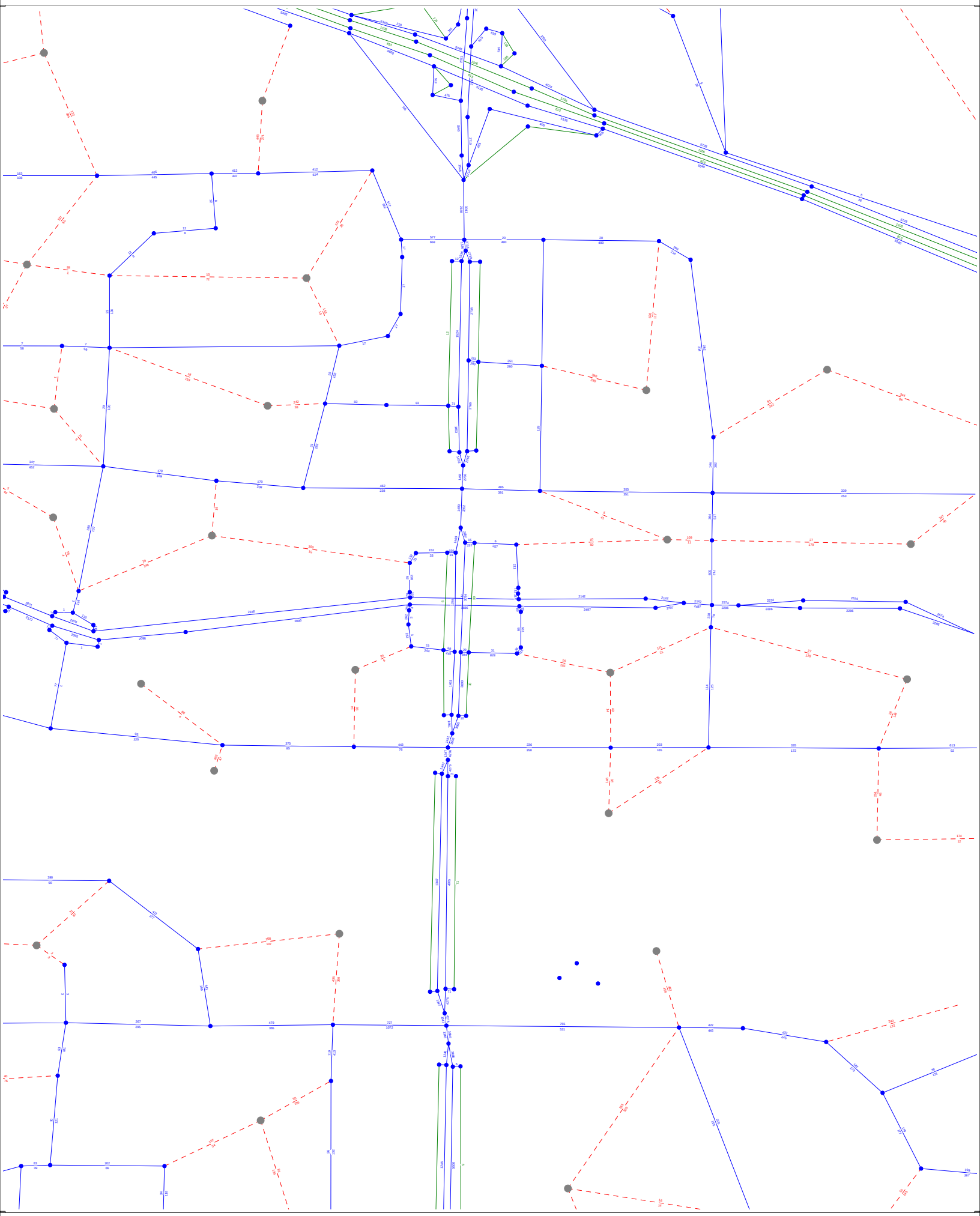
APPENDICES

APPENDIX A: TRAFFIC FORECAST PLOTS

2013 AM Peak Hour Volumes



cube

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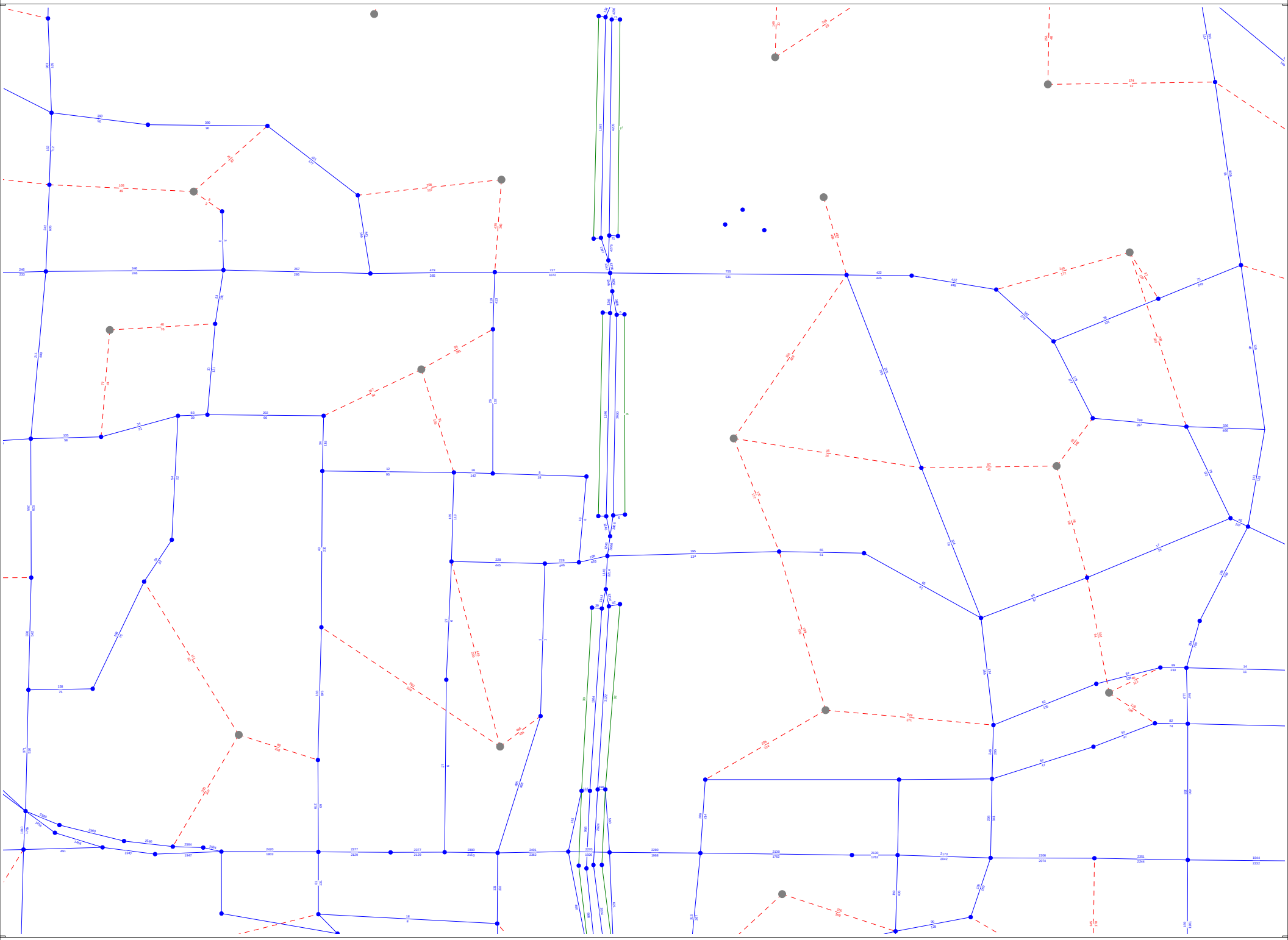
2013 AM Peak Hour Volumes



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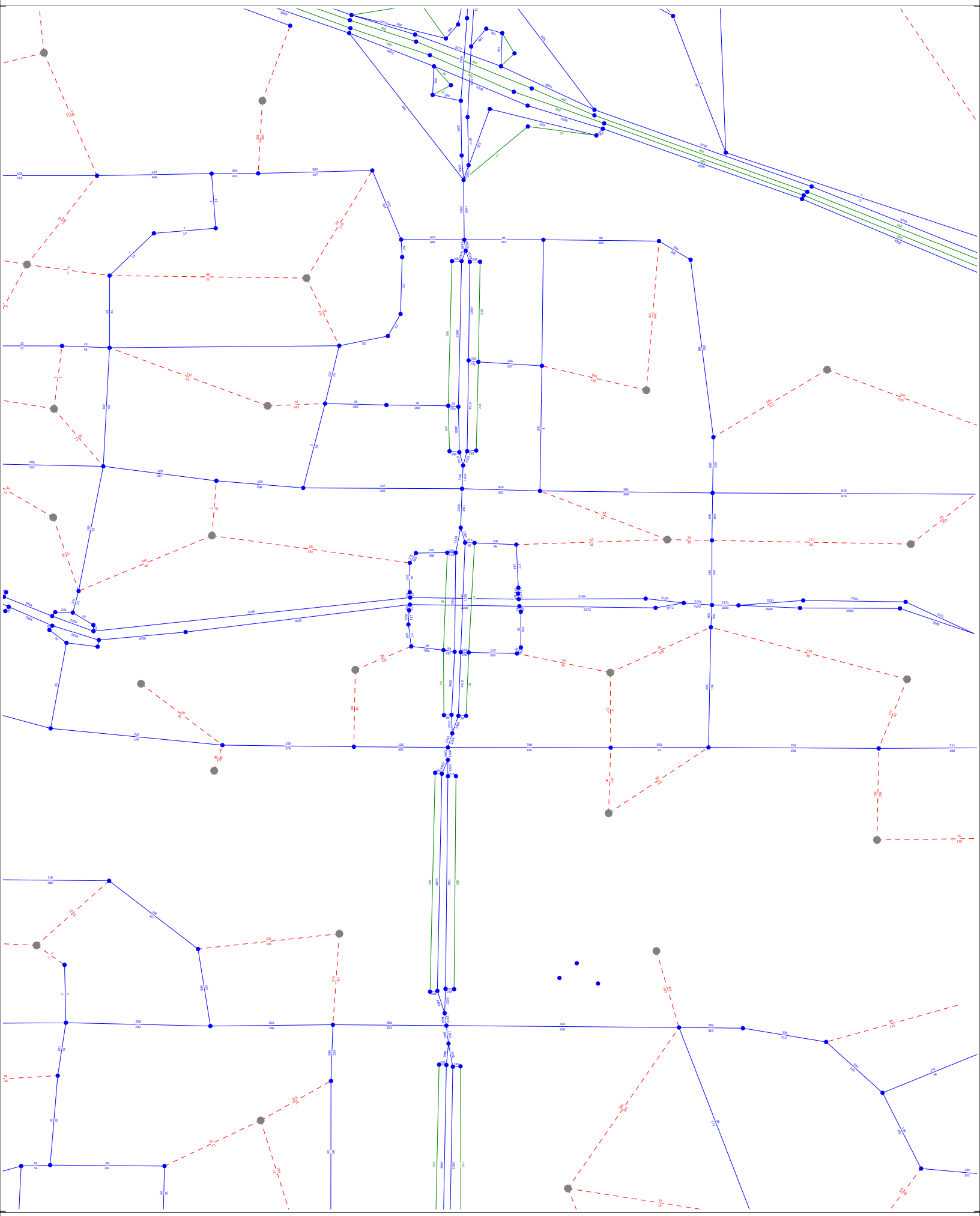
2013 PM Peak Hour Volumes



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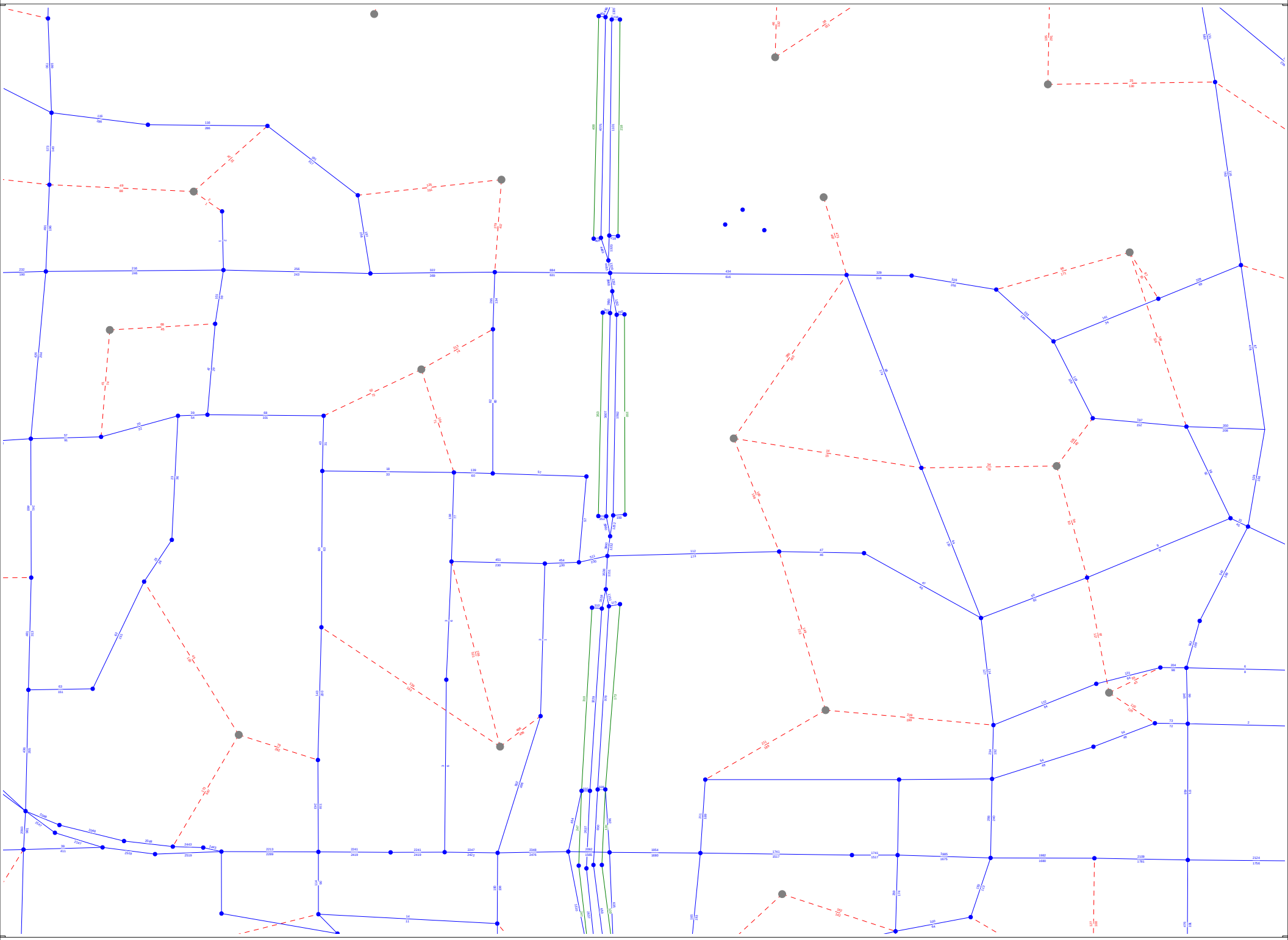
2013 PM Peak Hour Volumes



cube

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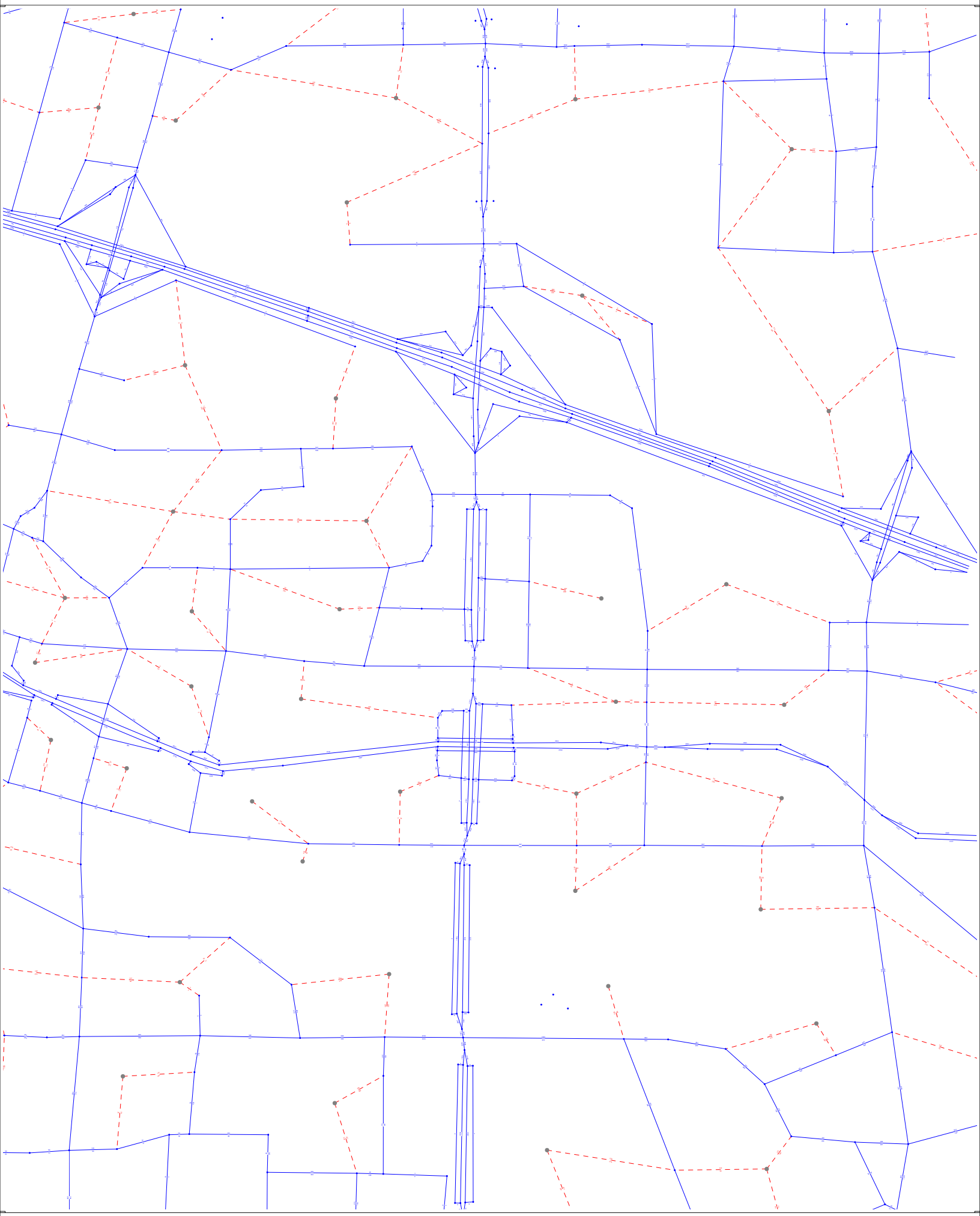
2020 AM Peak Hour Volumes



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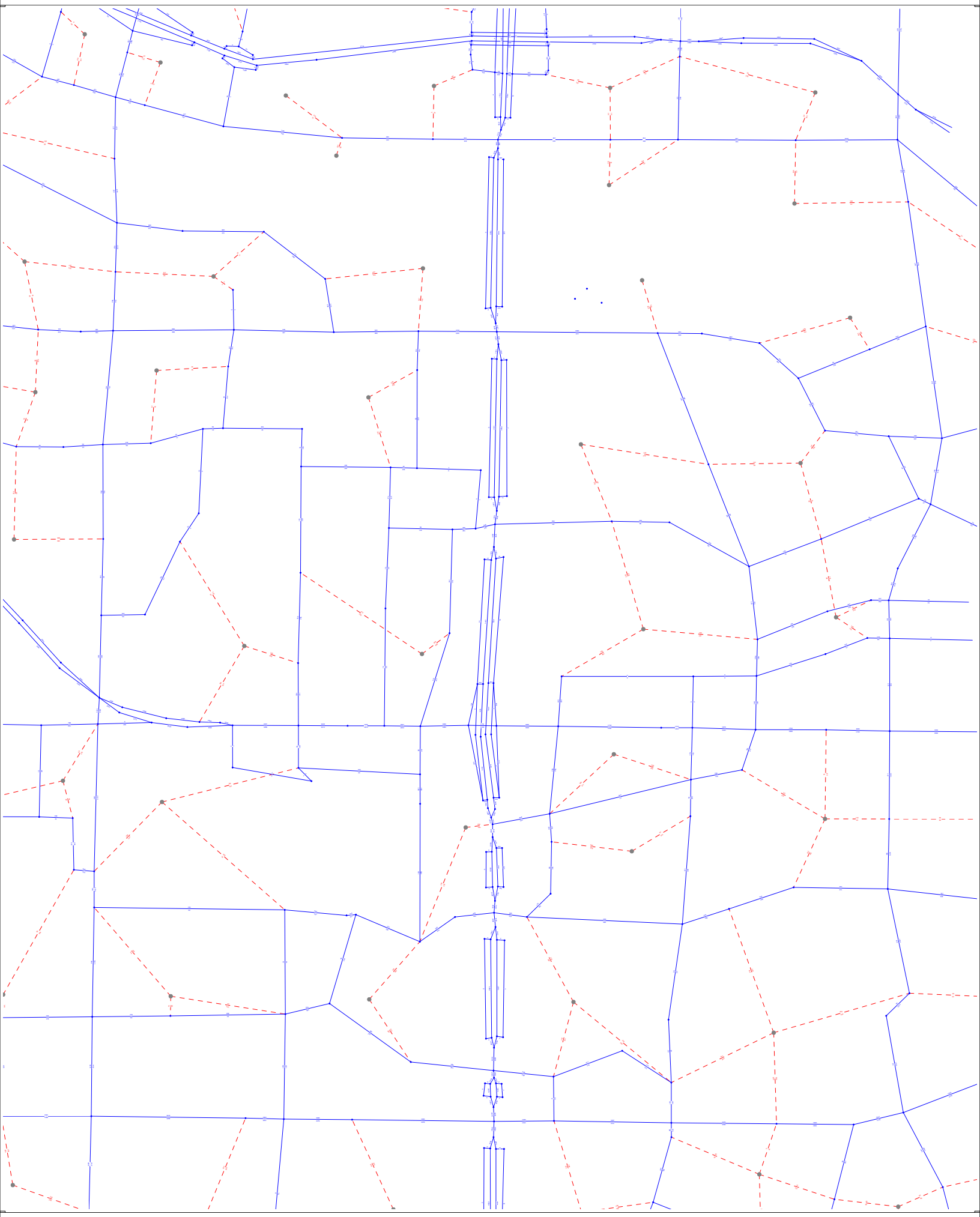
2020 AM Peak Hour Volumes



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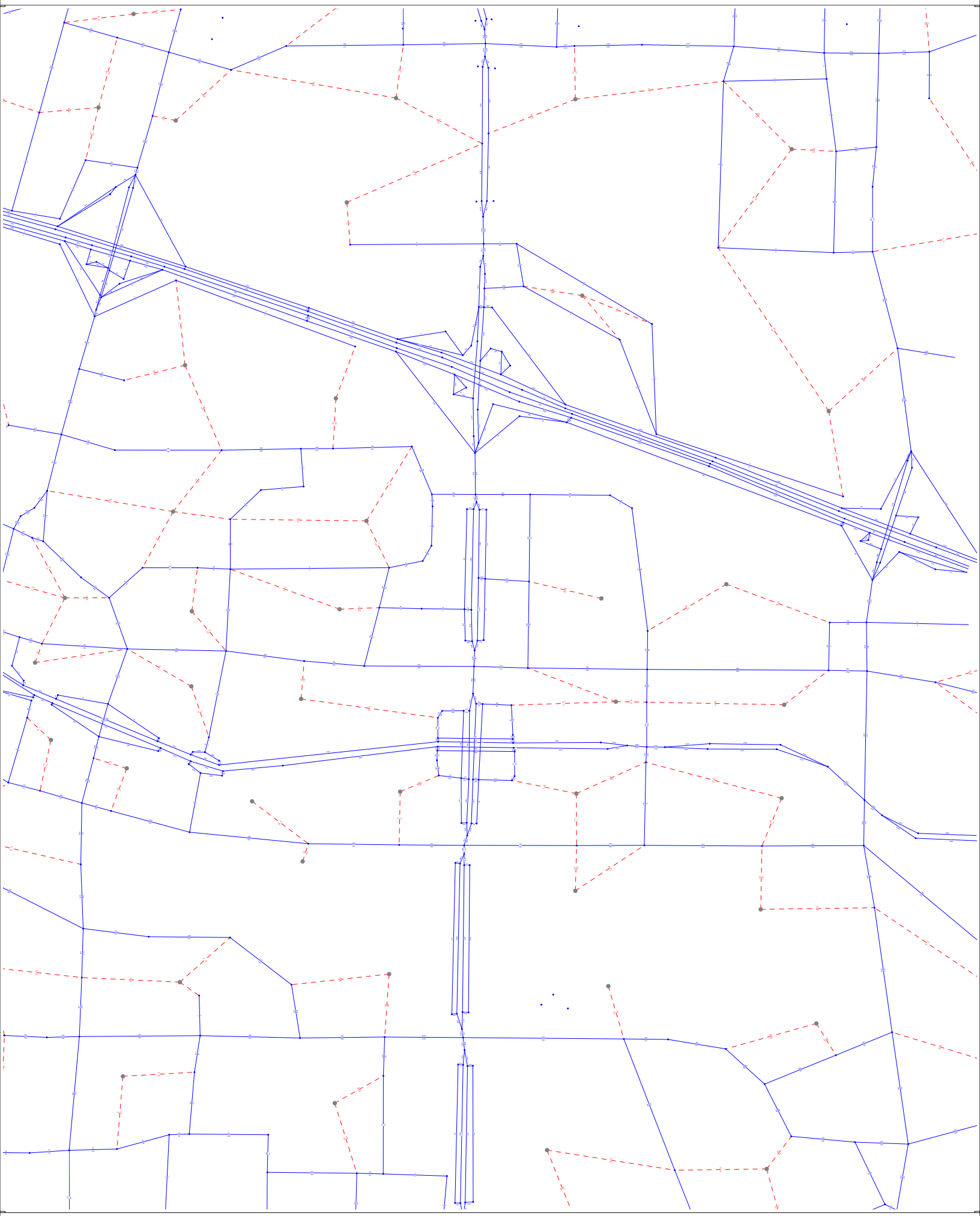
2020 PM Peak Hour Volumes



