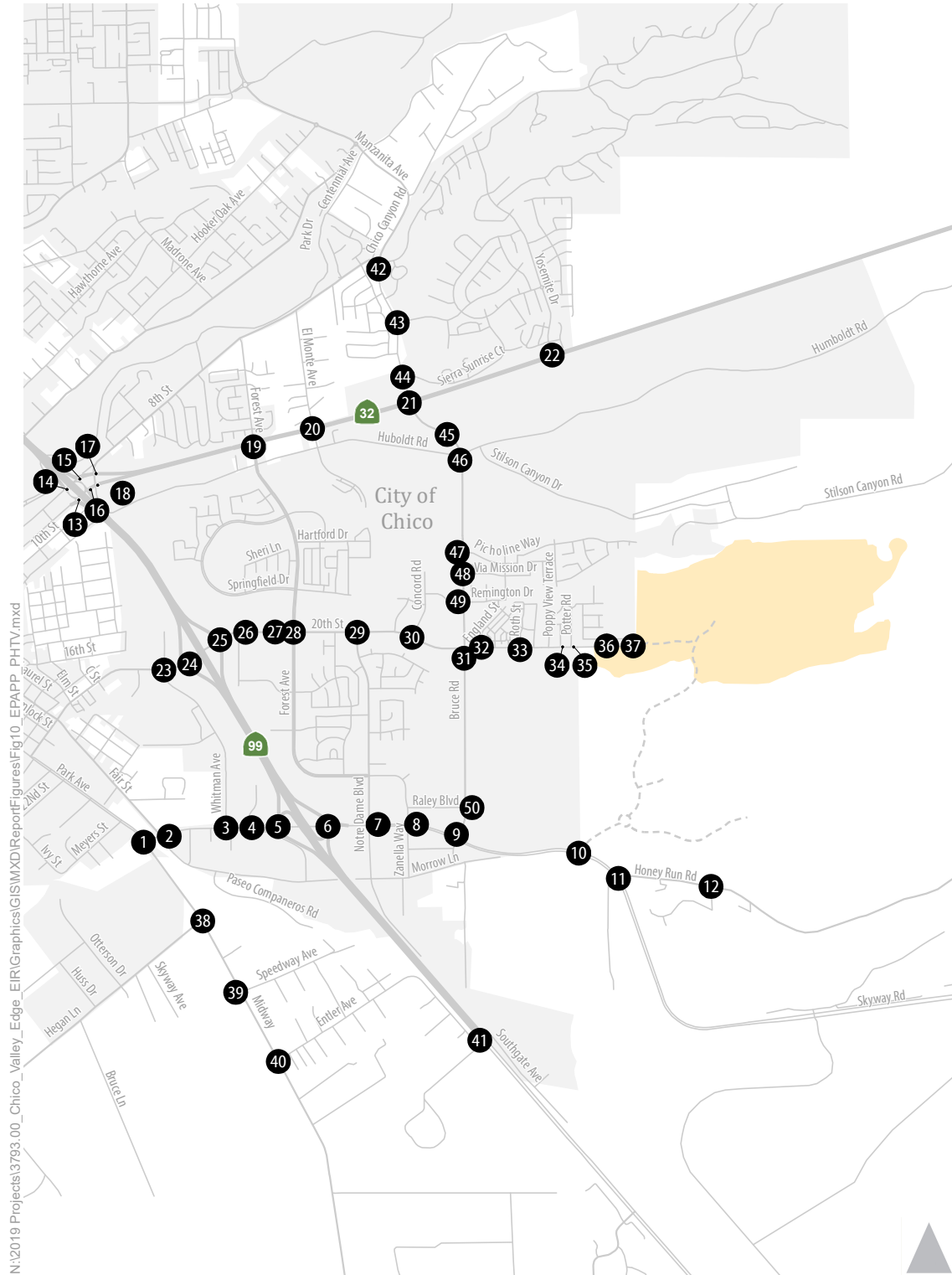




21. Bruce Rd/Hwy 32 	22. Yosemite Dr/Hwy 32 	23. Dr Martin Luther King Jr Pkwy/E 20th St 	24. SR 99 SB Ramp/E 20th St 	25. SR 99 NB Ramp/E 20th St
26. Mall Dwy/E 20th St 	27. Target Dwy/E 20th St 	28. Forest Ave/E 20th St 	29. Notre Dame Blvd/E 20th St 	30. Concord Ave/E 20th St
31. Bruce Rd/E 20th St 	32. Belgium Ave/E 20th St 	33. Roth St/E 20th St 	34. Poppy View Terrace/E 20th St 	35. Potter Rd/E 20th St
36. Autumnfields Way/E 20th St 	37. Dawncrest Dr/E 20th St 	38. Midway/Hegan Ln 	39. Midway/Speedway Ave 	40. Midway/Entler Ave

Figure 10B
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Plus Project Conditions





41. SR 99/Southgate Ave/Southgate Ave 	42. Bruce Rd/Chico Canyon Rd/E 8th St 	43. Bruce Rd/Sausalito St/Lakewest Dr 	44. Bruce Rd/Sierra Sunrise Terrace 	45. Bruce Rd/Native Oak Dr
46. Bruce Rd/Humboldt Rd/Humboldt Rd 	47. Bruce Rd/Picholine Way 	48. Bruce Rd/Via Mission Dr 	49. Bruce Rd/Beacon St/Remington Dr 	50. Bruce Rd/Raley Blvd

Figure 10C
Peak Hour Traffic Volumes
and Lane Configurations -
Near Term Future (2025) Plus Project Conditions



Roadway Segment		Raw Model Output (Unadjusted) Cumulative Daily Traffic Volume Forecast		
		Plus Project	Project	Project Share
Bruce Rd	S of Humboldt Rd	28859	3467	12%
Bruce Rd	N of E 20th St	30673	3571	12%
E. 20th St	At Dawncrest Dr	5843	5809	99%
E. 20th St	W of Bruce	26721	5689	21%
E. 20th St	W of Notre Dame	30173	3573	12%
Notre Dame Blvd	S of E 20th St	7464	237	3%
Skyway	E of Bruce Rd	40890	17093	42%