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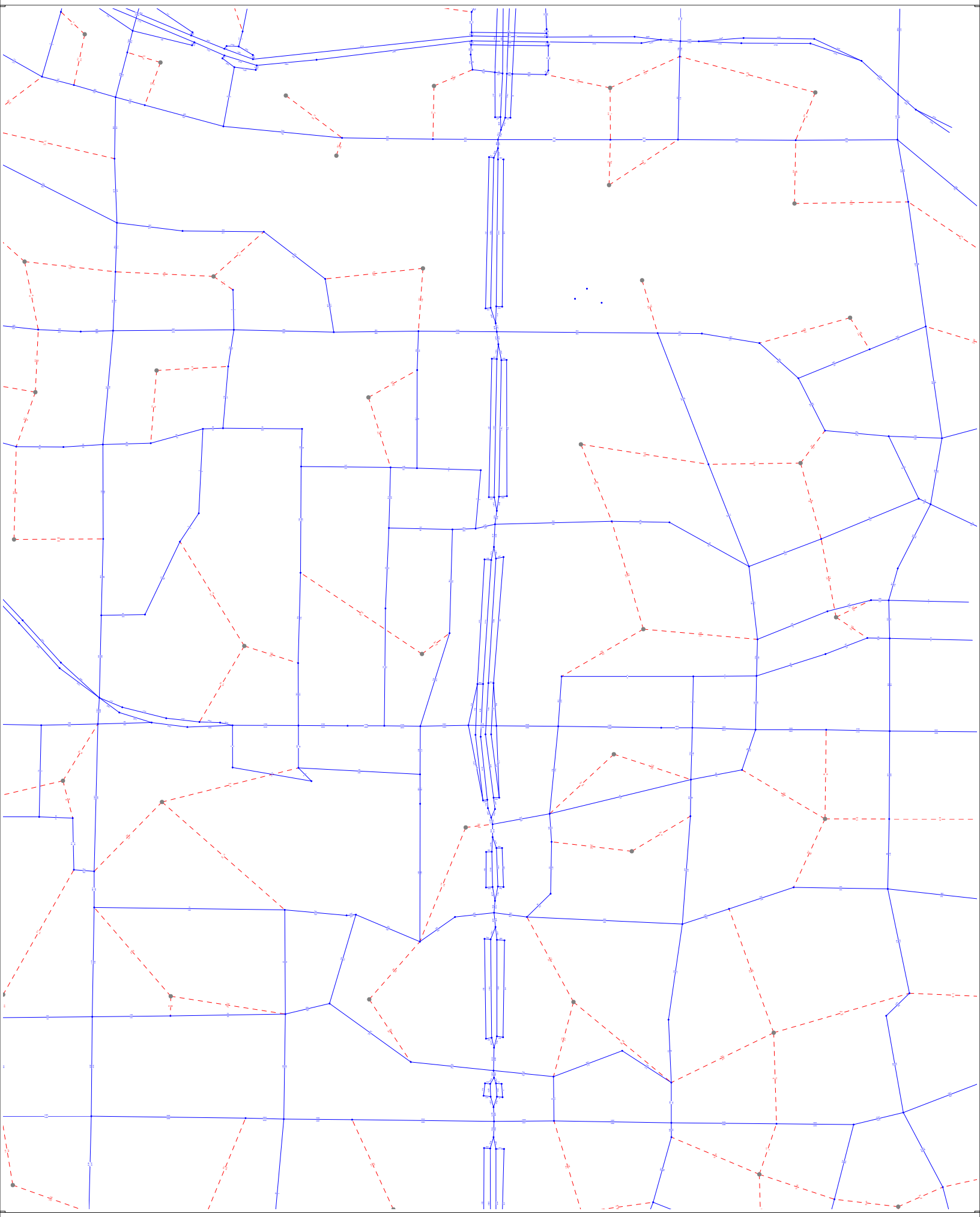

cube

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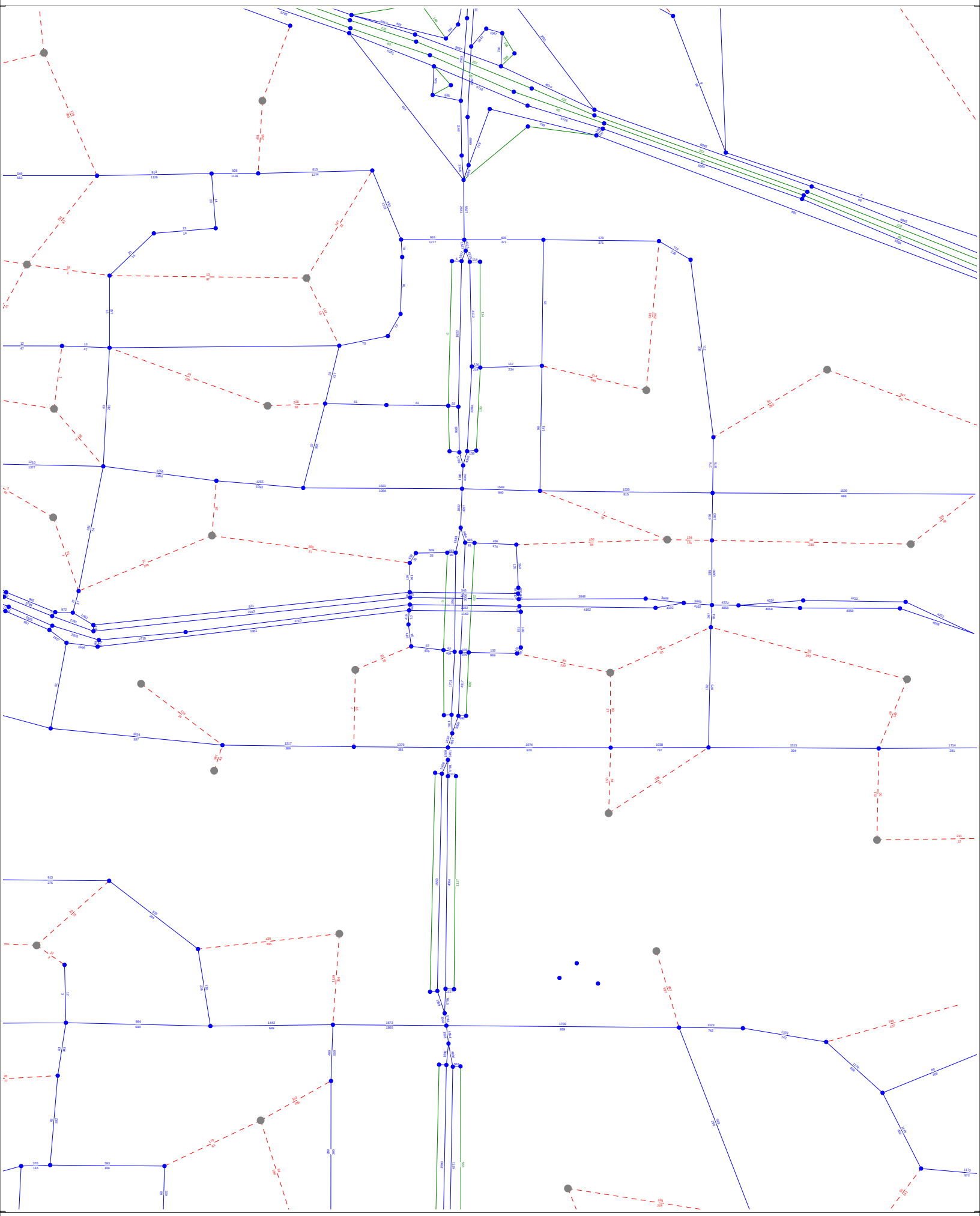
2040 AM Peak Hour Volumes



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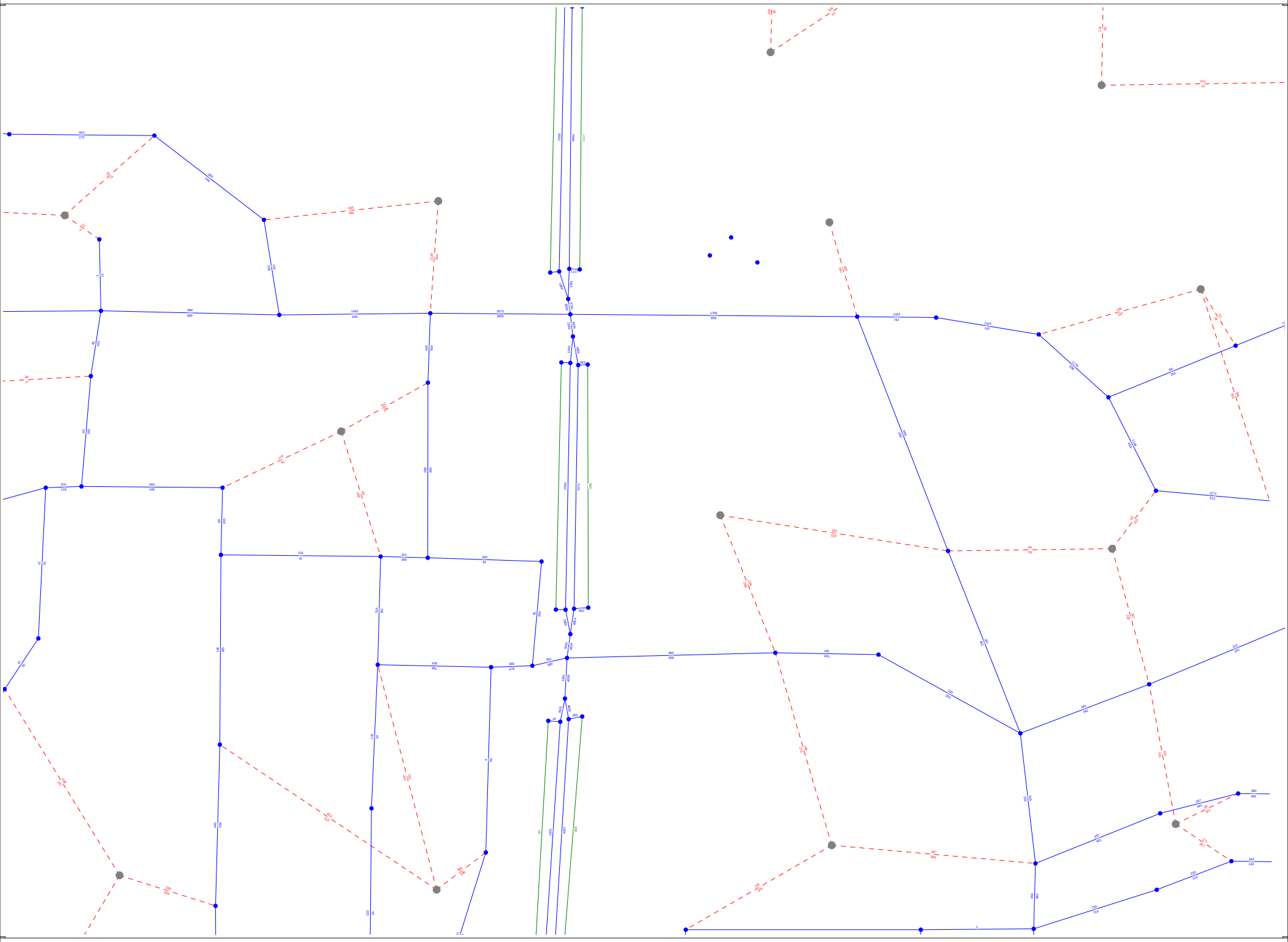
2040 AM Peak Hour Volumes



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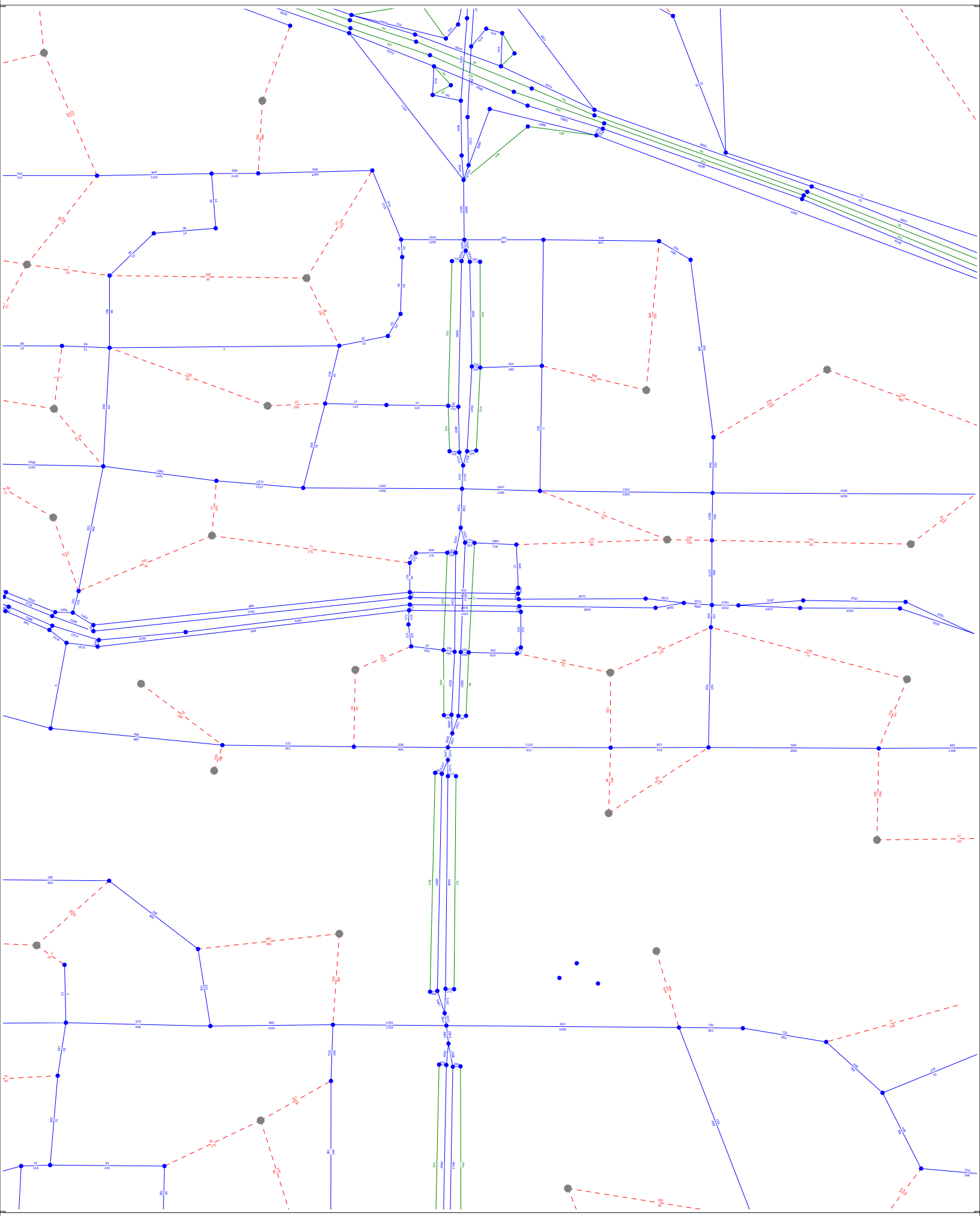
2040 PM Peak Hour Volumes



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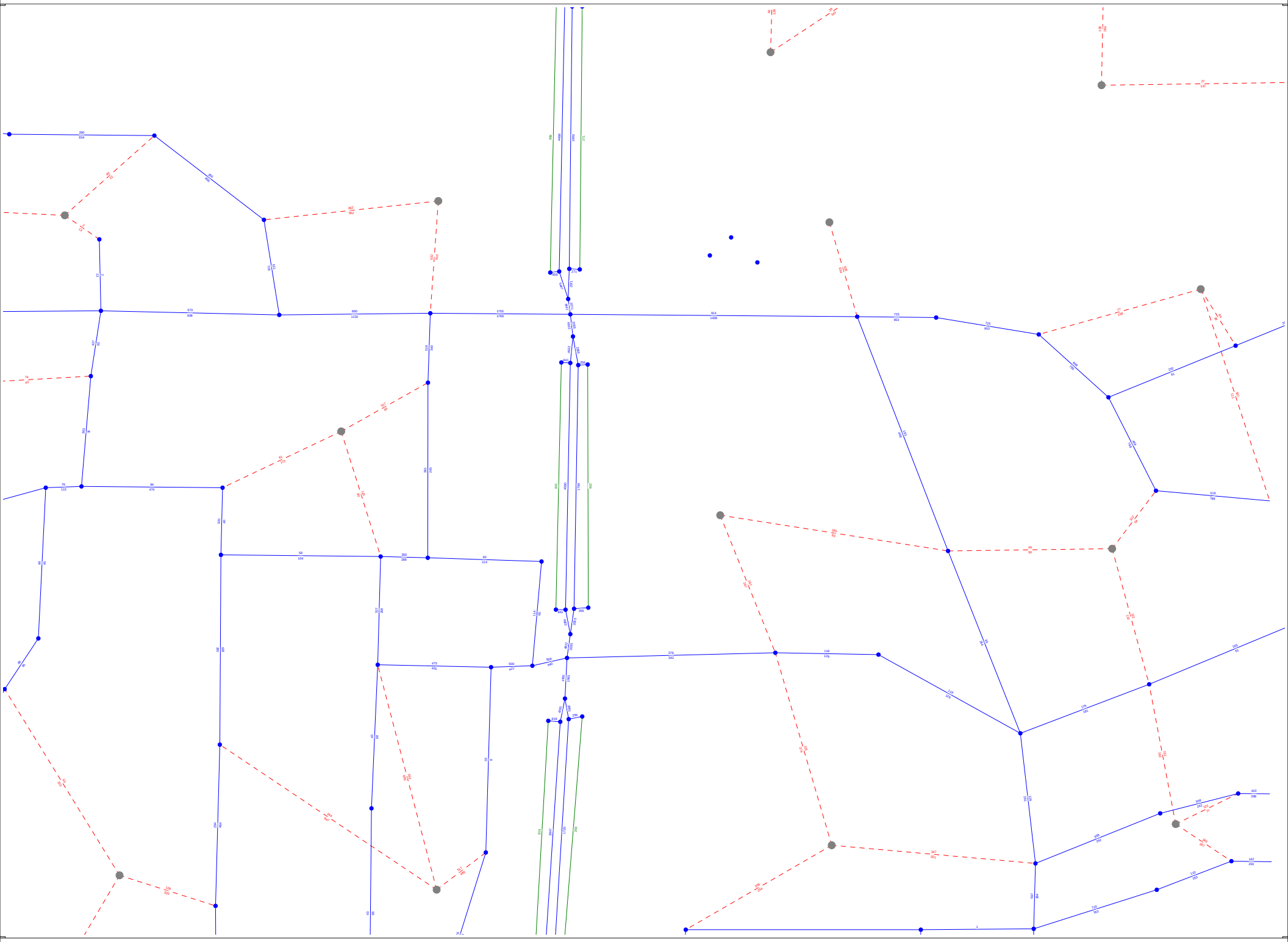
2040 PM Peak Hour Volumes



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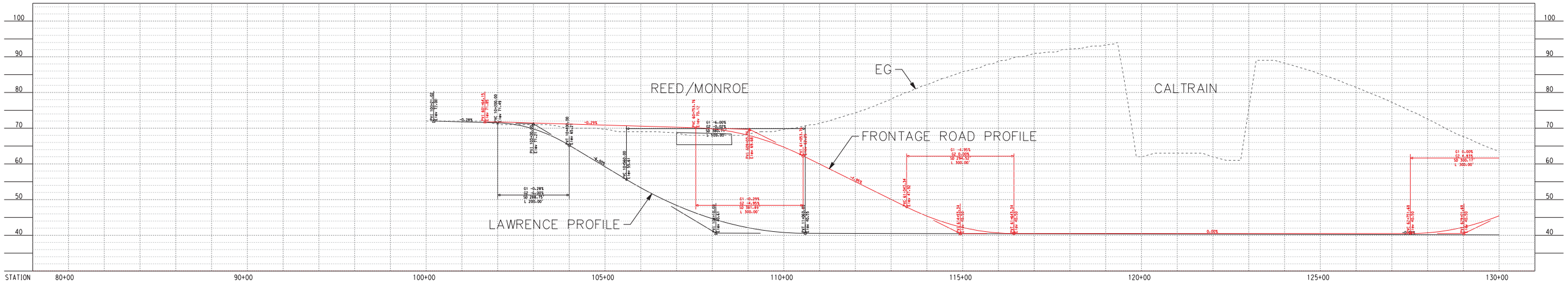
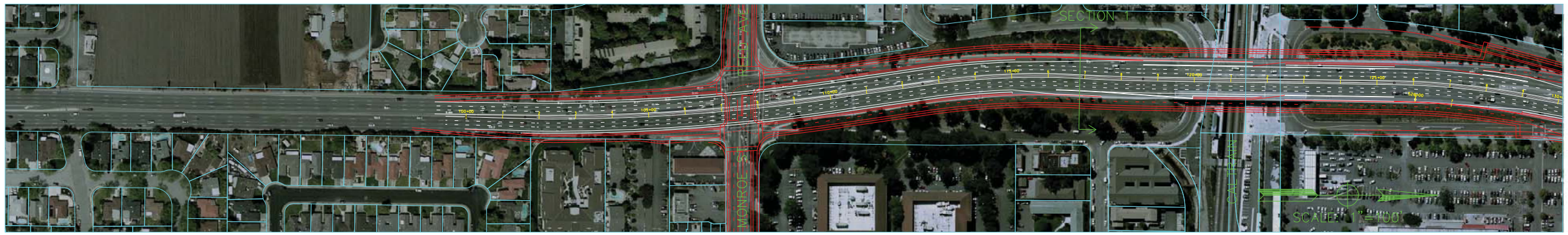
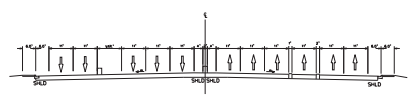
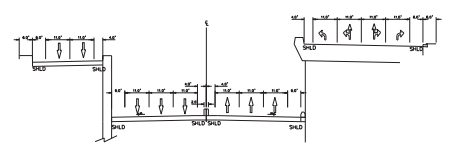
APPENDIX B: CONCEPT PLAN AND PROFILE DRAWINGS







LAWRENCE EXPRESSWAY
CONCEPT 1 SECTION 1



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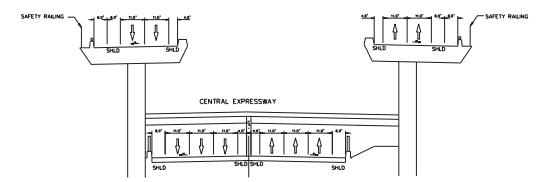
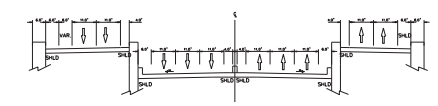
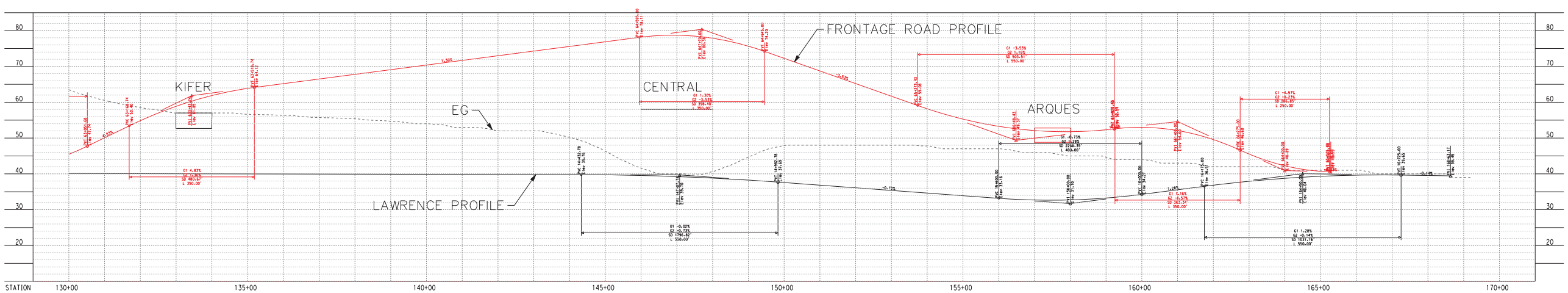
CONCEPT 1 SECTION 2

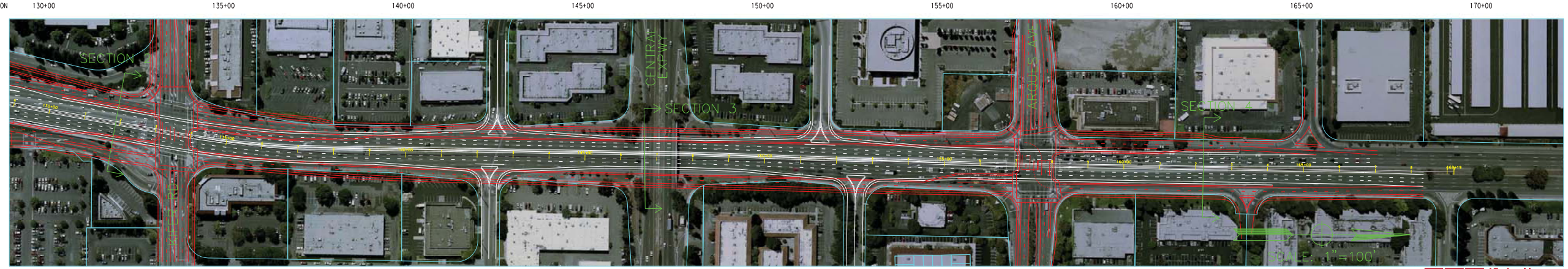


LAWRENCE EXPRESSWAY
CONCEPT 1 SECTION 3



LAWRENCE EXPRESSWAY
CONCEPT 1 SECTION 4





CONCEPT 1

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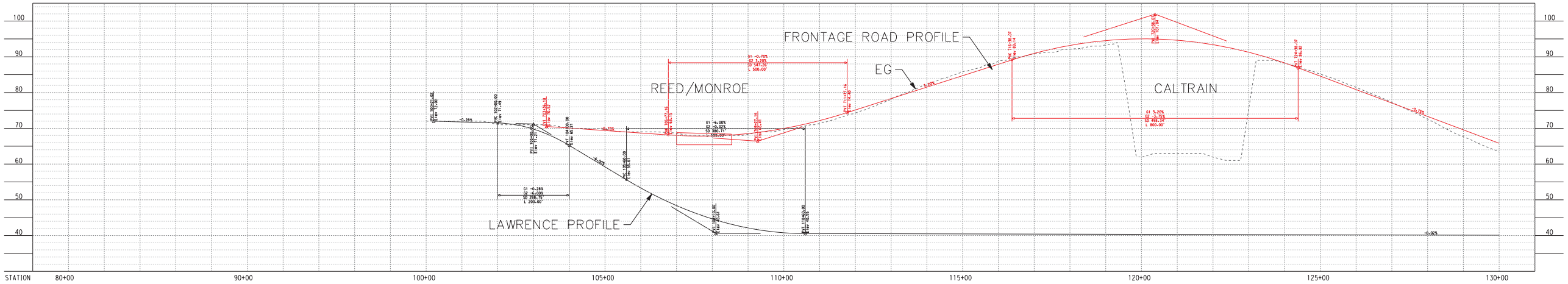

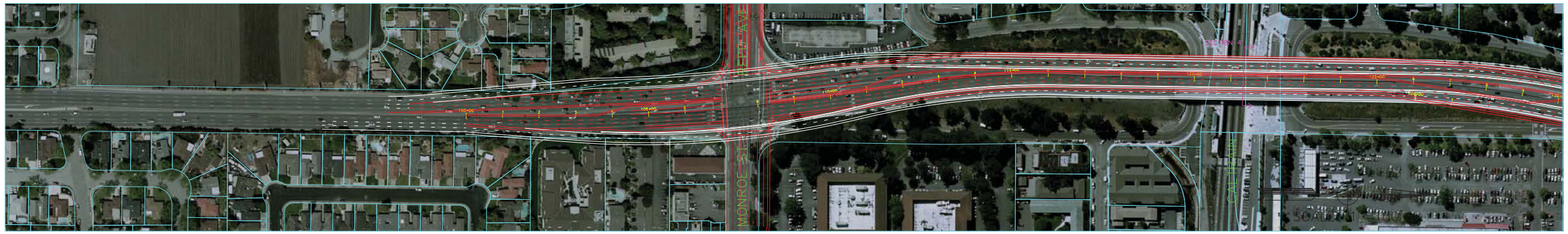

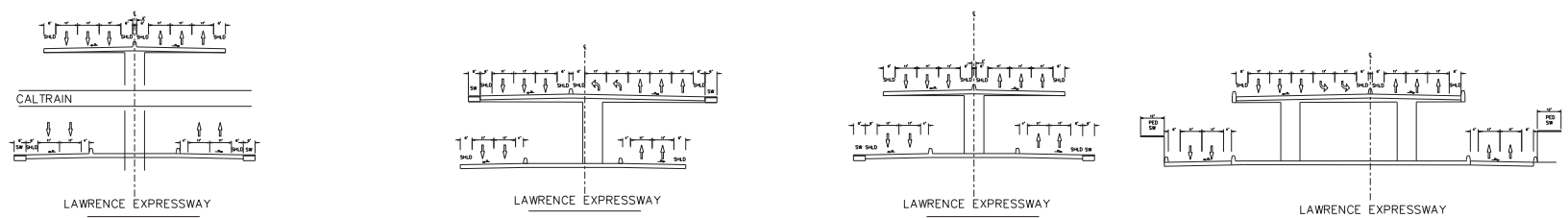

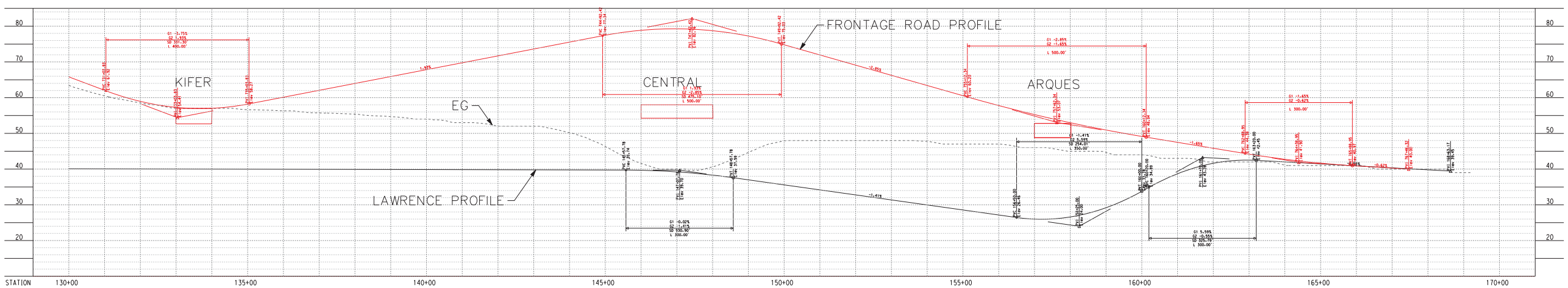

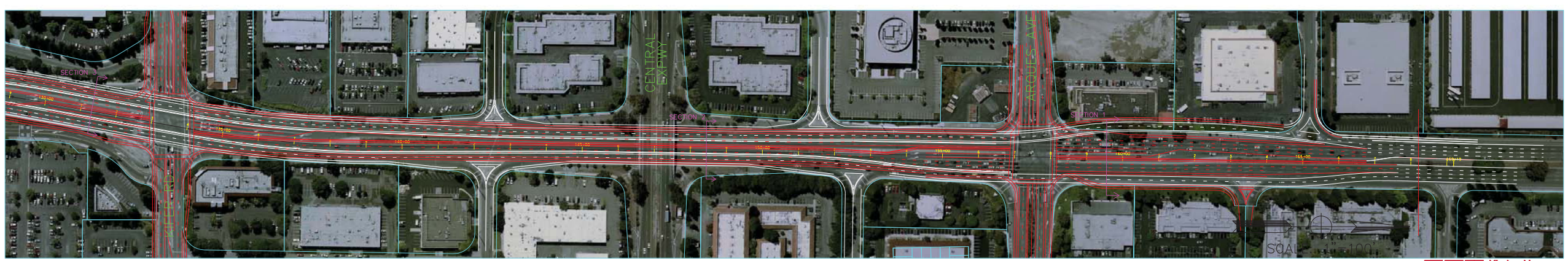

CONCEPT 2

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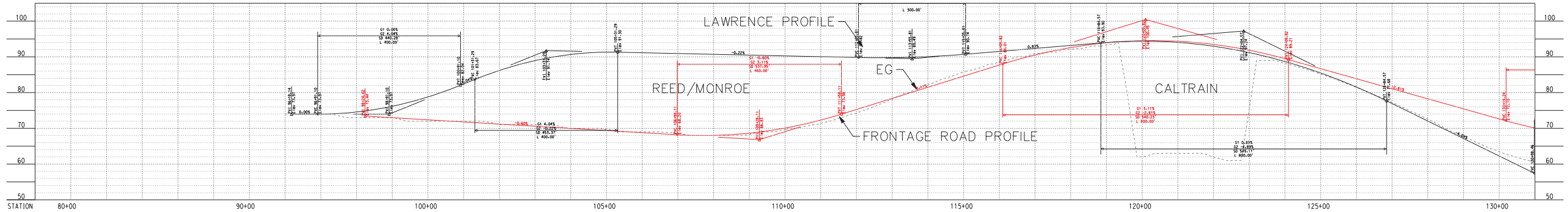
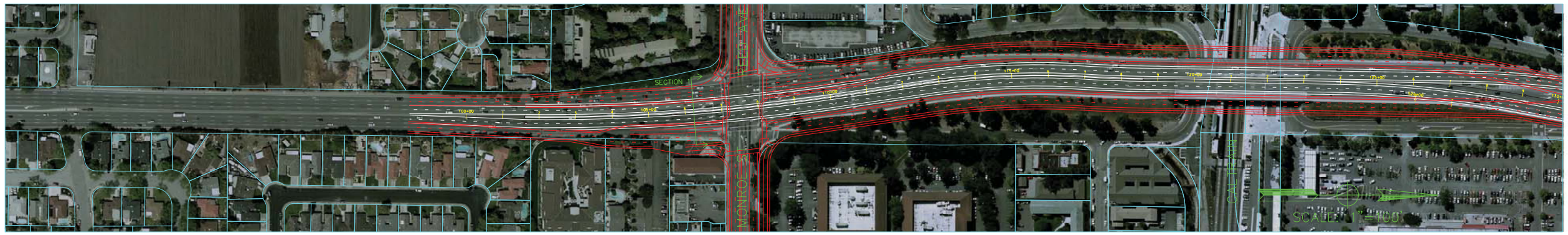
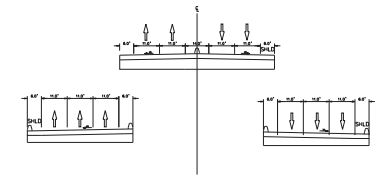
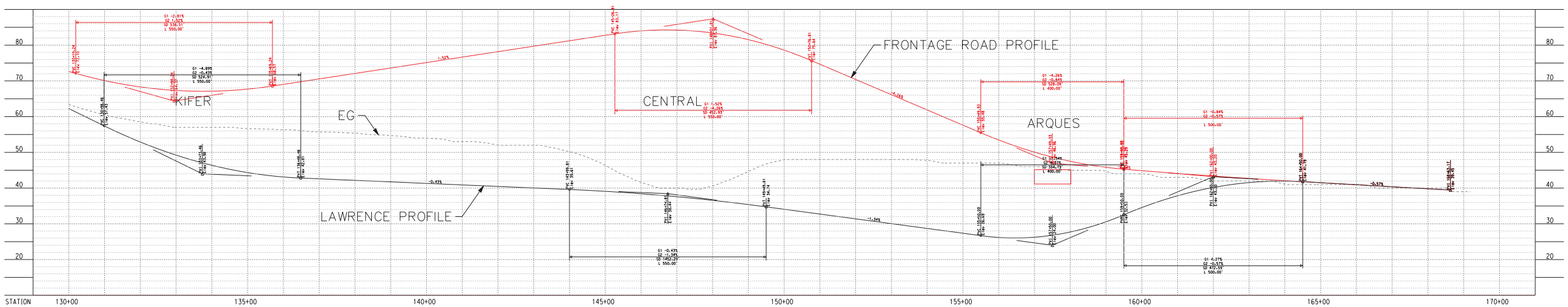


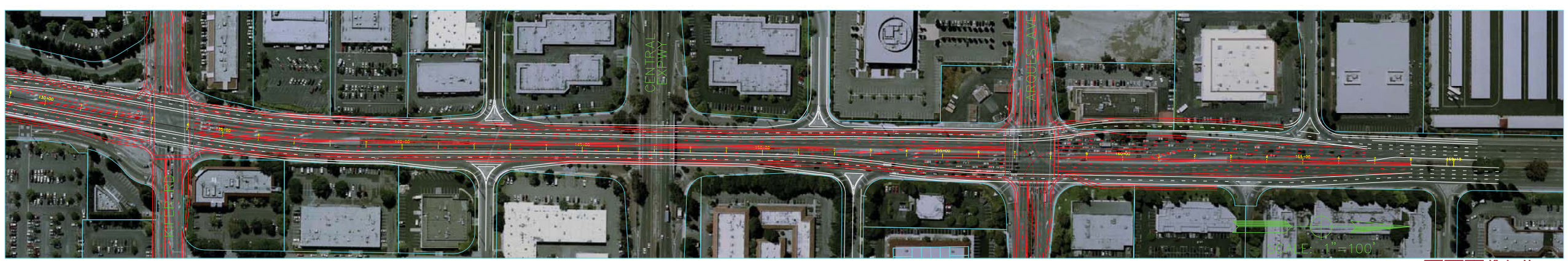




LAWRENCE EXPRESSWAY

CONCEPT 3 SECTION 1





CONCEPT 3

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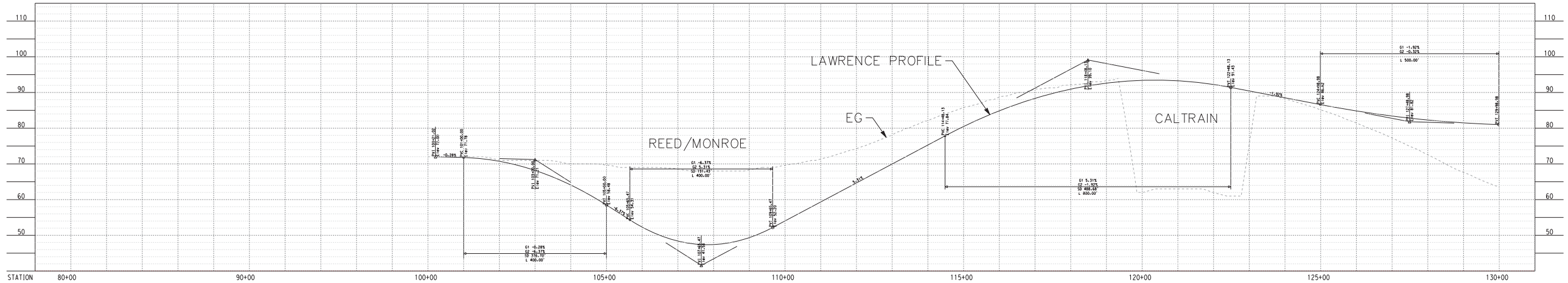

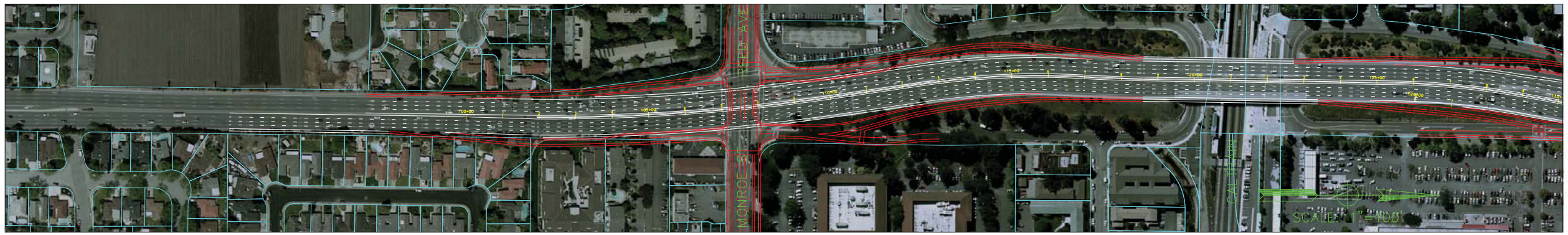

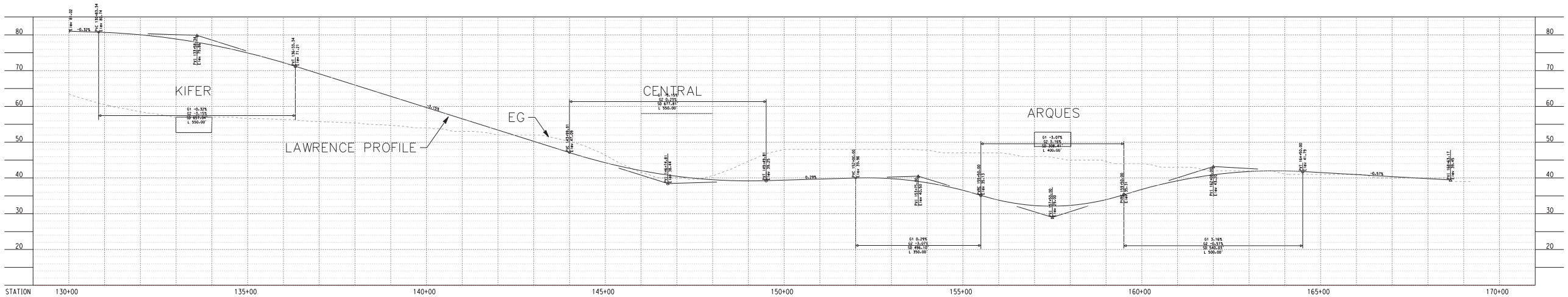

CONCEPT 4

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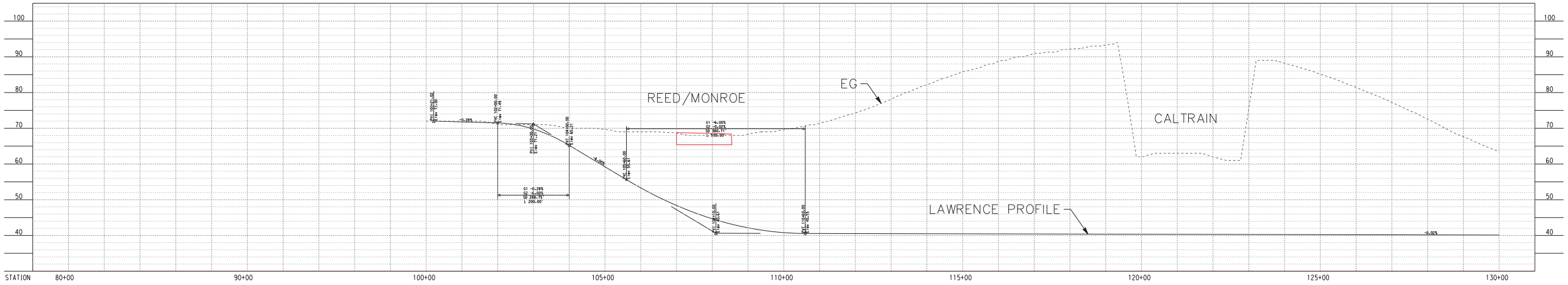

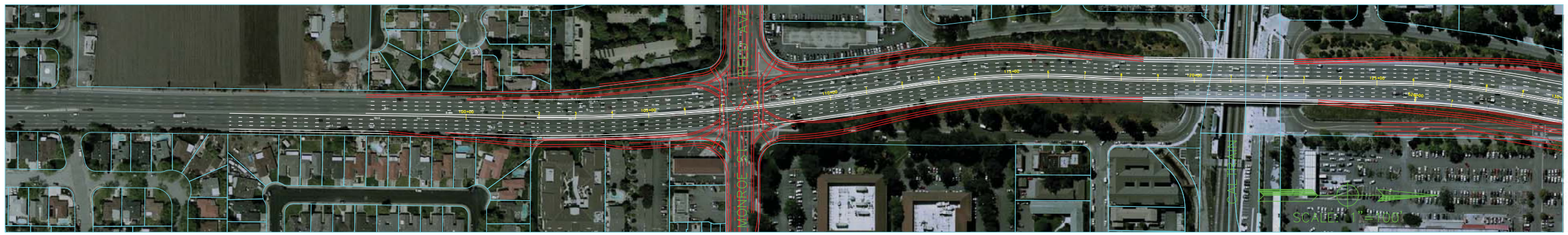

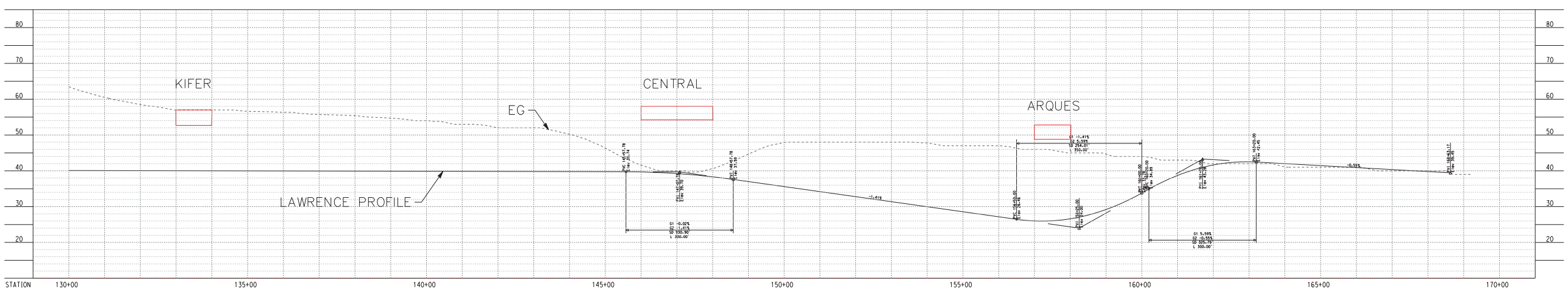

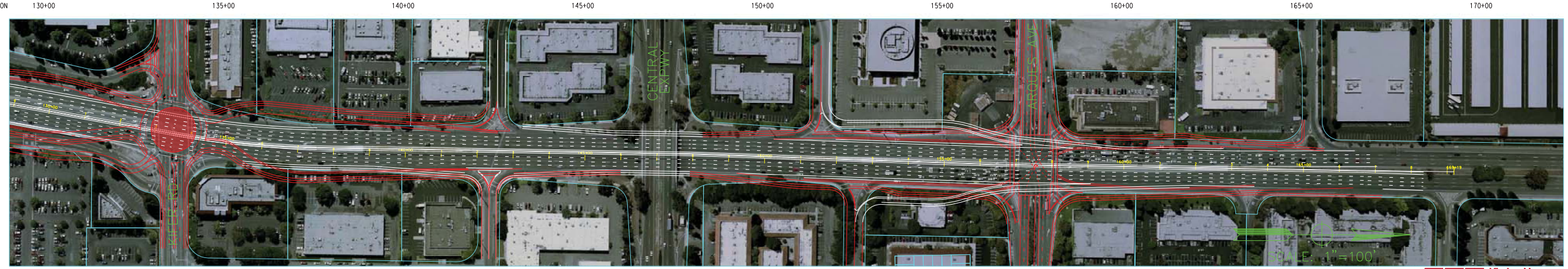

CONCEPT 5

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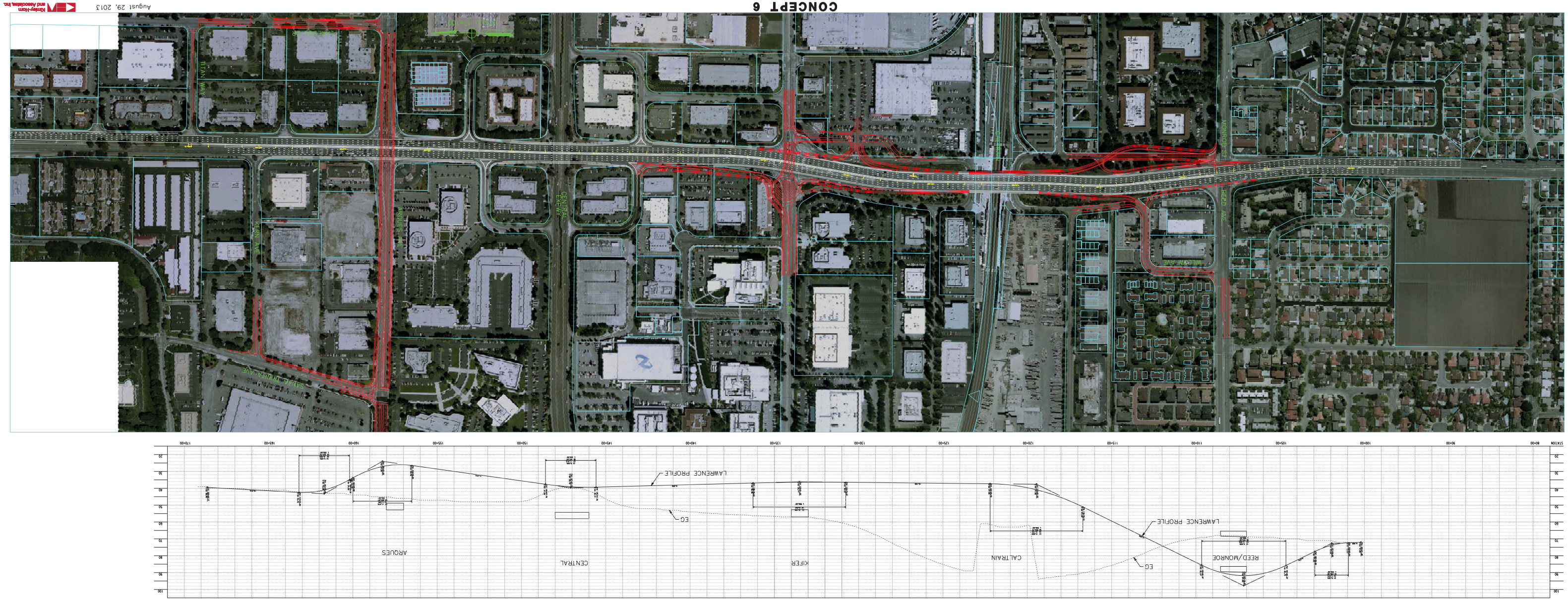
CONCEPT 6



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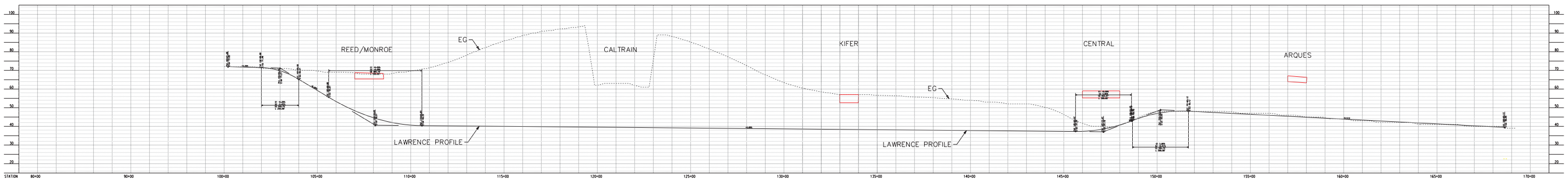

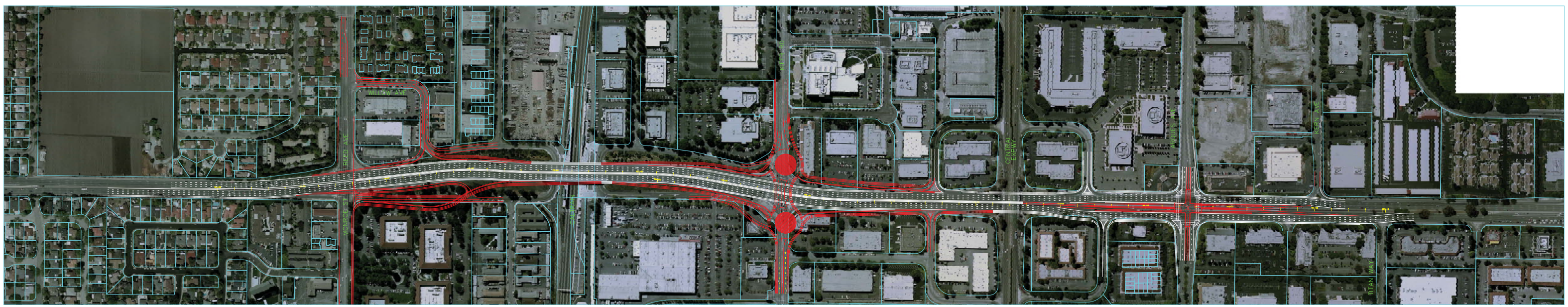

SCALE: 1"=100'

CONCEPT 7

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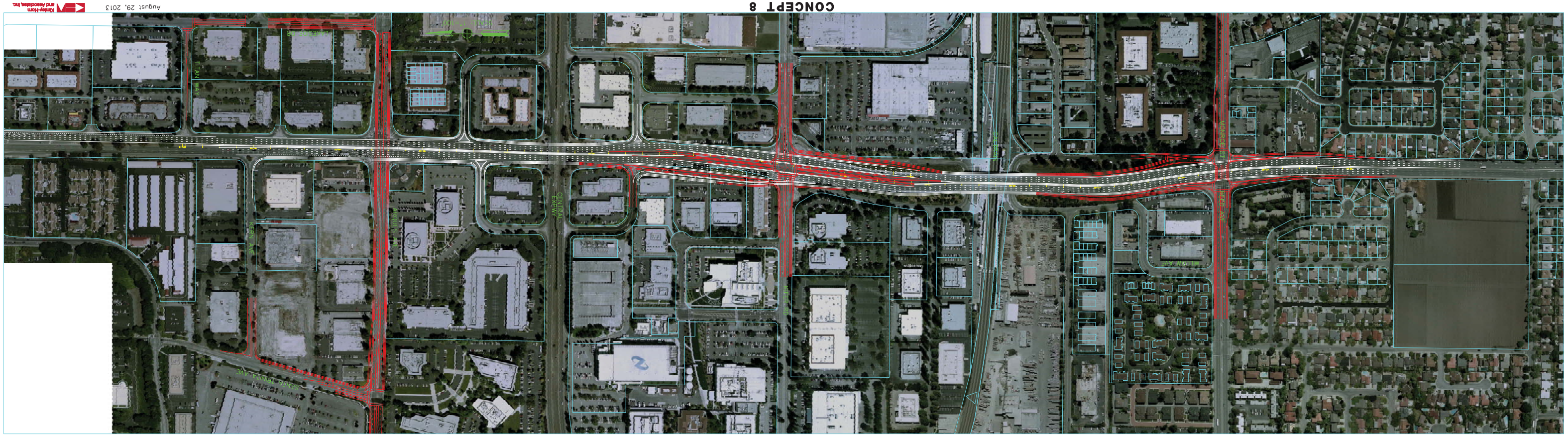
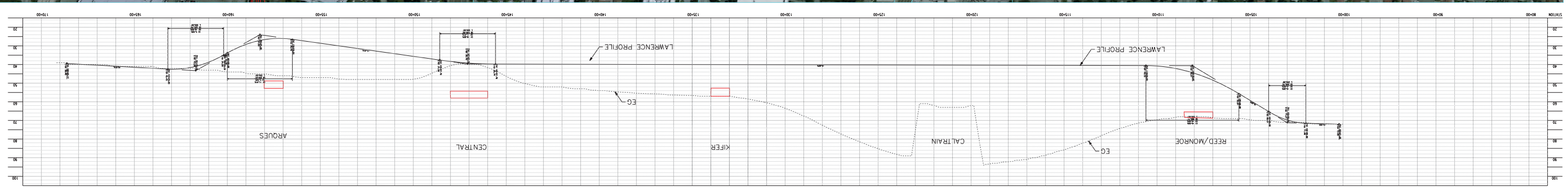
CONCEPT 8





August 29, 2013

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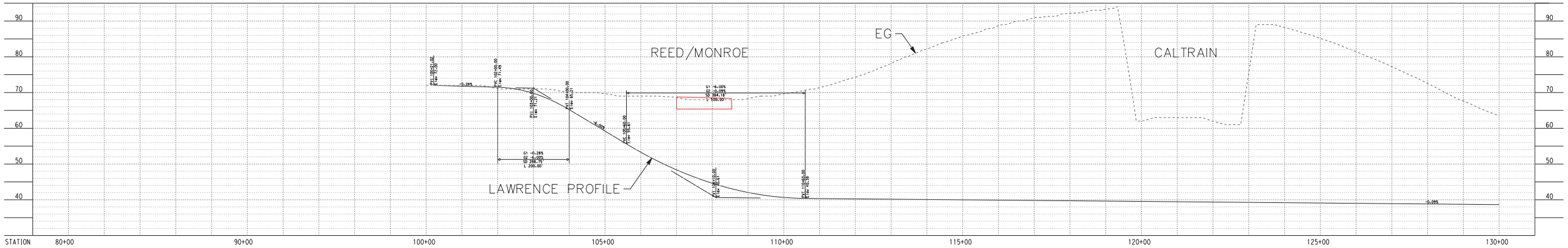

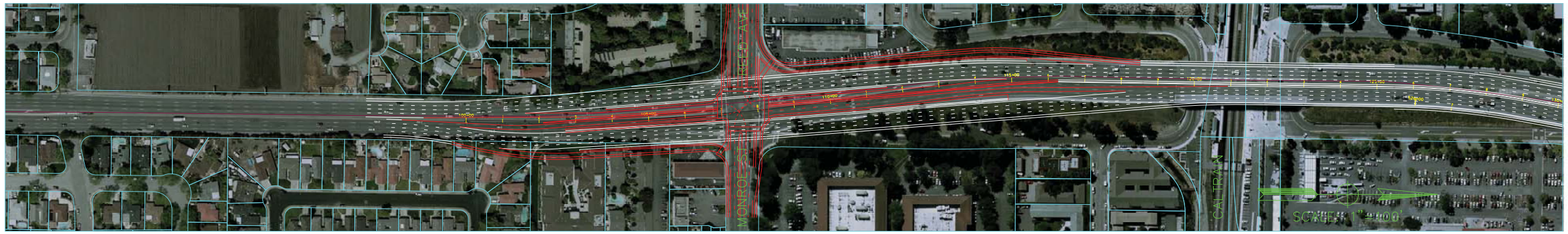

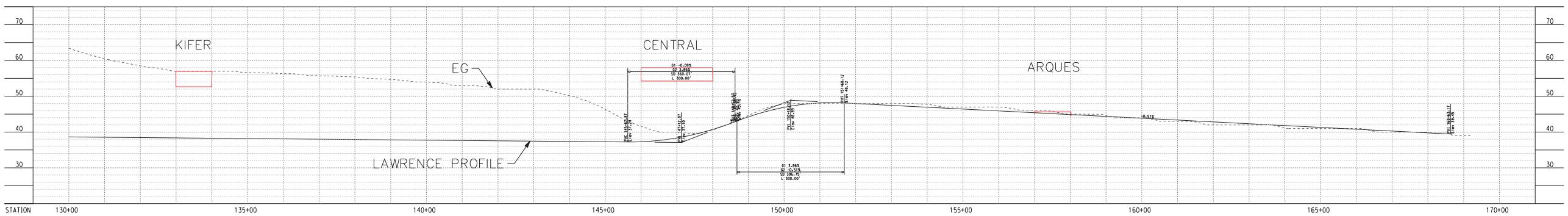

CONCEPT 9

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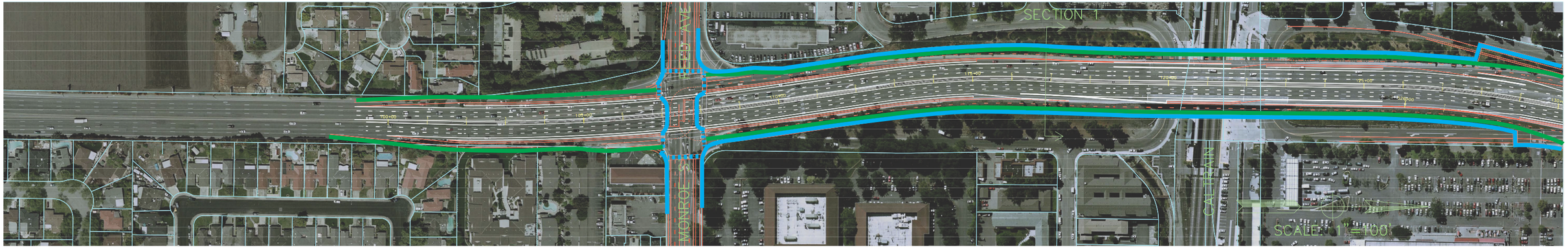
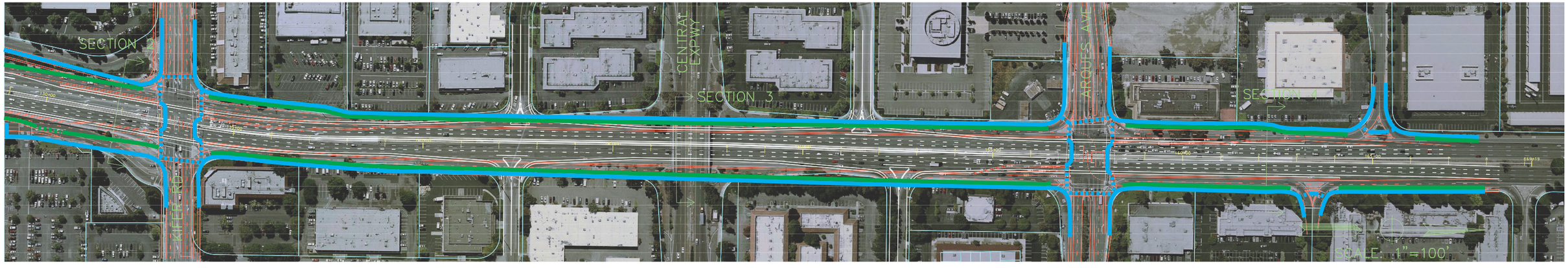
APPENDIX C: CONCEPT BICYCLE AND PEDESTRIAN FACILITIES GRAPHICS

Lawrence Expressway
Grade Separation Concept Study





Bicycle Route

Pedestrian Facilities

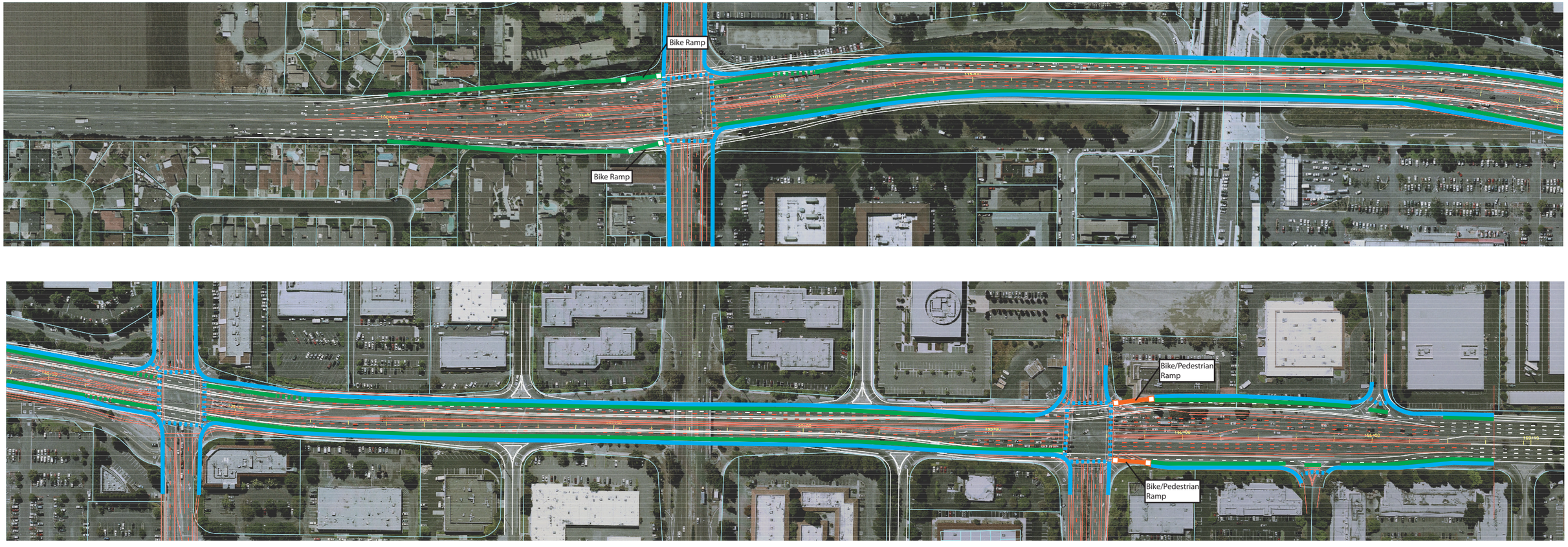
August 29, 2013

Concept 1
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study



Bicycle Route

Pedestrian Facilities

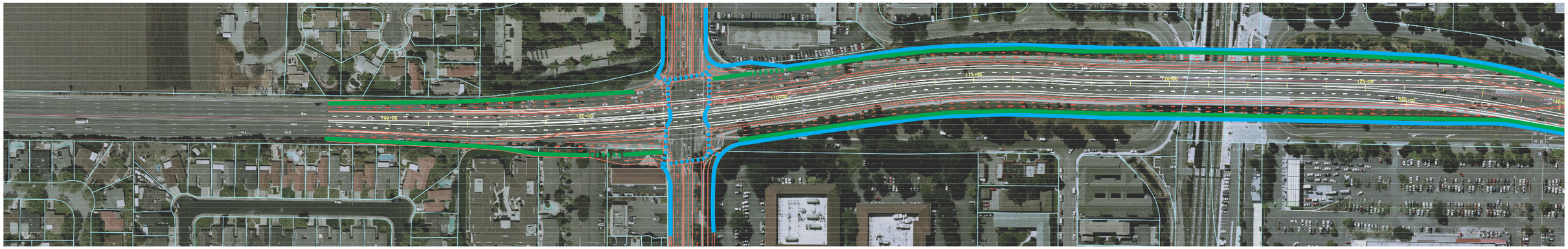
August 29, 2013

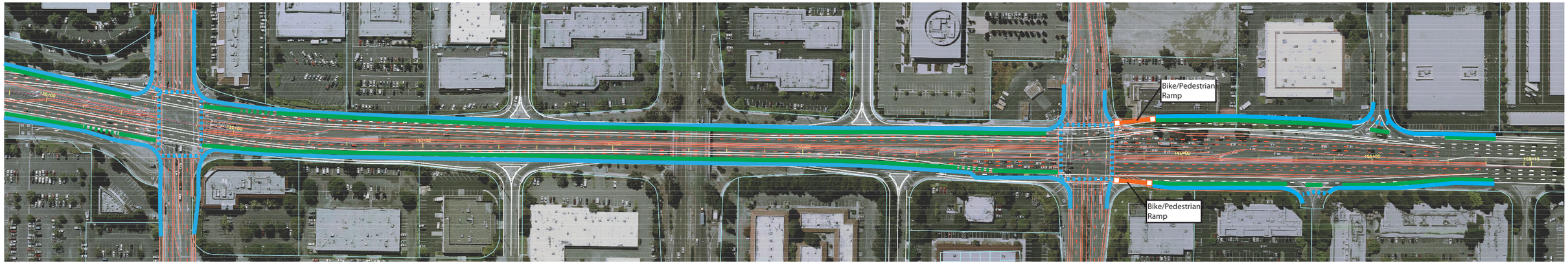
Concept 2
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study





Bicycle Route

Pedestrian Facilities

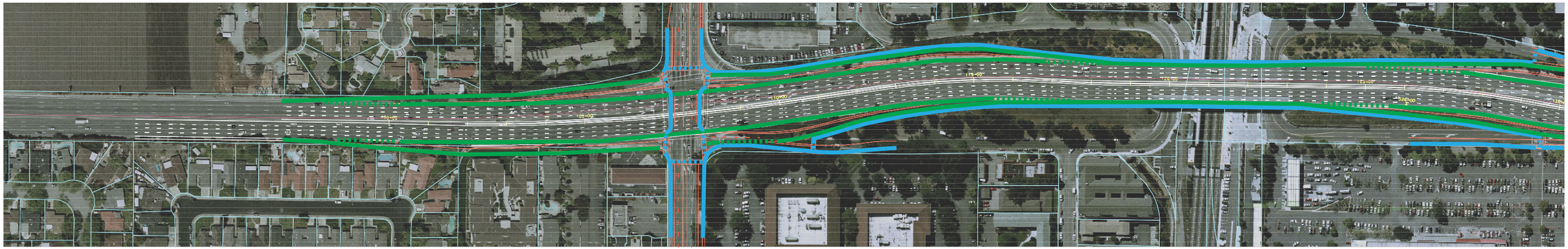
August 29, 2013

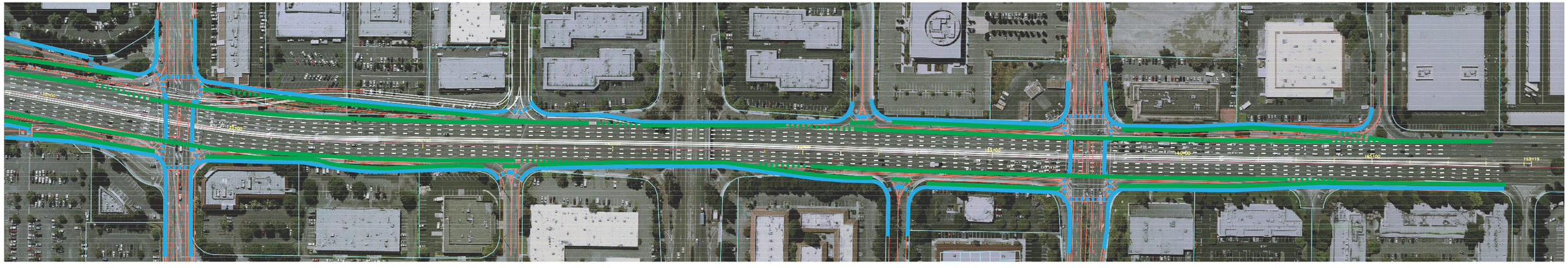
Concept 3
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study





Bicycle Route

Pedestrian Facilities

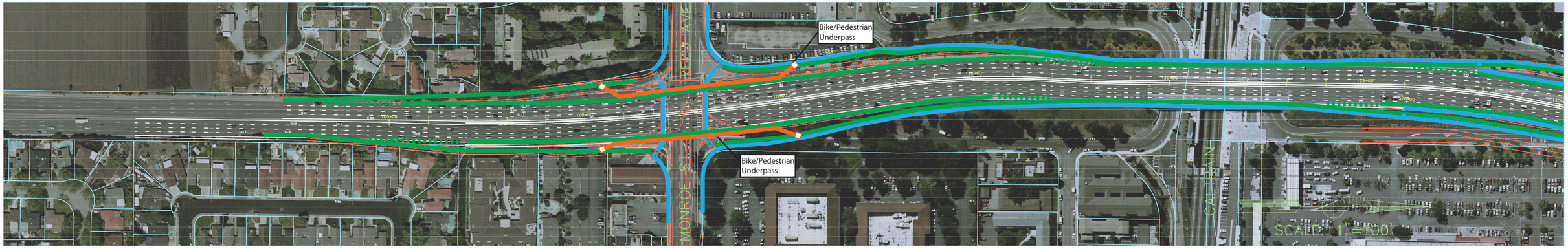
August 29, 2013

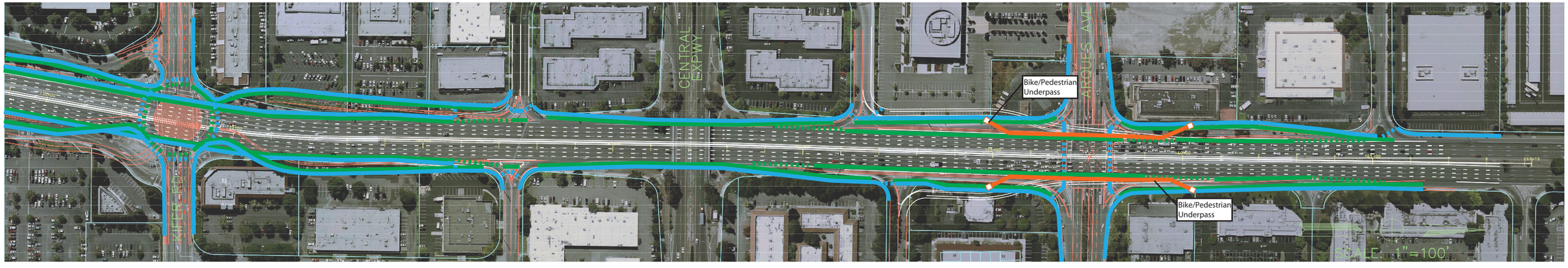
Concept 4
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study





Bicycle Route

Pedestrian Facilities

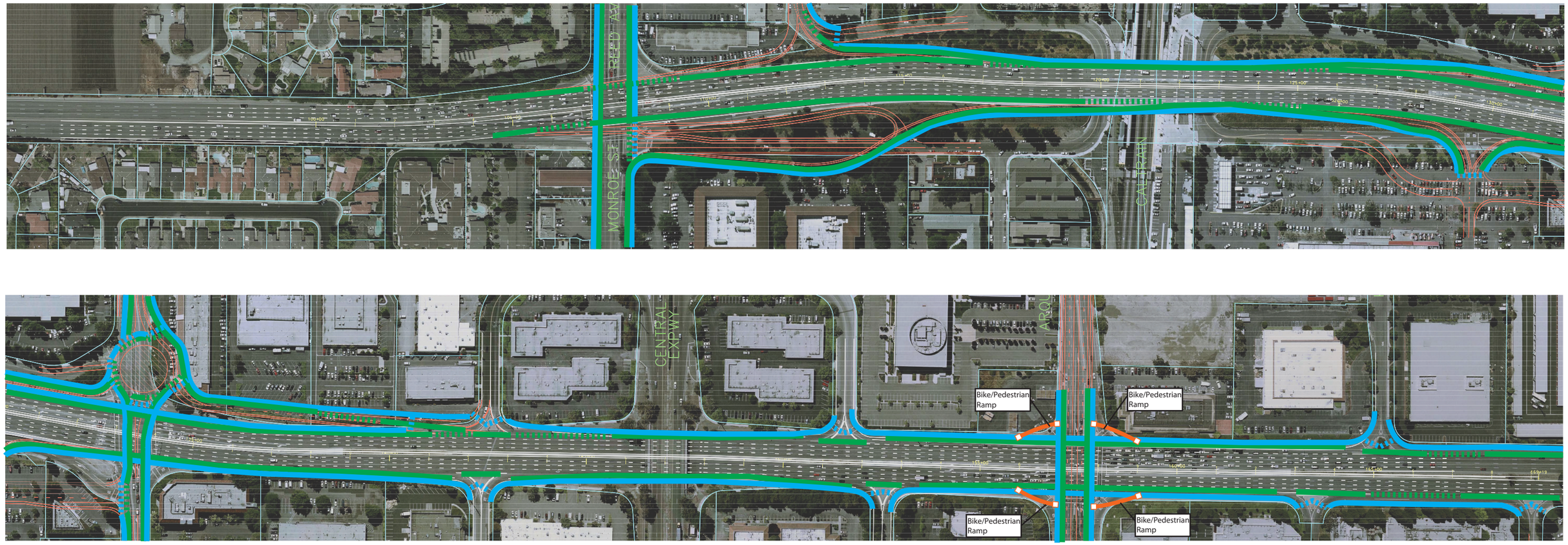
August 29, 2013

Concept 5
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study



Bicycle Route

Pedestrian Facilities

August 29, 2013

Concept 6
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study

Bicycle Route

Pedestrian Facilities

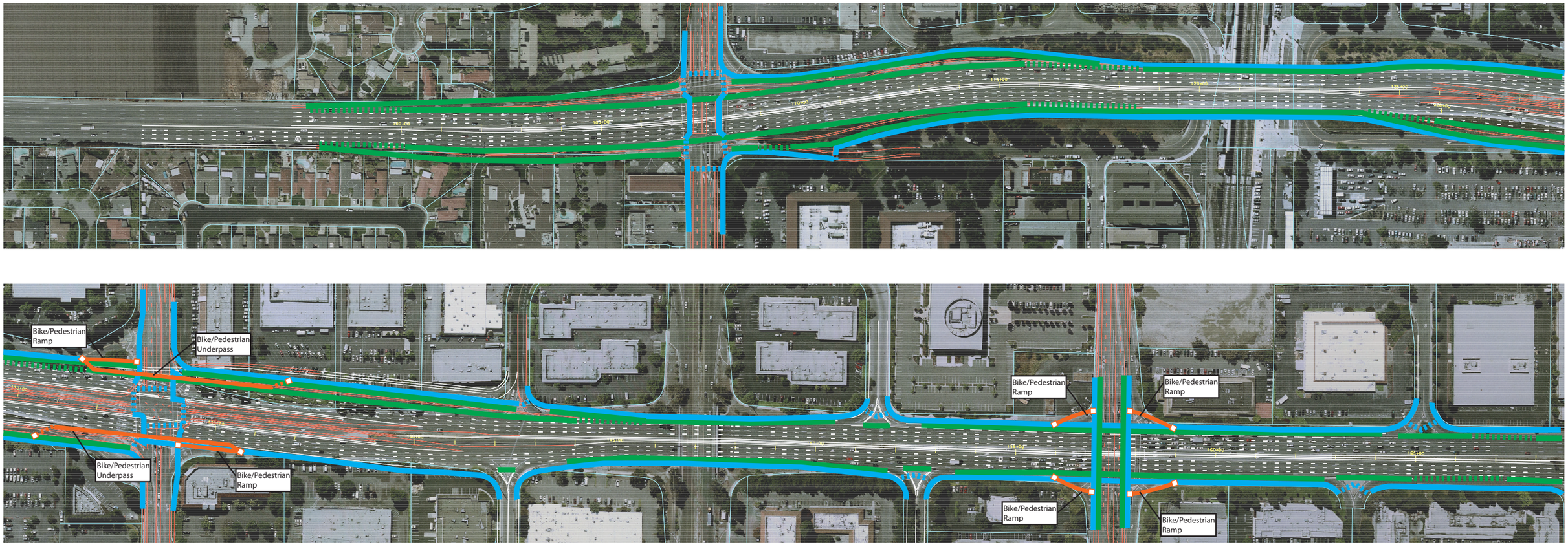
August 29, 2013

Concept 7
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study



Bicycle Route

Pedestrian Facilities

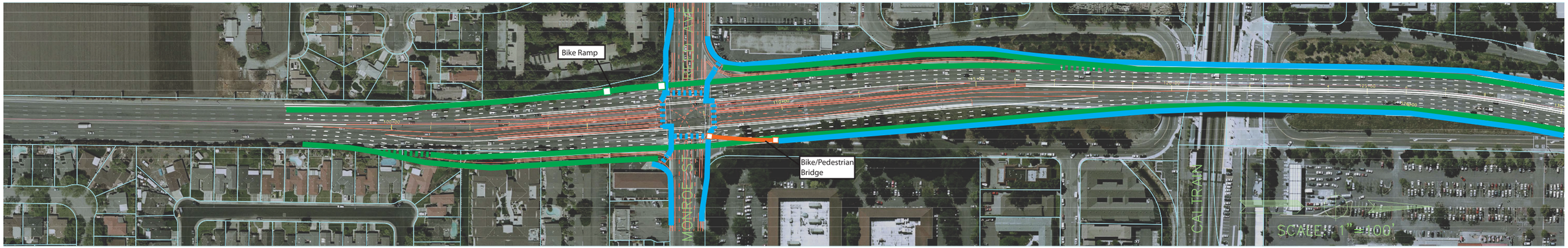
August 29, 2013

Concept 8
Bicycle & Pedestrian Circulation

Kimley-Horn and Associates, Inc.

apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study



Bicycle Route

Pedestrian Facilities

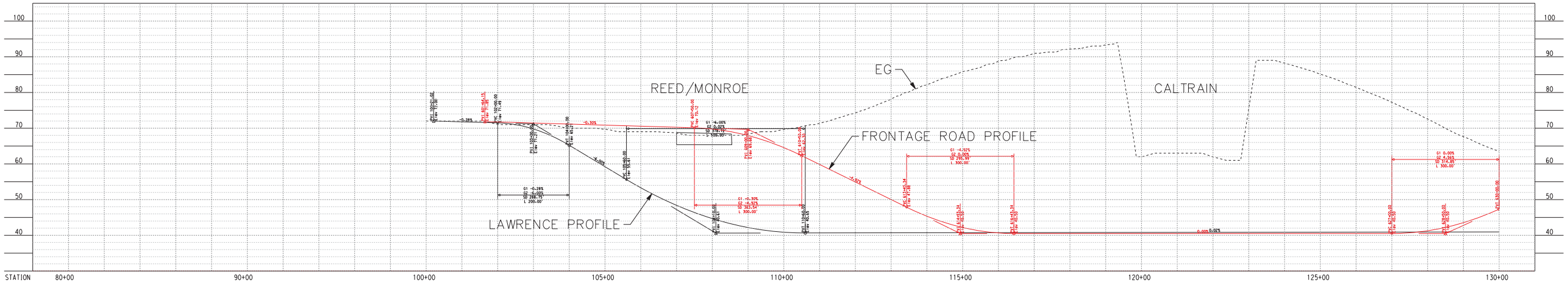
August 29, 2013

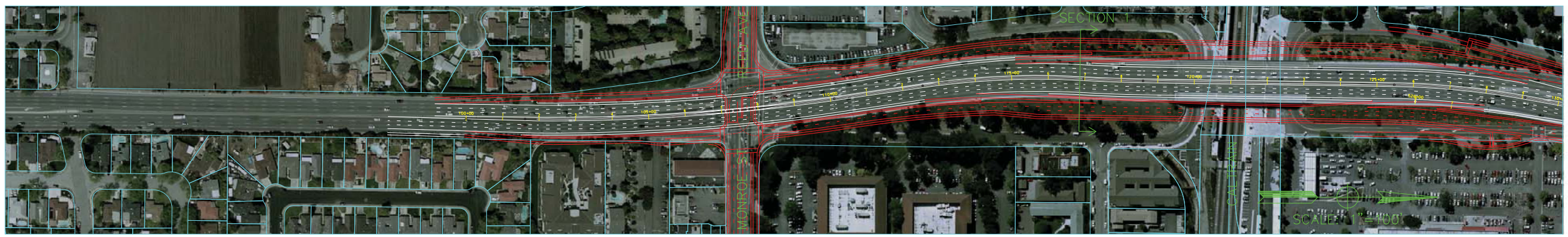
Concept 9
Bicycle & Pedestrian Circulation

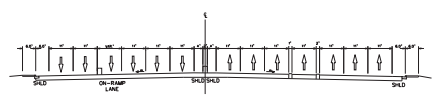
Kimley-Horn and Associates, Inc.

apex STRATEGIES

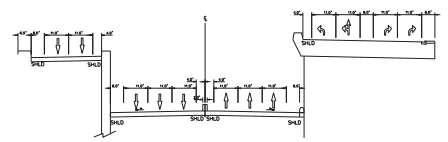
APPENDIX D: ALTERNATIVES PLAN, PROFILE AND RIGHT-OF-WAY DRAWINGS



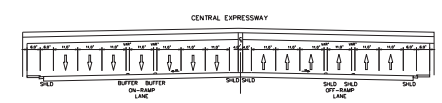




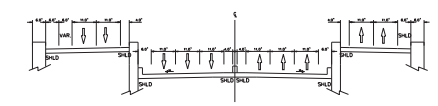
LAWRENCE EXPRESSWAY
ALTERNATIVE 1 SECTION 1



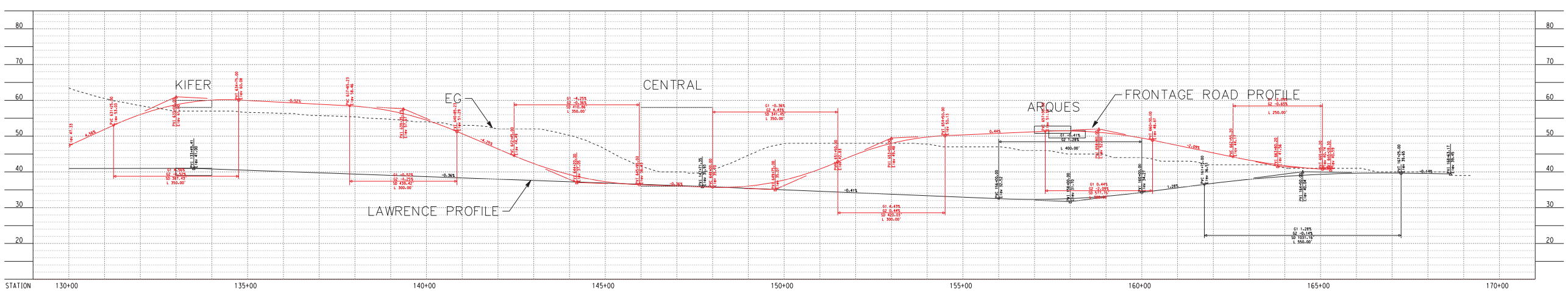
LAWRENCE EXPRESSWAY
ALTERNATIVE 1 SECTION 2

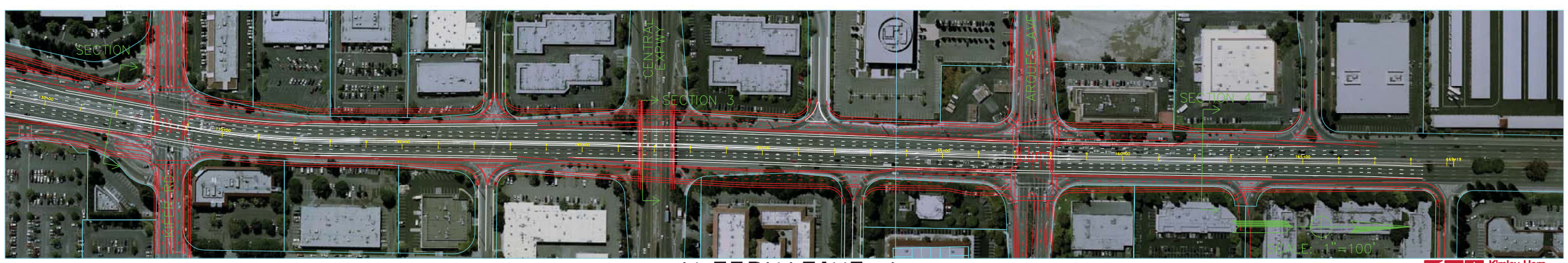


LAWRENCE EXPRESSWAY
ALTERNATIVE 1 SECTION 3



LAWRENCE EXPRESSWAY
ALTERNATIVE 1 SECTION 4





ALTERNATIVE 1

November 22, 2013

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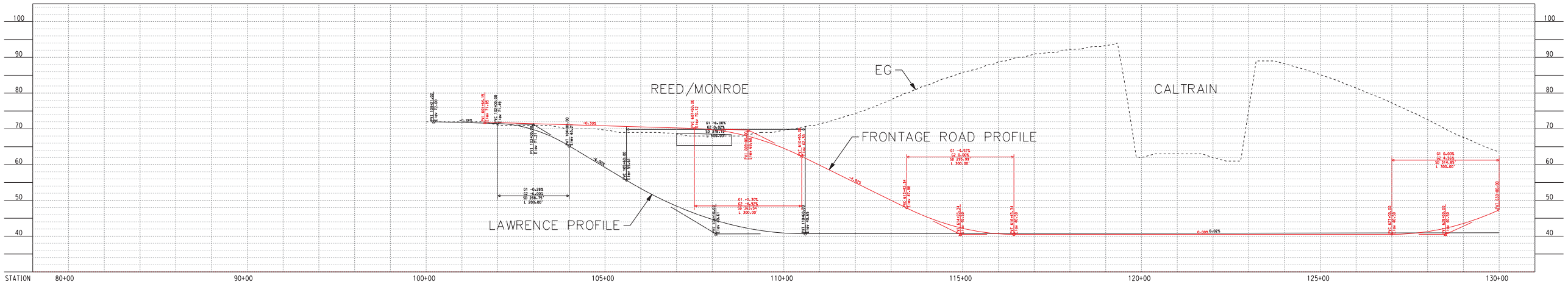
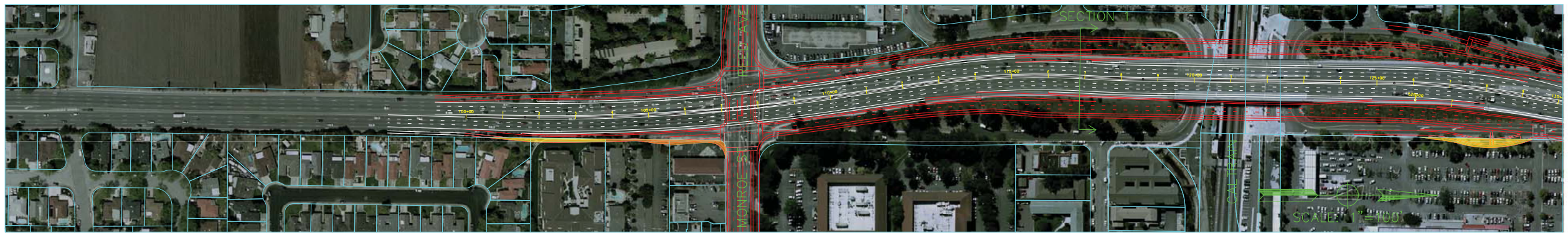




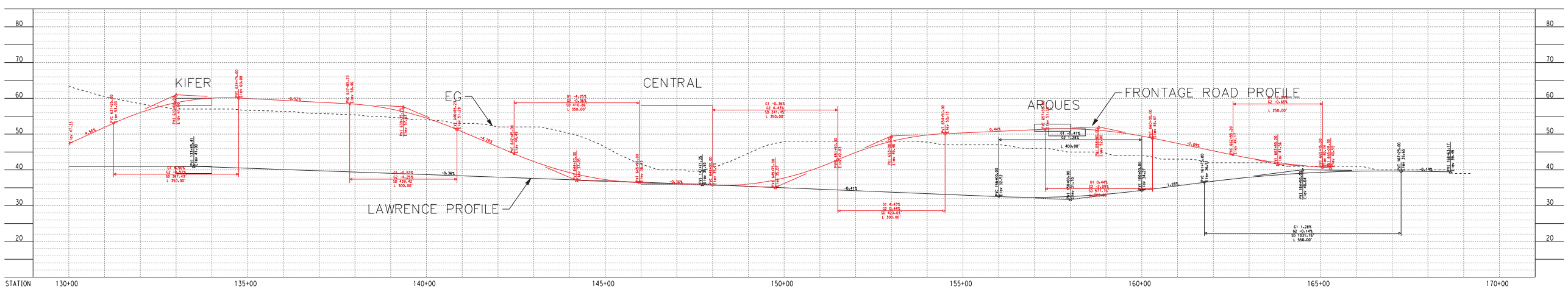
Right-of-way take would not substantially affect structures, parking or circulation.

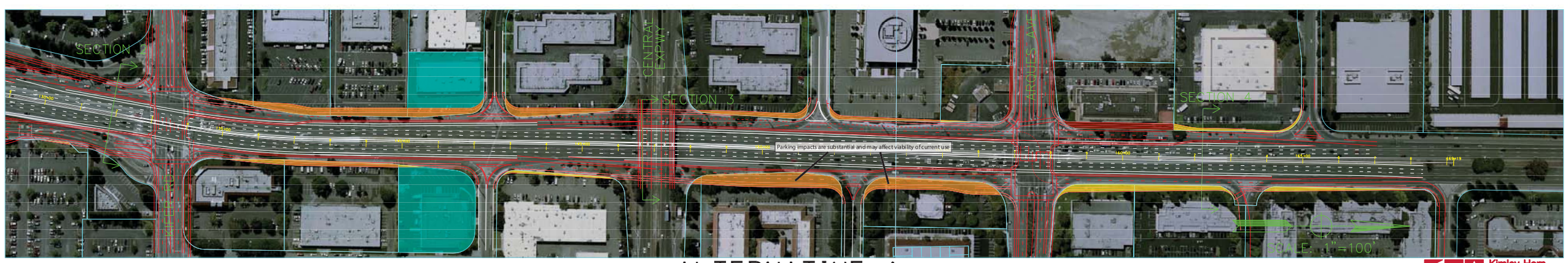
Right-of-way take would affect parking or circulation only. In most cases, business would likely still be viable.

Right-of-way take would likely affect structure and businesses.

Parcels where access may be significantly affected due to grade change.

Right-of-Way Needs
Lawrence Expressway Grade Separation Concept Study
Alternatives Analysis Phase
Alternative 1

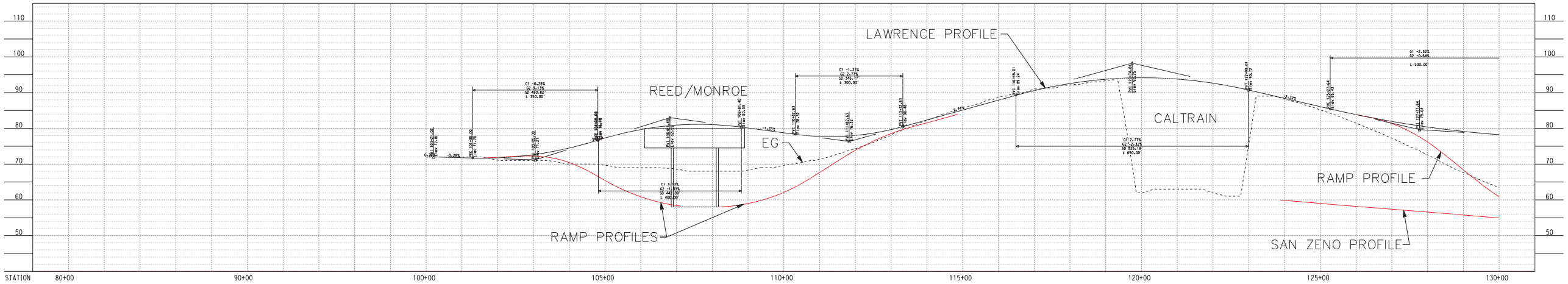


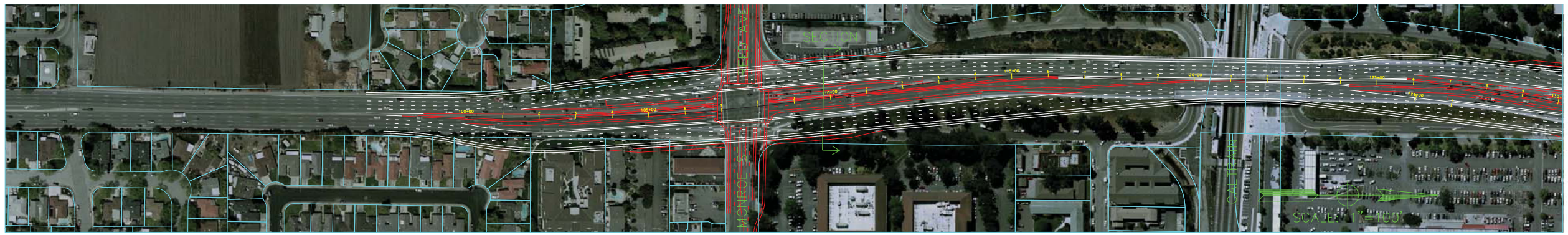


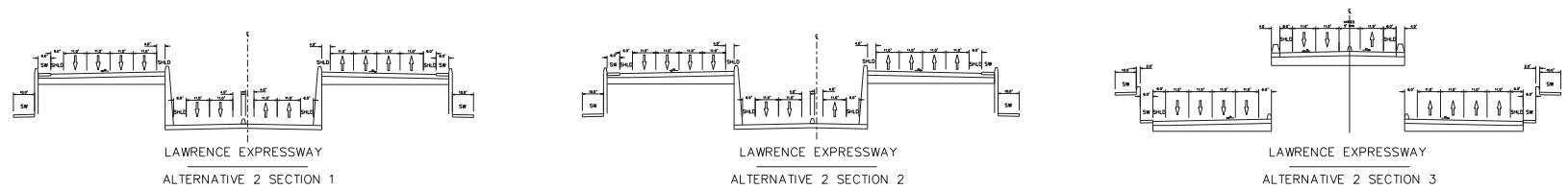
ALTERNATIVE 1

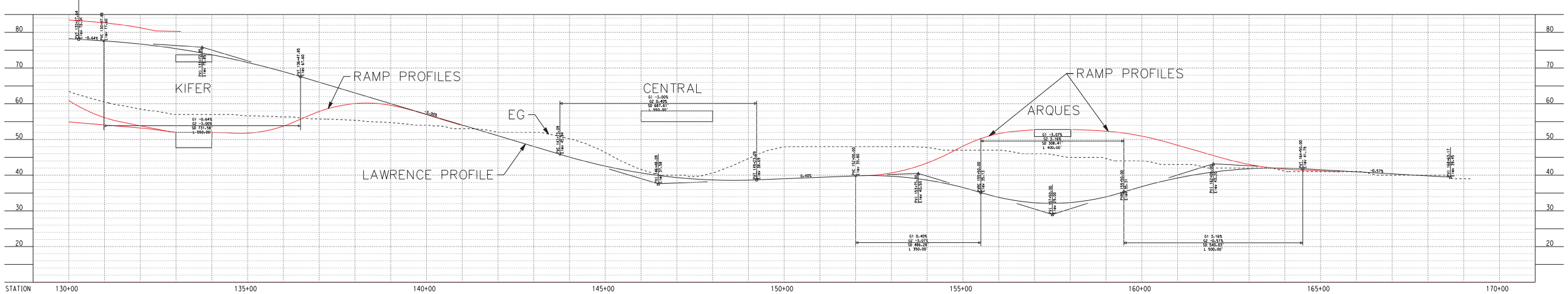
November 22, 2013

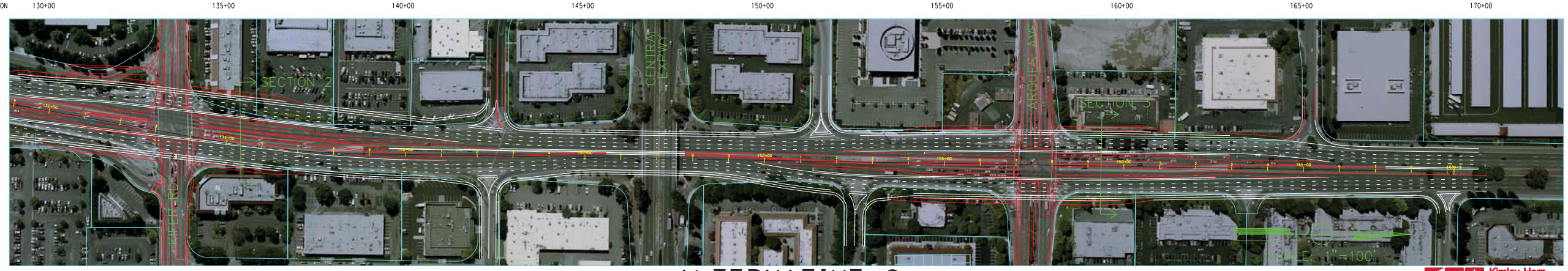
Kimley-Horn and Associates, Inc.







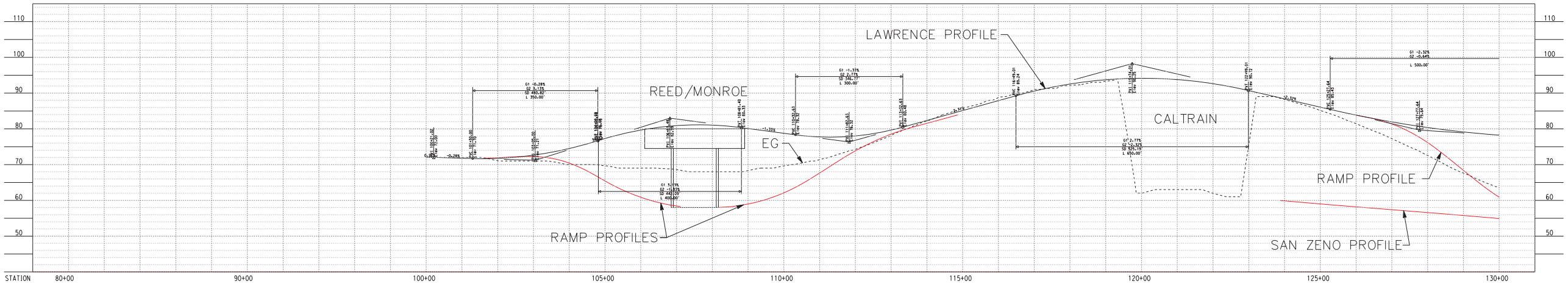


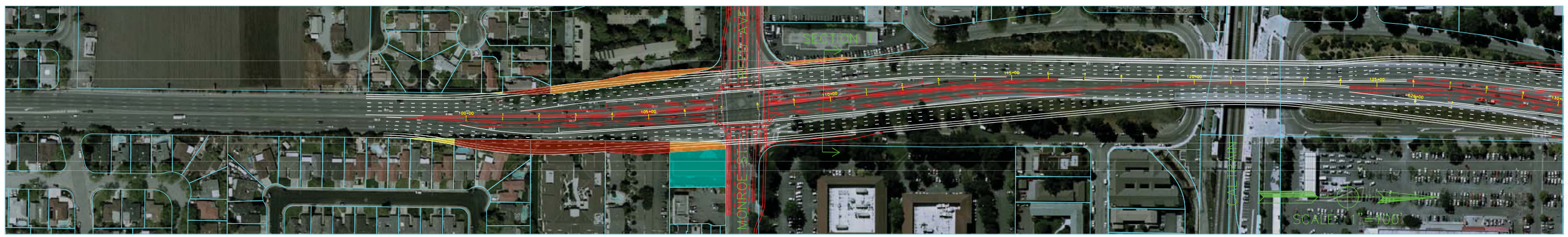


ALTERNATIVE 2

November 22, 2013

Kimley-Horn and Associates, Inc.





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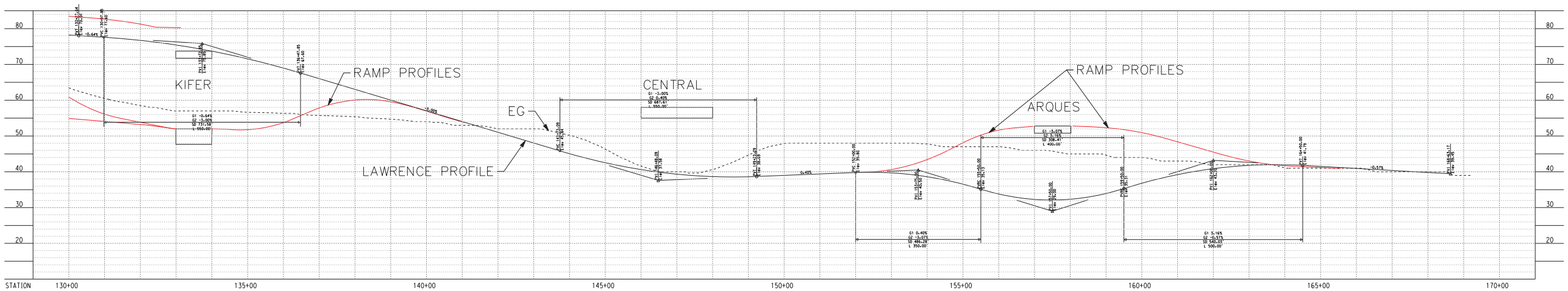
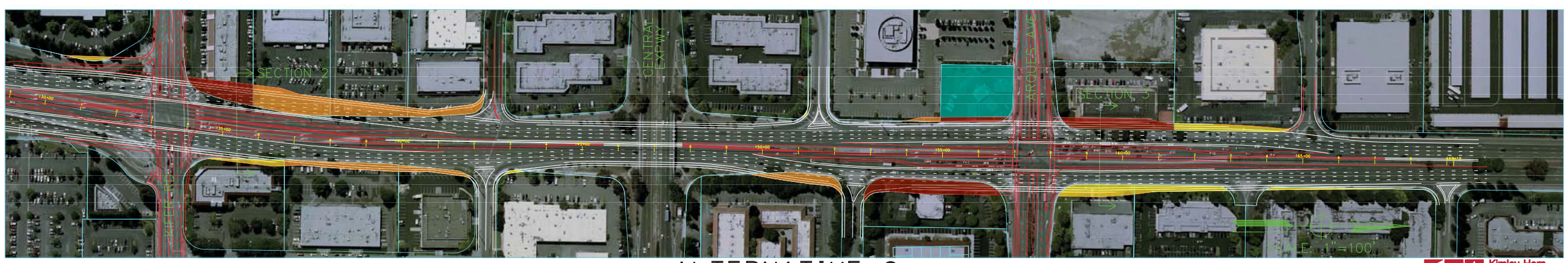
Parcels where access may be significantly affected due to grade change.

Right-of-Way Needs
Lawrence Expressway Grade Separation Concept Study
Alternatives Analysis Phase
Alternative 2



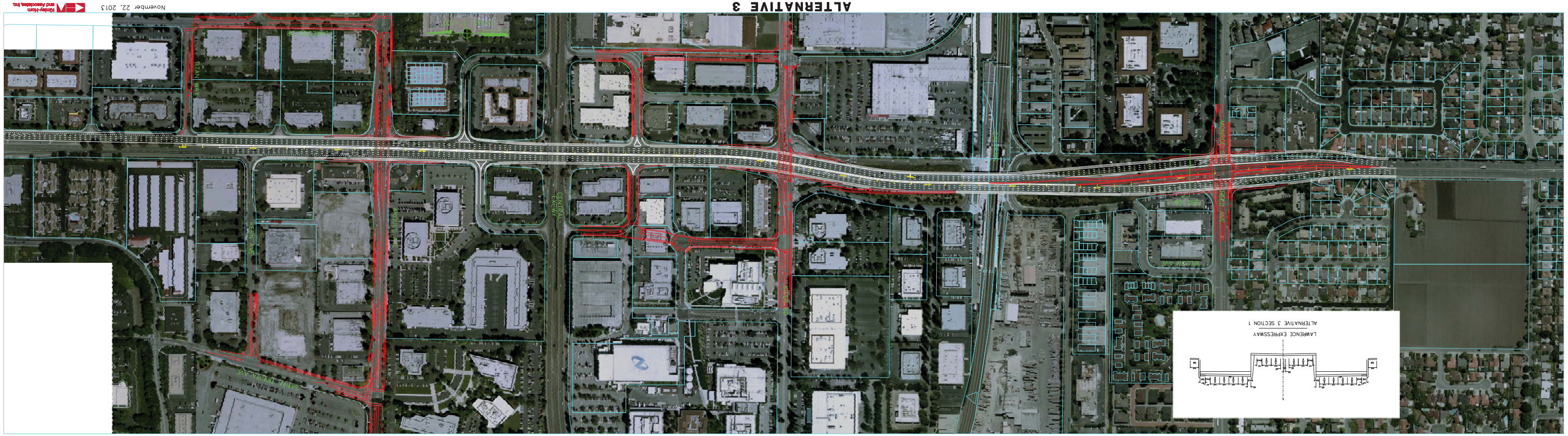


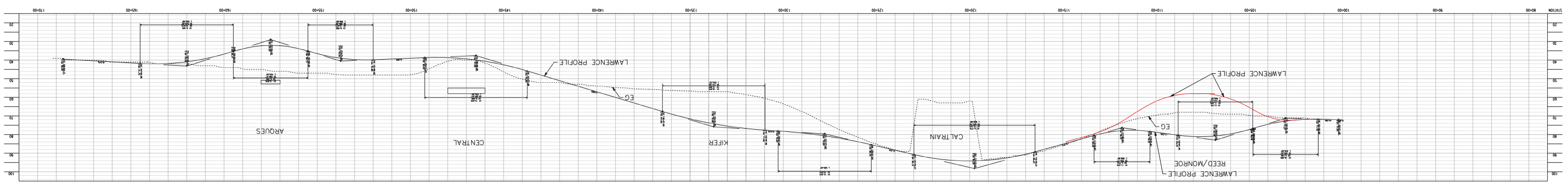
ALTERNATIVE 2

November 22, 2013

Kimley-Horn and Associates, Inc.

ALTERNATIVE 3





November 22, 2013

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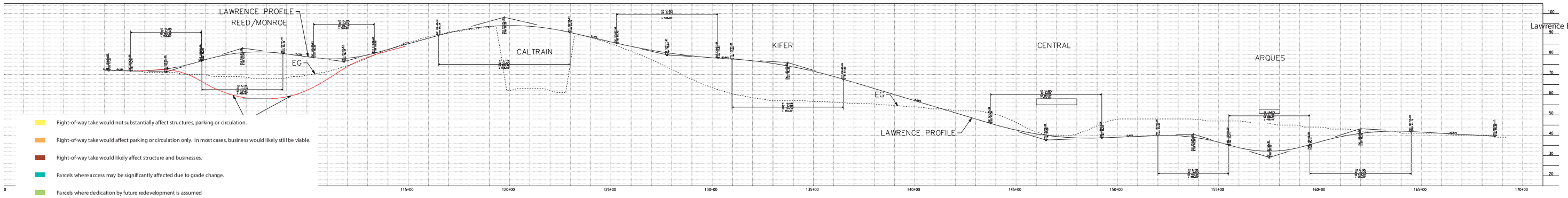
Right-of-Way Needs
Lawrence Expressway Grade Separation Concept Study
Alternatives Analysis Phase
Alternative 3



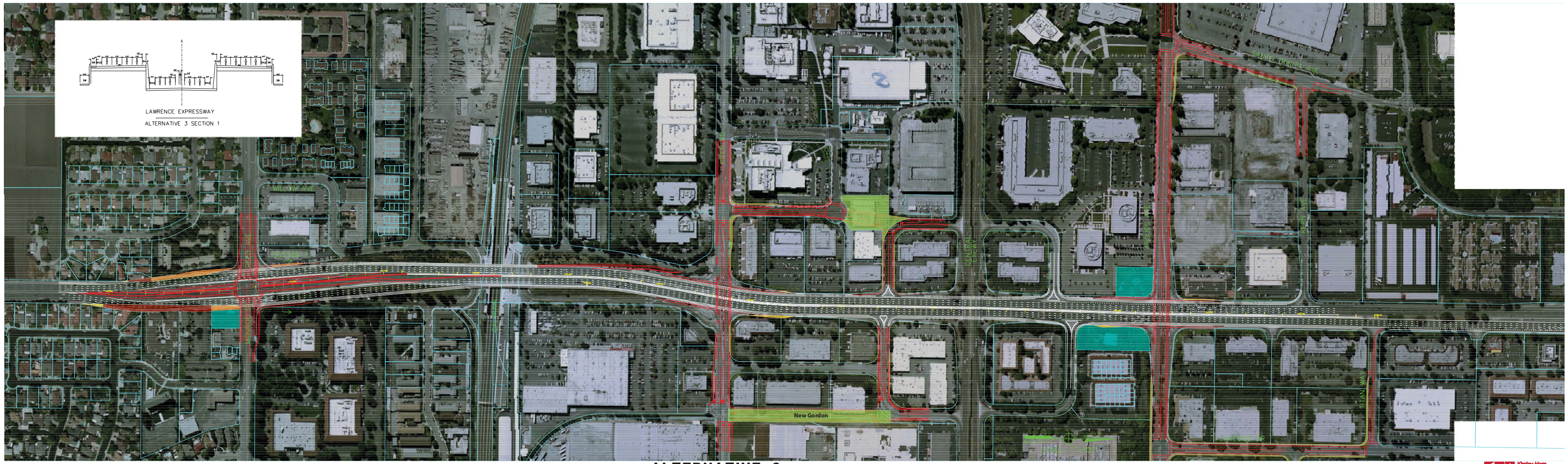
Right-of-way take would not substantially affect structures, parking or circulation.

Right-of-way take would affect parking or circulation only. In most cases, business would likely still be viable.

Right-of-way take would likely affect structure and businesses.

Parcels where access may be significantly affected due to grade change.

Parcels where dedication by future redevelopment is assumed



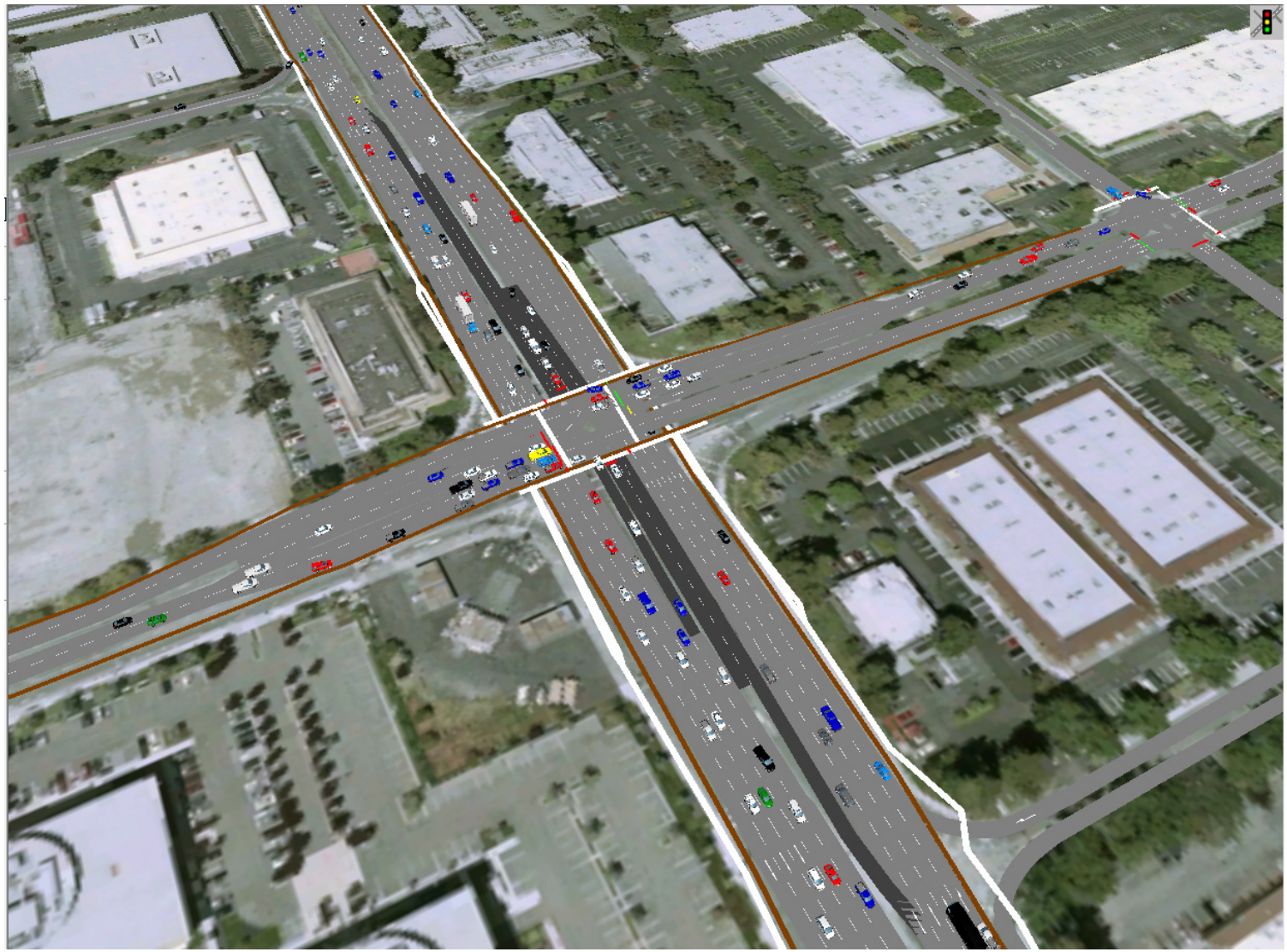
ALTERNATIVE 3

November 22, 2013

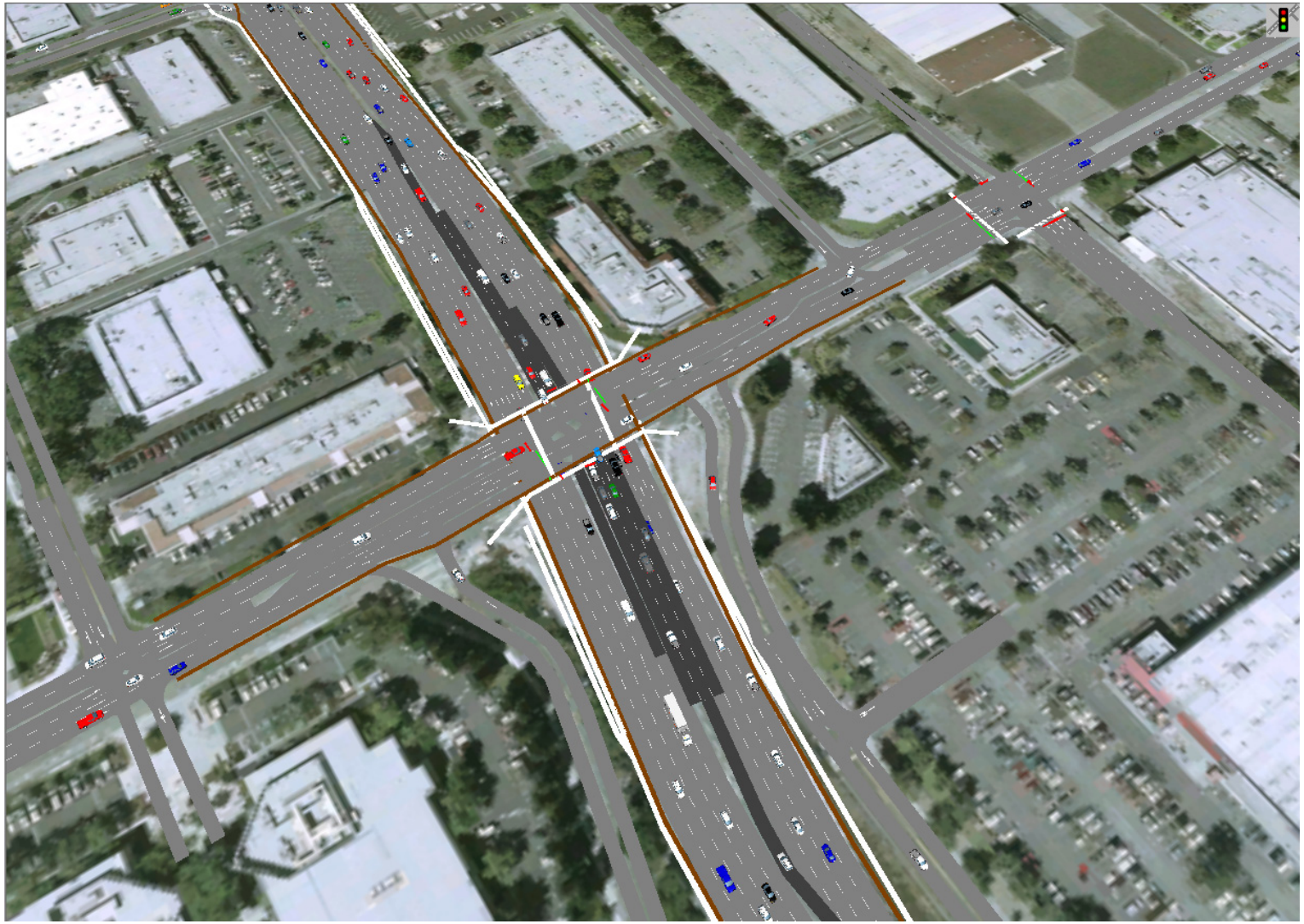
Kimley-Horn and Associates, Inc.

APPENDIX E: SCREENSHOTS OF PROPOSED CONCEPT VISSIM MODEL

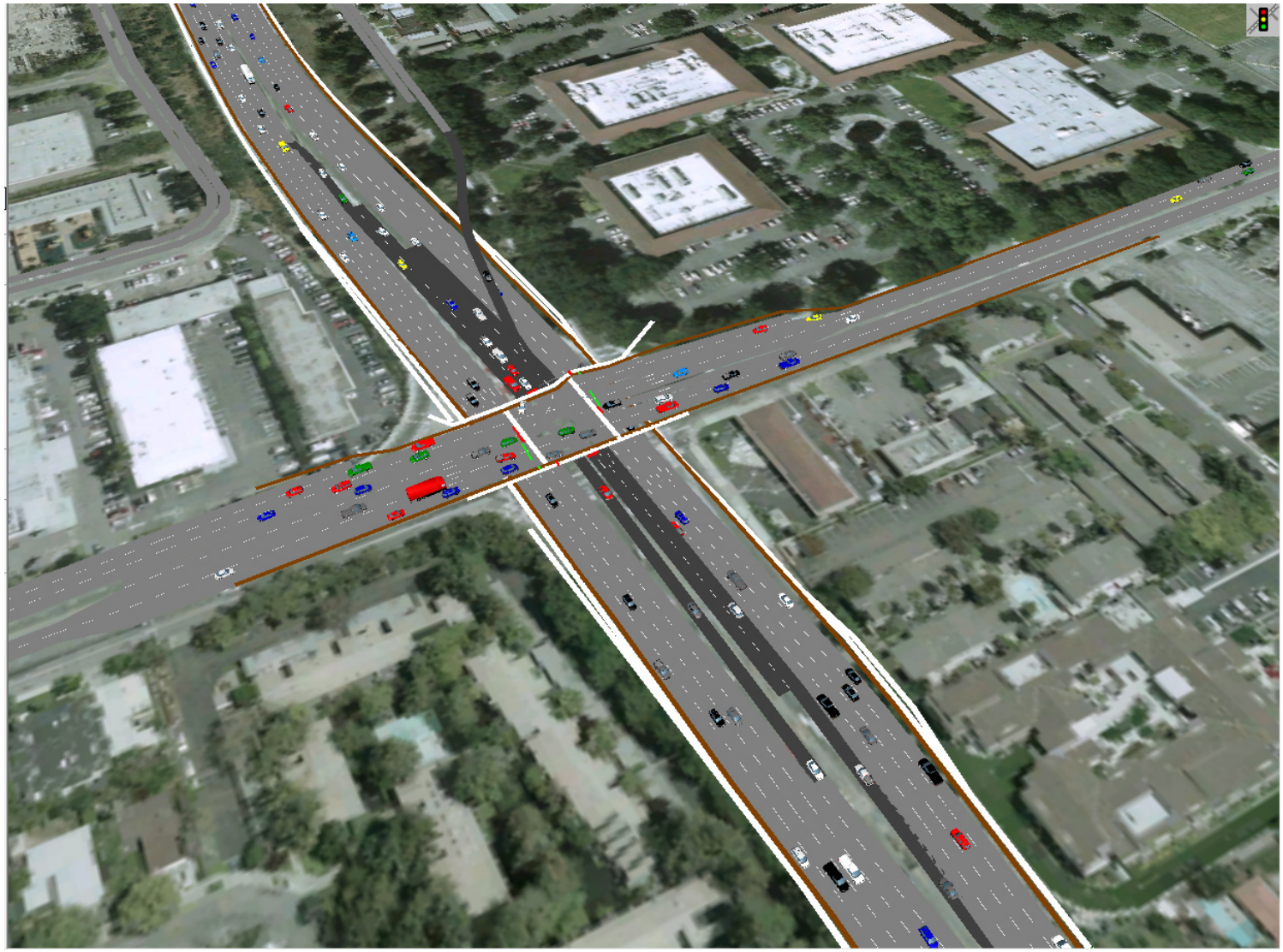
Proposed Concept: Lawrence Expressway and Arques Avenue
(2040 PM VISSIM Screenshot)



Proposed Concept: Lawrence Expressway and Kifer Road
(2040 AM VISSIM Screenshot)



Proposed Concept: Lawrence Expressway and Reed Avenue/Monroe Street
(2040 PM VISSIM Screenshot)



APPENDIX F: PROPOSED CONCEPT INTERSECTION ANALYSIS

Proposed Concept 2040 Intersection LOS & Delay

Intersection	Approach	Movement	Baseline				Proposed Concept 2040					
			AM Peak		PM Peak		AM Peak			PM Peak		
			LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	% Change from Baseline	LOS	Delay (sec)	% Change from Baseline
Lawrence Expwy & Oakmead Pkwy	NB	Left	F	81.7	E	74.4	F	109.2	34%	F	100.7	35%
		Through	C	27.9	C	23.7	E	68.2	144%	C	34.8	47%
		Right	C	20.1	A	9.3	D	54.9	173%	B	17.3	86%
		Total	C	31.5	C	27.9	E	64.1	103%	D	36.6	31%
	EB	Left	F	485.3	F	917.9	F	535.4	10%	F	738.0	-20%
		Through	F	272.2	F	688.4	F	348.0	28%	F	549.8	-20%
		Right	F	167.0	F	426.8	F	211.2	26%	F	345.5	-19%
		Total	F	349.4	F	639.2	F	389.7	12%	F	511.7	-20%
	SB	Left	F	306.1	F	338.4	F	304.8	0%	F	259.8	-23%
		Through	C	29.0	F	276.4	D	37.1	28%	F	141.4	-49%
		Right	B	10.2	F	275.9	A	5.9	-42%	F	104.9	-62%
		Total	D	48.2	F	236.5	D	53.1	10%	F	127.2	-46%
	WB	Left	F	101.0	F	83.8	F	101.0	0%	F	95.8	14%
		Through	F	92.1	E	71.7	F	90.0	-2%	F	93.3	30%
		Right	A	2.9	A	2.1	A	2.9	0%	A	1.9	-10%
		Total	C	30.6	C	32.6	C	29.5	-4%	D	39.0	20%
	Total		**E**	**74.3**	**F**	**239.9**	**F**	**95.9**	**29%**	**F**	**150.9**	**-37%**
Lawrence Expwy & Arques Ave	NB	Left	F	97.6	F	108.1	D	36.7	-62%	C	31.8	-71%
		Through	C	31.8	B	17	A	7.0	-78%	A	2.9	-83%
		Right	D	38.7	B	15.2	B	19.8	-49%	B	12.1	-20%
		Total	D	37.6	C	25.1	B	10.3	-73%	A	6.6	-74%
	EB	Left	F	204.5	F	911.1	C	28.8	-86%	D	51.7	-94%
		Through	E	73.6	F	329.3	C	21.5	-71%	D	45.0	-86%
		Right	B	11.5	F	235	A	9.9	-14%	F	89.9	-62%
		Total	F	93.4	F	378.8	C	20.8	-78%	E	57.9	-85%
	SB	Left	F	97.9	F	175.5	C	27.7	-72%	C	31.0	-82%
		Through	C	31.7	F	143.9	A	3.4	-89%	A	2.9	-98%
		Right	C	30.1	F	98.3	D	43.5	45%	A	9.2	-91%
		Total	C	34.4	F	126.2	B	12.2	-65%	A	4.4	-97%
	WB	Left	F	91.6	F	250.9	C	34.1	-63%	D	36.9	-85%
		Through	E	74.8	F	99.3	C	27.2	-64%	C	25.8	-74%
		Right	B	12.5	C	34	B	12.9	3%	B	18.4	-46%
		Total	E	71.8	F	125.5	C	27.2	-62%	C	28.2	-78%
	Total		**D**	**47.2**	**F**	**149.8**	**B**	**14.0**	**-70%**	**B**	**19.4**	**-87%**
Lawrence Expwy & Kifer Rd	NB	Left	F	123.8	F	91.9	E	66.6	-46%	C	27.9	-70%
		Through	F	96.2	C	20.5	B	18.1	-81%	A	1.5	-93%
		Right	F	106.3	B	19.5	D	53.0	-50%	D	39.6	103%
		Total	F	89.9	C	22.4	C	23.9	-73%	B	12.8	-43%
	EB	Left	F	88.5	F	589.3	C	31.3	-65%	C	34.9	-94%
		Through	E	78.4	F	596.8	C	23.4	-70%	C	34.6	-94%
		Right	E	59.6	F	638.1	A	2.5	-96%	C	22.1	-97%
		Total	E	71.9	F	514.5	B	19.0	-74%	C	28.4	-94%
	SB	Left	F	286.0	F	188	D	35.3	-88%	D	36.5	-81%
		Through	C	26.9	F	131.8	A	1.6	-94%	A	7.6	-94%
		Right	B	15.9	F	129.5	C	33.5	111%	B	16.5	-87%
		Total	E	56.1	F	124.1	B	13.4	-76%	A	9.9	-92%
	WB	Left	F	111.3	F	472	D	35.2	-68%	D	37.8	-92%
		Through	F	109.4	F	436	C	26.8	-76%	C	32.9	-92%
		Right	D	53.9	F	425.4	A	9.3	-83%	D	39.0	-91%
		Total	F	83.6	F	380.7	C	21.3	-75%	C	34.8	-91%
	Total		**F**	**85.7**	**F**	**175.9**	**C**	**22.6**	**-74%**	**B**	**16.6**	**-91%**

Proposed Concept 2040 Intersection LOS & Delay

Intersection	Approach	Movement	Baseline				Proposed Concept 2040					
			AM Peak		PM Peak		AM Peak			PM Peak		
			LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	% Change from Baseline	LOS	Delay (sec)	% Change from Baseline
Lawrence Expwy & Monroe St	NB	Left	F	197.1	F	85.1	D	37.4	-81%	C	30.6	-64%
		Through	F	125.9	C	24.9	A	3.3	-97%	A	0.7	-97%
		Right	E	56.4	A	9	A	8.2	-85%	C	20.5	128%
		Total	F	109.5	C	28.3	A	4.5	-96%	A	5.7	-80%
	EB	Left	F	885.0	F	685.2	F	124.5	-86%	C	32.0	-95%
		Through	F	769.0	F	699.7	D	45.7	-94%	C	27.8	-96%
		Right	F	750.2	F	672.4	D	41.0	-95%	C	21.5	-97%
		Total	F	687.3	F	587.3	E	79.4	-88%	C	26.6	-95%
	SB	Left	F	92.6	F	122.2	C	32.5	-65%	D	51.2	-58%
		Through	C	24.8	C	25.5	A	0.2	-99%	C	22.8	-11%
		Right	A	9.5	B	15.8	A	9.4	-1%	D	39.5	150%
		Total	C	24.3	C	28.7	A	3.9	-84%	C	23.5	-18%
	WB	Left	F	514.4	F	459.6	C	33.9	-93%	C	32.2	-93%
		Through	F	604.5	F	410.9	C	27.5	-95%	C	24.9	-94%
		Right	F	574.5	F	358.4	D	49.3	-91%	A	6.1	-98%
		Total	F	489.2	F	350.2	D	36.6	-93%	C	20.1	-94%
	Total		**F**	**220.5**	**F**	**149.2**	**C**	**22.8**	**-90%**	**C**	**21.4**	**-86%**
Lawrence Expwy & Cabrillo Ave	NB	Left	F	221.0	F	122.9	F	117.7	-47%	F	143.4	17%
		Through	F	189.6	B	12.5	E	60.4	-68%	B	15.7	26%
		Right	F	116.7	A	5.5	B	16.3	-86%	A	5.8	5%
		Total	F	155.1	B	16.5	D	53.9	-65%	C	20.4	24%
	EB	Left	F	382.3	F	175.4	F	162.7	-57%	F	190.3	8%
		Through	F	325.3	F	122.5	F	123.6	-62%	F	89.1	-27%
		Right	F	251.0	E	61.6	D	50.8	-80%	C	32.6	-47%
		Total	F	308.8	F	126	F	128.9	-58%	F	117.4	-7%
	SB	Left	E	76.1	F	86.3	E	78.1	3%	F	128.7	49%
		Through	B	14.4	D	41.9	B	14.3	-1%	E	61.6	47%
		Right	A	4.2	C	22	A	2.3	-45%	C	26.5	20%
		Total	B	16.0	D	41.2	B	15.4	-4%	E	56.6	37%
	WB	Left	F	352.9	F	411.1	F	105.4	-70%	F	216.2	-47%
		Through	F	355.0	F	293.3	F	99.1	-72%	F	109.9	-63%
		Right	F	296.7	F	277.2	C	34.1	-89%	E	61.7	-78%
		Total	F	283.6	F	294.6	E	68.0	-76%	F	126.9	-57%
	Total		**F**	**162.1**	**D**	**48.2**	**E**	**56.5**	**-65%**	**D**	**53.8**	**12%**
NETWORK TOTAL			**F**	**115.7**	**F**	**156.9**	**D**	**41.6**	**-64%**	**D**	**51.0**	**-67%**

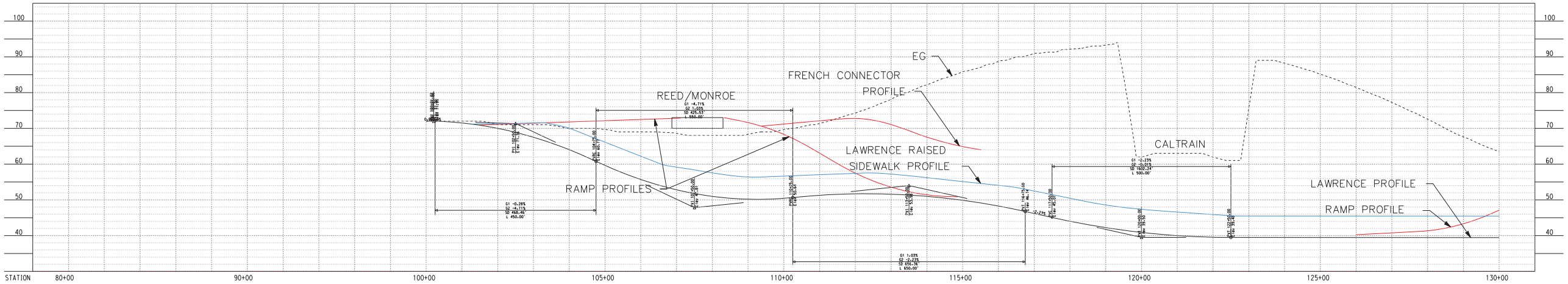
Proposed Concept 2040 Queue Lengths

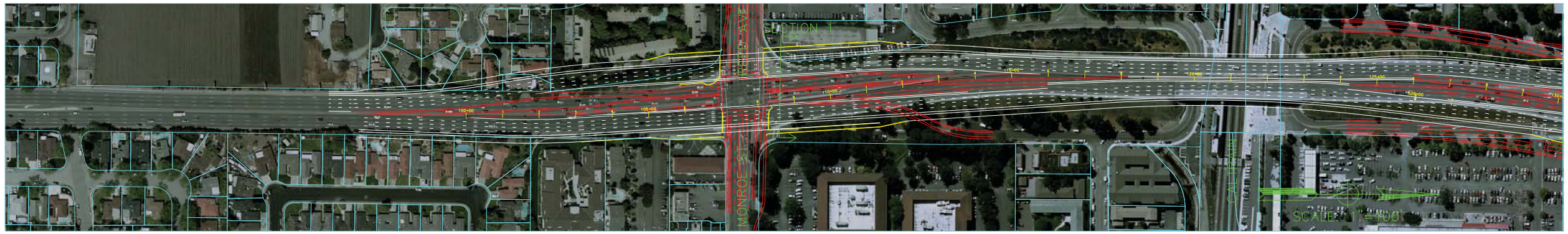
Intersection	Approach	Movement	Baseline				Proposed Concept 2040			
			AM Peak		PM Peak		AM Peak		PM Peak	
			95th Percentile (ft)	Median (ft)	95th Percentile (ft)	Median (ft)	95th Percentile (ft)	Median (ft)	95th Percentile (ft)	Median (ft)
Lawrence Expwy & Oakmead Pkwy	NB	Left	118.5	42.4	91.6	37.1	128.6	43.4	154.9	63.7
		Through	451.8	0.0	240.8	0	1703.1	0.0	508.4	0.0
		Right	794.5	0.0	215.8	0	2022.3	859.6	640.3	0.0
	EB	Left	3909	1951.2	3919.3	3898.7	3912.9	2457.3	3919	3890.8
		Through	87.6	19.7	3907.3	43.4	100.9	20.4	137.2	41.9
		Right	0	0.0	0	0	0	0.0	0	0.0
	SB	Left	1499.9	516.3	5296.3	5024.2	1332.5	390.3	5292.8	2988.4
		Through	1328	0.0	5292.6	0	931.1	0.0	5271.6	0.0
		Right	0	0.0	0	0	0	0.0	4466.9	0.0
	WB	Left	72	21.6	91.4	40.5	73.3	19.9	99.7	42.1
		Through	124.6	45.8	97	40.6	118	43.5	104.5	44.3
		Right	-	-	-	-	-	-	-	-
Lawrence Expwy & Arques Ave	NB	Left	252.5	109.6	169.2	70.4	298.4	59.7	184.3	25.9
		Through	644.2	0.0	146.4	0	0	0.0	0	0.0
		Right	556	0.0	21.4	0	310	71.3	198.5	40.2
	EB	Left	8.5	0.0	9.2	0	85.2	20.5	137	41.1
		Through	794.4	175.0	2338.8	2321.3	47.5	0.0	99.9	0.0
		Right	190.7	48.6	2337.3	2319.8	0	0.0	1253.5	69.4
	SB	Left	0	0.0	2142.6	2125.1	353.9	43.6	140.3	18.3
		Through	113.3	41.7	156.6	45.1	0	0.0	0	0.0
		Right	407.5	0.0	2205.6	0	370.7	60.5	144.4	0.0
	WB	Left	435.7	0.0	2094.5	1064.1	118	19.1	184.2	25.7
		Through	142.7	51.0	1073.1	324.1	70.3	0.0	70.9	0.0
		Right	189.5	0.0	867	0	25.5	0.0	39.7	0.0
Lawrence Expwy & Kifer Rd	NB	Left	26.8	0.0	846.5	0	200.9	45.1	208	47.0
		Through	187	64.1	72.2	20	0	0.0	0	0.0
		Right	2611.8	5.3	240.3	0	222.1	66.6	229.5	69.1
	EB	Left	2539	1124.2	139.9	0	72.2	0.0	160.2	21.8
		Through	92.8	41.0	92.4	41.1	70.6	0.0	335	0.0
		Right	212.1	0.0	1907.5	1065.4	75.2	0.0	346.7	22.2
	SB	Left	196.2	80.6	1860.6	1845.2	377.9	65.5	274.9	42.2
		Through	574.1	325.4	3452	220.1	0	0.0	0	0.0
		Right	278.4	0.0	3209.2	2730.8	385.2	72.8	284.5	51.8
	WB	Left	21.2	0.0	3127.8	2991.7	74.7	0.0	130.8	19.3
		Through	90.9	39.5	114.2	42.8	74.1	0.0	113.8	0.0
		Right	424.7	0.0	1836.9	259.5	0	0.0	263	0.0

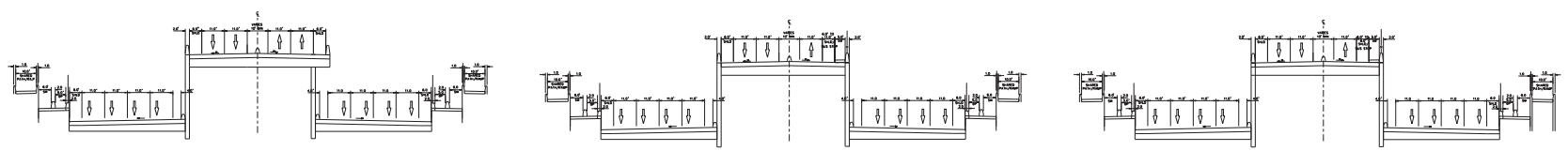
Proposed Concept 2040 Queue Lengths

Intersection	Approach	Movement	Baseline				Proposed Concept 2040			
			AM Peak		PM Peak		AM Peak		PM Peak	
			95th Percentile (ft)	Median (ft)	95th Percentile (ft)	Median (ft)	95th Percentile (ft)	Median (ft)	95th Percentile (ft)	Median (ft)
Lawrence Expwy & Monroe St	NB	Left	498.1	68.6	1768.5	1753.5	156.9	20.6	192.1	32.7
		Through	5.5	0.0	5.2	0	0	0.0	0	0.0
		Right	2563	117.1	245.2	71.6	165.5	27.9	201.5	41.8
	EB	Left	2597.6	0.0	286.1	0	3296.8	196.9	129.2	42.8
		Through	0	0.0	0	0	64.7	0.0	160.7	0.0
		Right	5289.7	5248.7	5286.7	270.4	0	0.0	28.3	0.0
	SB	Left	156.1	0.0	5289.7	423.8	78.8	0.0	319.6	71.6
		Through	72	0.0	5166.4	5140.3	0	0.0	853.6	0.0
		Right	92.9	42.0	192.1	86.7	88.6	0.0	328.6	80.6
	WB	Left	210.8	0.0	422.2	0	161.9	22.0	175.5	40.9
		Through	21	0.0	458.4	0	92.2	0.0	77.4	0.0
		Right	5036.8	3963.7	3896.5	2095.4	610.3	63.2	41.2	0.0
Lawrence Expwy & Cabrillo Ave	NB	Left	5030.8	42.4	3635.2	14.2	121.4	19.0	369.2	88.1
		Through	4923.3	3850.2	3783	1577.8	2269.1	0.0	191.4	0.0
		Right	101.1	19.1	244.8	50.2	0	0.0	0	0.0
	EB	Left	5285.5	0.0	128.1	0	1082.4	210.8	235.6	124.9
		Through	0	0.0	0	0	1082.4	210.8	235.6	124.9
		Right	2176.1	1329.8	525.3	120.9	918	46.4	71.2	0.0
	SB	Left	2176.1	1329.8	525.3	120.9	103.5	19.4	173.9	24.7
		Through	2011	1164.7	360.2	0	109.7	0.0	2659.4	0.0
		Right	95	19.0	90.2	19.2	0	0.0	0	0.0
	WB	Left	85.3	0.0	1073.3	0	491.6	110.7	587	125.8
		Through	0	0.0	0	0	491.6	110.7	587	125.8
		Right	2134.6	740.4	1914.1	528.7	347.8	0.0	443.3	0.0

APPENDIX G: PROPOSED CONCEPT PLAN AND PROFILE DRAWING



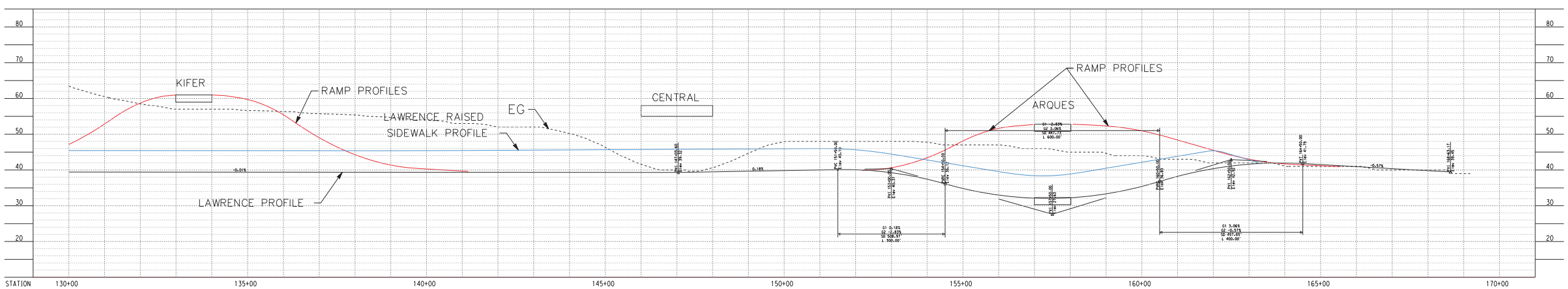


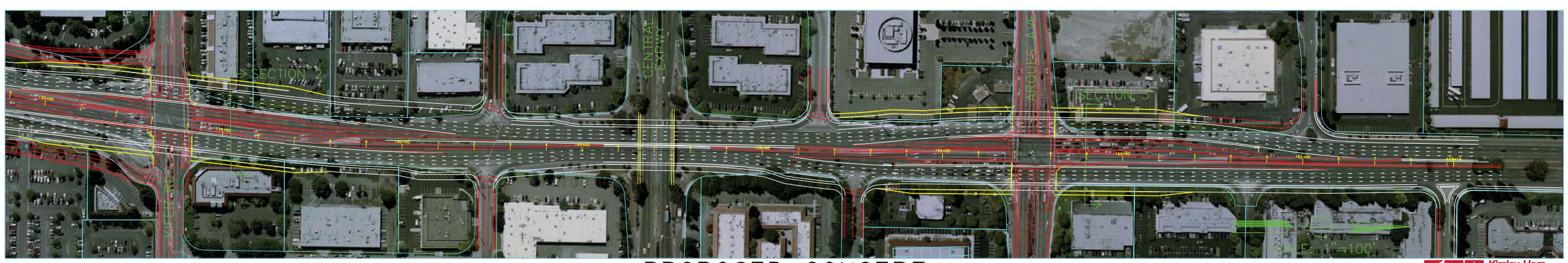


LAWRENCE EXPRESSWAY
PROPOSED CONCEPT SECTION 1

LAWRENCE EXPRESSWAY
PROPOSED CONCEPT SECTION 2

LAWRENCE EXPRESSWAY
PROPOSED CONCEPT SECTION 3





PROPOSED CONCEPT

March 12, 2014

Kimley-Horn and Associates, Inc.

APPENDIX H: PROPOSED CONCEPT COST ESTIMATE

Lawrence Expressway Grade Separation Project - Concept Study
Proposed Concept
Preliminary Cost Estimate - March 2014

		Current Cost
ROADWAY & STRUCTURAL ITEMS	$	321,167,700
SUBTOTAL CONSTRUCTION COST	$	321,167,700
RIGHT OF WAY	$	46,127,442
TOTAL CAPITAL OUTLAY COST	**$**	**367,296,000**
PR/ED SUPPORT (4%)	$	12,846,708
PS&E SUPPORT (6%)	$	19,270,062
RIGHT OF WAY SUPPORT	$	2,000,000
Project Administration (5%)	$	16,058,385
CONSTRUCTION SUPPORT (5%)	$	16,058,385
TOTAL CAPITAL OUTLAY SUPPORT COST*	**$**	**66,233,540**
TOTAL PROJECT COST	**$**	**434,000,000**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	Earthwork	$	12,342,000
2	Pavement Structural Section	$	13,234,900
3	Drainage	$	22,107,900
4	Structural Items	$	84,961,700
5	Environmental	$	1,658,100
6	Traffic Items	$	40,925,100
7	Utilities	$	16,580,800
8	Minor Items	$	7,672,500
9	Roadway Mobilization	$	19,948,300
10	Supplemental Work (Environmental)	$	9,974,200
11	State Furnished	$	-
12	Contingencies		$91,762,200
13	Overhead		$0
	TOTAL ROADWAY ITEMS	**$**	**321,167,700**

Estimate Prepared By _____

Name and Title Date Phone

Estimate Reviewed By _____

Name and Title Date Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
160101	Clearing & Grubbing	LS	1	x	150,000.00	=	$	150,000
170101	Develop Water Supply	LS	1	x	100,000.00	=	$	100,000
190101	Roadway Excavation	CY	604,596	x	20.00	=	$	12,091,920
	Import Borrow	CY	0	x	40.00	=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 12,342,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
						=	$	-
	Ramp Pavement	SF	249,021	x	9.00	=	$	2,241,189
	Mainline Pavement	SF	731,176	x	9.00	=	$	6,580,584
	Local Road Pavement	SF	113,493	x	6.00	=	$	680,958
	Concrete Barrier	LF	8,083	x	90.00	=	$	727,470
	Sidewalk	SF	289,723	x	10.00	=	$	2,897,230
	Curb and Gutter (Mainline)	LF	1,910	x	35.00	=	$	66,850
	Curb and Gutter (Local/Ramps)	LF	1,158	x	35.00	=	$	40,530

TOTAL STRUCTURAL SECTION ITEMS $ 13,234,900

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
	Drainage Items (10% Project Items)	EA	1	x	11,053,860.00	=	$	11,053,860
	De-Watering (10% Project Items)	EA	1	x	11,054,000.00	=	$	11,054,000

TOTAL DRAINAGE ITEMS $ 22,107,900

SECTION 4: STRUCTURAL ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
	Bridge Structure	SF	88,810	x	300.00	=	$	26,643,000
	Retaining Wall	SF	234,356	x	100	=	$	23,435,600
	Tunnel	SF	48,933	x	700.00	=	$	34,253,100
	Remove Central OC	SF	0	x	15.00	=	$	-
	Remove Caltrain Overhead	SF	42,000	x	15.00	=	$	630,000

TOTAL SPECIALTY ITEMS $ 84,961,700

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code	Unit	Quantity	Unit Price ($)	Cost

Subtotal Environmental $ -

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity		Unit Price ($)			Cost
Landscape and Irrigation (1% Project Items)	EA	1	x	1,105,386.00	=	$	1,105,386

Subtotal Landscape and Irrigation $ 1,105,386

5C - NPDES

Item code	Unit	Quantity		Unit Price ($)			Cost
NPDES (0.5% Project Items)	EA	1	x	552,693.00	=	$	552,693

Supplemental Work for NPDES

Subtotal NPDES (Without Supplemental Work) $ 552,693

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.
**Applies to both SWPPPs and WPCP projects.
*** Applies only to project with SWPPPs.

TOTAL ENVIRONMENTAL $ 1,658,100

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)		Cost
	Traffic Electrical (2% Project Items)	EA	1	x	2,210,772	=	$ 2,210,772

Subtotal Traffic Electrical *$ 2,210,772*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)		Cost
	Signing and Striping (0.5% Project Items)	EA	1	x	552,693	=	$ 552,693

Subtotal Traffic Signing and Striping *$ 552,693*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)		Cost
	Stage Construction and Traffic Handling (30% Project Items)	EA	1	x	33,161,580	=	$ 33,161,580
	Caltrain Facilities During Construction	LS	1	x	5,000,000	=	$ 5,000,000

Subtotal Stage Construction and Traffic Handling *$ 38,161,580*

TOTAL TRAFFIC ITEMS $ 40,925,100

SECTION 7: UTILITIES

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)		Cost
	Utility Relocation (15% of Project Items)	EA	1	x	16,580,790	=	$ 16,580,790
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -

TOTAL Utilities $ 16,580,800

SUBTOTAL SECTIONS 1-7 $ 191,810,500

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items							
	ADA Items				0.0%		$ -
8B - Bike Path Items							
	Bike Path Items				0.0%		$ -
8C - Other Minor Items							
	Other Minor Items				4.0%		$ 7,672,420
	Total of Section 1-7	$	191,810,500	x	4.0%	=	$ 7,672,420

TOTAL MINOR ITEMS $ 7,672,500

SECTIONS 9: MOBILIZATION

Item code							
999990	Total Section 1-8	$	199,483,000	x	10%	=	$ 19,948,300

TOTAL MOBILIZATION $ 19,948,300

SECTION 10: SUPPLEMENTAL WORK (ENVIRONMENTAL)

Item code		Unit	Quantity		Unit Price ($)		Cost
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
				x		=	$ -
	*Cost of **NPDES** Supplemental Work specified in Section 5C*					=	$ -
	Total Section 1-8	$	199,483,000		5%	=	$ 9,974,150

TOTAL SUPPLEMENTAL WORK $ 9,974,200

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
				x		=	$0
				x		=	$0
				x		=	$0
				x		=	$0
				x		=	$0
				x		=	$0
				x		=	$0
				x		=	$0
				x		=	$0
	Total Section 1-8	$	199,483,000		0%	=	$ -

TOTAL STATE FURNISHED $0

SECTION 12: TIME-RELATED OVERHEAD

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10 = 5%

Item code		Unit	Quantity		Unit Price ($)		Cost
070018	Time-Related Overhead	WD	0	X	#DIV/0!	=	$0

TOTAL TIME-RELATED OVERHEAD $0

SECTION 12: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	$	229,405,500	x	40%	=	$91,762,200

TOTAL CONTINGENCY $91,762,200

II. RIGHT OF WAY

			Unit	Quantity		Unit Price ($)		Cost
A)	A1)	Acquisition	SF	405,786	x	$ 75	=	$30,433,950
	A2)	SB-1210						
B)	TieBack Easement			84,349		$ 35		$2,952,215
C)	Appraisal, Escrow and Consultant Acquisition: 28 parcels x $25,000 ea							$700,000
D)	Utility Easement			84,349		$ 75		$6,326,175
E)	Business Relocation (5% ROW Acquisition Cost)			1	x	$ 1,521,698		$1,521,698
F)	Contingency (10%)							$4,193,404

K)

L) **TOTAL RIGHT OF WAY ESTIMATE** **$46,127,442**

(Excluding Item #8 - Hazardous Waste)

M) **TOTAL R/W ESTIMATE: Escalated** **$46,127,442**

N) **Right of Way Support $2,000,000**

Support Cost Estimate Prepared By	Project Coordinator[1]	Phone
Utility Estimate Prepared By	Utiliy Coordinator[2]	Phone
R/W Acquistion Estimate Prepared By	Right of Way Estimator[3]	Phone

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

APPENDIX I: FACT SHEETS

Lawrence Expressway
Grade Separation Concept Study

Project Introduction
Fact Sheet

Lawrence Expressway within the study area currently serves over 80,000 vehicles per day. This large volume results in congestion and long delays for vehicles, and creates a challenge for bicycles and pedestrians crossing the Expressway. Traffic congestion is anticipated to grow as the area redevelops and economy improves.

Project Objective:

Identify preferred long-term corridor transportation improvements for Lawrence Expressway, between Reed Avenue/Monroe Street and Arques Avenue.

Project Goals:

- Improve traffic flow on Lawrence Expressway
- Incorporate the needs of local traffic, bicycles and pedestrians accessing and crossing the Expressway
- Facilitate access to/from Lawrence Caltrain Station and Lawrence Station Area Plan
- Develop a cost-effective and constructable solution
- Build community consensus in setting priorities, developing alternatives and identifying a preferred solution

Project Process:

May/June

Existing, 2020 and 2040 Analysis
Analyze circulation with existing infrastructure

June Public Meeting

July/August

Concept Development
Develop a range of improvement alternatives and assess effectiveness

September/October

Alternatives Analysis
Prepare conceptual designs and further evaluate alternatives in achieving project goals

November Public Meeting

November/January

Development of Concept Plan
Identify the design concept and refine cost projections

February Public Meeting

County Expressways Plan 2040

ADDITIONAL PUBLIC INPUT OPPORTUNITIES:

- **Bicycle and Pedestrian Advisory Committee Meetings**
  VTA, Sunnyvale, Santa Clara
- **City Council Meetings**
  Sunnyvale, Santa Clara
- **County Roads Commission Meetings**
- **Expressway Plan 2040 Policy Advisory Board Meetings**

Project Contact Info:

County of Santa Clara Roads & Airports Department

408-573-2417

LawrenceExpressway@CountyRoads.org

http://LawrenceExpressway.CountyRoads.org

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Lawrence Expressway
Grade Separation Concept Study

Project Introduction
Fact Sheet

Project Study Area

Kimley-Horn and Associates, Inc.
apex STRATEGIES

Lawrence Expressway
Grade Separation Concept Study

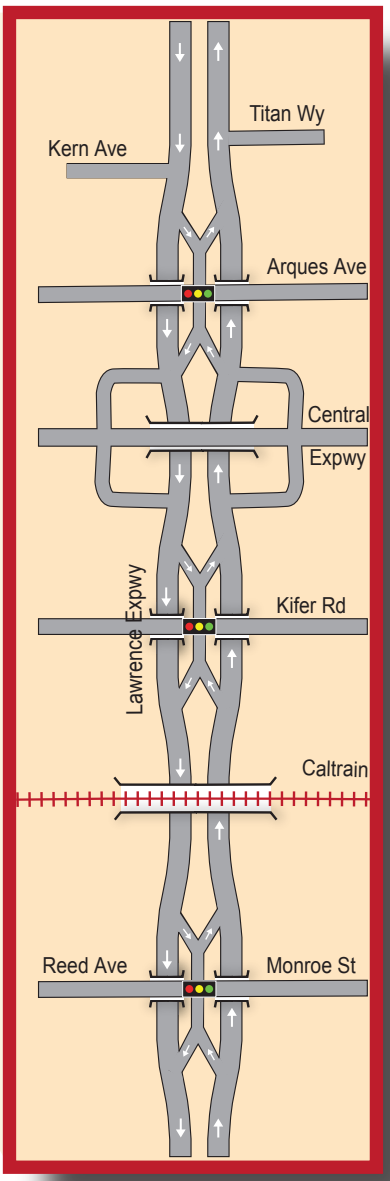
Proposed Concept
Fact Sheet

Lawrence Expressway within the study area currently serves over 80,000 vehicles per day. This large volume results in congestion and long delays for vehicles and creates a challenge for bicycles and pedestrians crossing the Expressway. Traffic congestion is anticipated to grow as the area redevelops and the economy improves.

Project Objective: Identify long-term corridor transportation improvements for Lawrence Expressway between Reed Avenue/Monroe Street and Arques Avenue to serve motorists, bicyclists, pedestrians, and transit on both Lawrence Expressway and the cross streets.

PROPOSED CONCEPT

- Depress Lawrence below surface
- Provide ramps in median to access cross-streets
- Provide grade-separated pedestrian / bicycle corridor along Lawrence with ramps to cross-streets



PROJECT PROCESS

- **Baseline Analysis**
- June Public Meeting
- **Concept Development**
- **Alternatives Analysis**
- November Public Meeting
- **Proposed Concept**
- March Public Meeting
- **County Expressway Plan 2040**

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Lawrence Expressway
Grade Separation Concept Study

Proposed Concept
Fact Sheet

PROPOSED CONCEPT BENEFITS:

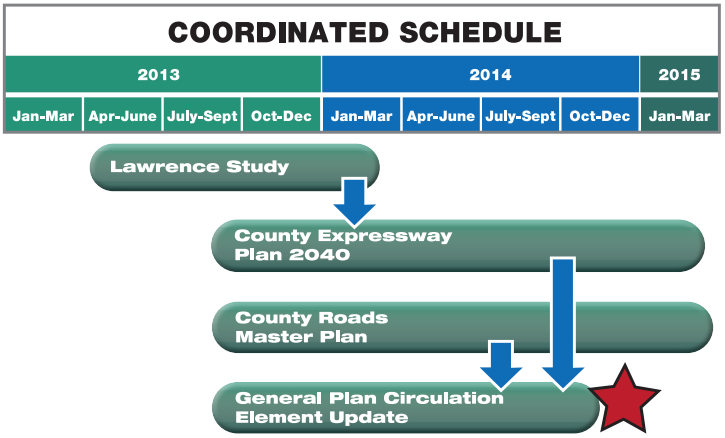
- Eliminates over 1.4 Million annual hours of vehicle delay by 2040
- Provides a 40 percent reduction in travel time on Lawrence Expressway between Oakmead/Duane and Cabrillo/Poinciana (Year 2040 projections)
- Reduces travel time on Reed/Monroe, Kifer Road and Arques across Lawrence Expressway by several minutes (Year 2040 projections)
- Achieves a 25 percent reduction in fuel consumption and emissions, reducing fuel consumption by roughly 1.2 Million gallons per year
- Will keep regional traffic on the Expressway and not on City streets
- Provides a grade-separated guideway for bicycles and pedestrians along Lawrence Expressway, improving safety and encouraging use of active transportation modes
- Removes a visual and contextual community barrier

Grade Separated Intersection

View from Lawrence Expwy

NEXT STEPS:

These recommendations will be incorporated into the County's Expressway Plan 2040, which prioritizes improvements to the Expressways countywide.



PROJECT CONTACT INFO:

County of Santa Clara Roads & Airports Department

408-573-2417

LawrenceExpressway@CountyRoads.org

http://LawrenceExpressway.CountyRoads.org

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APPENDIX J: PUBLIC MEETING SUMMARIES

Community Meeting #1: Summary

Date & Time: June 26, 2013, 6:30-8:00 pm

Location: Ponderosa Park Building, Sunnyvale

Attendees:
Public: 50 residents and business representatives
Board of Supervisors: Supervisor Cortese Policy Aide Mike Donohoe
Supervisor Yeager Policy Aide Megan Doyle
County Staff: Michael Murdter, Dan Collen, Dawn Cameron, Bill Yeung, Janice Spuller, Ivana Yeung
City of Santa Clara: Dennis Ng
City of Sunnyvale: Jack Witthaus
Kimley-Horn Staff: Adam Dankberg, Zach Miller, Brian Sowers
Apex Strategies: Eileen Goodwin

Agenda

1. Welcome and Introductions
   Eileen welcomed the public to the meeting and introduced the key staff members on the project: Dawn Cameron, County Transportation Planner and Project Manager, Dan Collen, County Roads and Airport Deputy Director, and Adam Dankberg from Kimley-Horn, consultant Project Manager. She also introduced City of Sunnyvale Council Member Jim Davis, Steve Levin, County Roads Commission member, Jack Witthaus, City of Sunnyvale and Dennis Ng, City of Santa Clara.

   Eileen requested a quick hand tally poll of the audience on how they received the information about this meeting:

Lawrence Expressway Signage	10%
San Jose Mercury Gary Richards Mr. Roadshow Column	33%
Sunnyvale Paper	10%
Email Blast	50%
Supervisor Email	4%
City of Sunnyvale Email	33%
Received forwarded email	33%
Postcard	66%

   Eileen mentioned signing in to receive emails of future meetings.

Figure 1 First public meeting

2. Project Overview
A PowerPoint presentation was used to support the presentations.
Dawn gave a brief project overview describing the three intersections for review on Lawrence Expressway: Arques Avenue, Kifer Road, and Reed Avenue/Monroe Street.
Dawn noted that the vision for this segment of Lawrence Expressway cited in the 2003 Comprehensive County Expressway Planning Study was "more high-end expressway with freeway-like segments". In the 2003 Expressway Study, all the project intersections were operating at Level of Service F, and the conclusion from the Study was that all three intersections should be grade separated. Over the last few years, the cities of Sunnyvale and Santa Clara have taken steps to address increased and future growth through the creation of Sunnyvale's Lawrence Station Area Plan and the Santa Clara General Plan Update, which has triggered a need to determine the feasibility and design concepts for the grade separations. The County, Sunnyvale and Santa Clara partnered to fund the Lawrence Expressway Study.

The project goals are to improve traffic flow, support bicycle, pedestrian, transit facilities and local circulation, and find a cost-effective and implementable long-term solution with the community's support. Ultimately, the plan will be included in the Expressway Plan 2040 and regional transportation plans for funding opportunities.

Adam Dankberg continued the presentation discussing the project approach. The project will have to balance several interests: visual impacts, congestion, local access, corridor constraints, pedestrian and bicycle access, cost, and constructability. He highlighted the following challenges:

- Congestion- 80,000 vehicles travel along this corridor per day. There are significant delays at traffic signals and a forecast of increased traffic.
- Traffic Conditions- the northbound AM and the southbound PM experience extreme vehicle backups along the corridor. The question that staff will look at is: how to get cars through without spilling into the local streets?
- Pedestrian and Bicycle Access- there is a general concern about crossing the expressways due to the long waits and crossing distances, sidewalk access, and bicycle facilities. He noted that there is large pedestrian activity on Arques during lunch time as well as in the PM when school lets out.
- Caltrain Access- Accessing the Caltrain station is difficult for all, including VTA transit. Adam stated that this project will coordinate with the Sunnyvale Lawrence Station Area Plan which is

conceptually looking at creating a local circulation network that is bicycle and pedestrian friendly.

- Local Access- The project is aware of the employers such as Costco and the residential neighborhoods in the area. Consideration will be taken in regards to the impacts to the community and their local needs.

Adam discussed the schedule. The project is in its early stages, collecting and analyzing data. After this meeting, based on public feedback, concepts will be developed and a collection of alternatives will be analyzed. These alternatives will be shared with the public at another community meeting. The alternatives will be narrowed to a final plan and included in the County Expressway Plan 2040.

There are several opportunities for public outreach: the project specific outreach meetings will be tentatively held in August and November, Bicycle and Pedestrian Advisory Committee Meetings, City Councils, County Roads Commission, and County Board of Supervisors.

Adam discussed the Alternatives Analysis can range from doing nothing to full grade separations and shared the evaluation criteria. The purpose of the meeting is also to get feedback on how the project alternatives are evaluated.

The project email, phone, and website were shared with the audience. This information was also provided to attendees on the meeting agenda sheet during sign-in.

Before moving onto the next Agenda item, Eileen performed another hand tally poll of the audience's affiliations:

Neighbors	80%
Commuters	50%
Bicyclists	20%
Pedestrians	10%
Transit Users	0
Lawrence Station Area Plan participants	25%

3. Interactive Stations
Eileen directed the audience to four stations around the room asking individuals to visit each station to provide input. The stations were:

<u>Station 1</u>

- How do you use Lawrence Expressway?
    - How Often?
    - What mode of travel do you use?
- Where do you live/work

This station requests individuals to mark a chart on their mode and time-of-day traveling on Lawrence and a map of their general residence/place of employment.

Station 2

- Do you concur with the freeway-like vision for this segment of Lawrence?
- What's the most important area of improvement needed for this segment of Lawrence Expressway?

This station allowed individuals to write comments regarding these two questions to post.

Station 3

- What location has the greatest need for improvement?
- What needs to be fixed/added/modified?

This station was a dot exercise where individuals place dots on large maps to show their request for improvements. As part of the exercise, individuals were also given the opportunity to write intersection-specific comments and speak with experts on these locations.

Station 4

- Background information
    - Bike Facilities
    - Transit Facilities
    - Lawrence Station Area Plan
    - Study Area Map

This station was purely for questions and answers regarding the project. Maps were available for discussion purposes. A notepad was provided to record additional comments or questions.

Figure 2 Clockwise, starting from Top Right: Station 1, Station 3, Station 2, Station 4

4. Reconvene: Interactive Station Summary

Figure 3 Completed Stations (Clockwise, starting from Top Right) Station 3, Station 2, Station 4, Station 1

Staff members summarized the activity at each of their stations:

<u>Station 4</u>
Dawn shared that common questions were:
When will this be built?
What are the construction impacts to businesses and residents?
When will there be funding?

Adam added that there were questions about Cabrillo. Cabrillo will be analyzed as part of the project. He encouraged the public to visit the City of Sunnyvale website for the Lawrence Station Area Plan as it is related to this project but they are focused on land uses and community planning in the area around Lawrence within the City of Sunnyvale.

<u>Station 3</u>
Dan stated that many individuals chose Kifer Road as a high priority, though all intersections were a concern. In addition, the square loop connections, left turn capacity, and merging were also concerns. Brian added there were questions about bicycle safety, general access and construction impacts.

<u>Station 1</u>
Zach summarized the travel modes and time of day. A majority of the audience uses a vehicle on Lawrence Expressway during all periods of the day. Ivana noted that most of the residents were in the southern portion of the project study area and places of employment were spread throughout the area.

Station 2
Janice shared the general consensus was for some type of grade separation with freeway like segments. There were technical comments regarding signal timing, left turns, right turns, and merging. There were comments about bicycle and pedestrian access such as having improved or separate access and crossings. Transit improvements include accessing the corridor, Caltrain, expanded VTA services and implementing with high speed rail.

Closure
Michael Murdter thanked everyone for coming and stressed the importance of their participation as we move forward with the project.

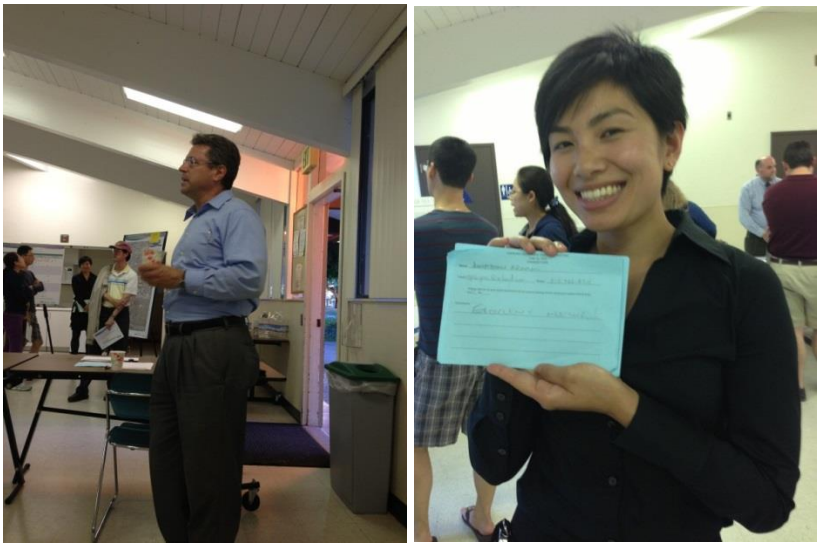
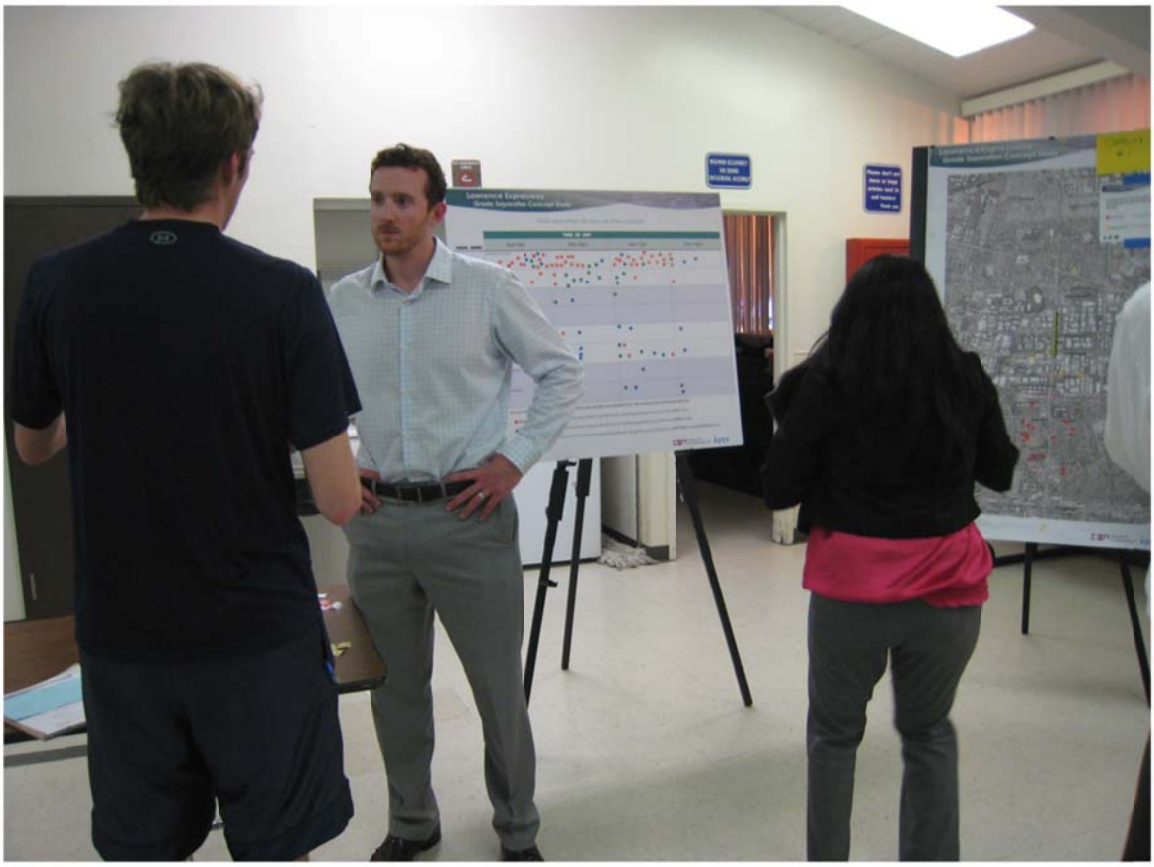


Figure 4 Michael Murdter, Director, County Roads and Airport; Ivana Yeung holding an "Excellent Meeting" Comment Card

Dan Collen invited the audience to visit the County website (www.countyroads.org) for project information as well as videos and real time traffic information.

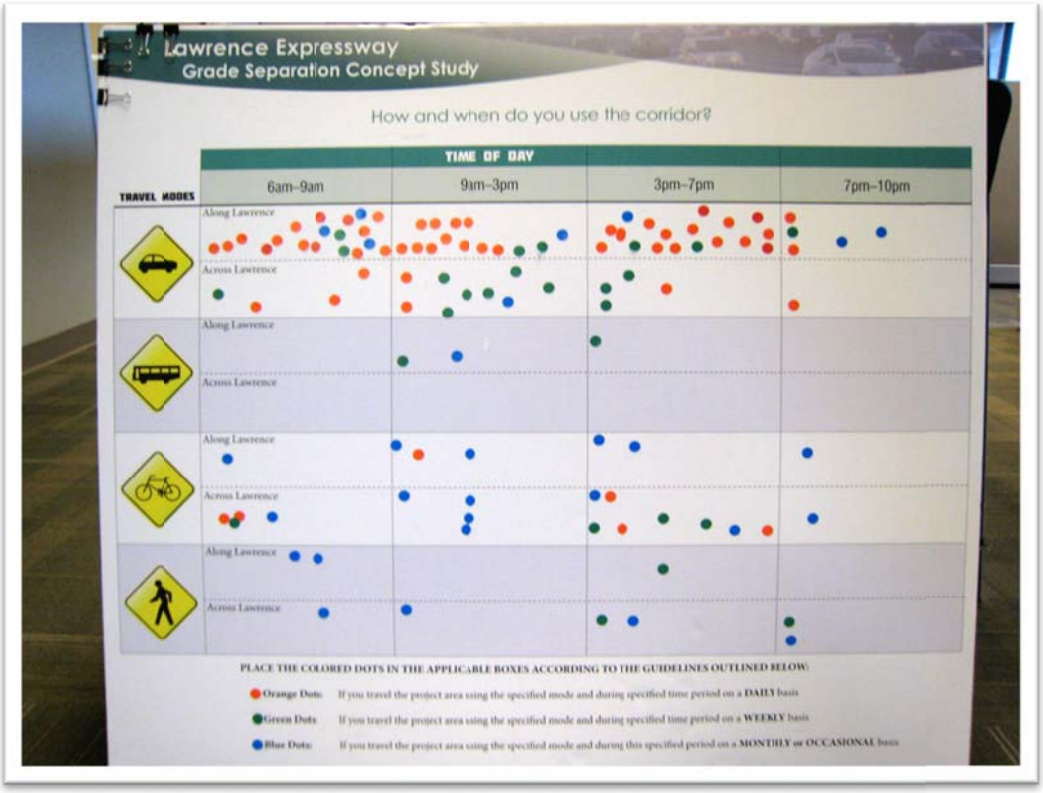
Staff will update the individuals who signed up for email notification of future meetings. The project website will have the PowerPoint presentation and other material from the evening's meeting posted.

The meeting concluded.



EXIT

Lawrence Expressway
Grade Separation
CONCEPT STUDY
Transit Facilities
Bike Facilities Map
Construction Staging
How much R/W are we willing to hit?
Truck delivery route for Irvine Dev't?
Timing of Improvements


Lawrence Expressway
Grade Separation Concept Study
How and when do you use the corridor?
TIME OF DAY
TRAVEL MODES
6am–9am
9am–3pm
3pm–7pm
7pm–10pm
Along Lawrence
Across Lawrence
PLACE THE COLORED DOTS IN THE APPLICABLE BOXES ACCORDING TO THE GUIDELINES OUTLINED BELOW:
Orange Dots: If you travel the project area using the specified mode and during specified time period on a DAILY basis
Green Dots: If you travel the project area using the specified mode and during specified time period on a WEEKLY basis
Blue Dots: If you travel the project area using the specified mode and during this specified period on a MONTHLY or OCCASIONAL basis

Badges! Microphones for hard of hearing

Construction Staging ⇒ Detour Plans
Impacts on Local Streets
Impacts to local businesses

How much R/W are we willing to take?

Truck delivery route for Irvine Dev't?

Expressways + CalTrain barriers to cross, esp between widely spaced I/S

No Caltrain parking on south side
→ A way besides Lawrence to get across the tracks

Timing of Improvements

Transit plans/improvements along Lawrence ⇒ will the plan include this?

Community Meeting #2: Summary

Date & Time: November 6, 2013, 7:30-9:00am and 6:30-8:00pm

Location: Ponderosa Park Building, Sunnyvale

Attendees:
Public: 55 residents and business representatives
County Staff: Michael Murdter, Dawn Cameron, Dan Collen, Paul Pascoal, Janice Spuller, Bill Yeung Ivana Yeung
City of Santa Clara: Steve Lynch, Dennis Ng
City of Sunnyvale: Andy Miner, Carla Ochoa
Kimley-Horn Staff: Adam Dankberg, Zach Miller, Prasanna Muthireddy, Brian Sowers
Apex Strategies: Eileen Goodwin

Attachment: Appendix of written comments

The Lawrence Expressway Community Meeting is the second in a series of three to shape the improvements on Lawrence Expressway between Reed/Monroe and Arques Drive. The first meeting introduced the projects and gathered general feedback from the community on the experiences on Lawrence Expressway. This second meeting actually offered two meeting times during the same day- 7:30 am – 9:00 am and 6:30 pm – 8:00 pm, in order to offer the community options to attend and gather information and provide feedback. The summary below combines the results of both meetings. Furthermore, an Appendix of written comments are transcribed and attached to this summary.

Agenda

1. **Welcome and Introductions**
   Eileen welcomed the public to the meeting and introduced Sunnyvale Council Member Jim Davis. Council Member Davis is also the vice chair for the Expressway Plan 2040, a larger plan that will look at all the Expressways. She did a few quick hand tally polls:

   Where are members of the audience from?

Sunnyvale	70%
Santa Clara	30%
Other (San Jose, Stockton, Oakland noted)	1%

   How did you hear about this meeting?

Postcard mailer	50%
Lawrence Expressway Sign	10%
Email	25%
County Website	1%
Chamber/Rotary/ Bike Email Blasts	10%

An additional poll showed that approximately 95% of the audience members were both neighbors and users of the Expressway.

Eileen described the format of the meeting. She said there will be a PowerPoint presentation followed by a viewing of the alternatives and concepts at 4 interactive stations.

Eileen referred to the project fact sheet displaying the project process and schedule. There is a website, hotline phone number, and email address.

Eileen introduced Dawn Cameron, County Transportation Planner for the County Roads and Airport Department. Staff performed self introductions.

2. Project Overview

A PowerPoint presentation was used to support the presentations.
Dawn gave a brief project overview describing existing challenges, project goals, and the project process. She reviewed the first public meeting that was held on June 26, 2013 and the feedback received at that meeting.

Adam Dankberg, Project Manager from Kimley-Horn and Associates, discussed concept development. He stated there were 9 concepts which featured various innovative treatments that were analyzed and evaluated. The concepts were narrowed down to 3 alternatives based on public outreach, stakeholder outreach, project working group input, cost-benefit comparison and technical analysis.

Alternative 1: Frontage Road
Adam described this alternative showing Lawrence Expressway depressed as a 6-lane roadway to serve through traffic. To access local streets, frontage roads will be at-grade with a 30-35mph speed limit, with 2 lanes in each direction.

Adam then went on to discuss the Benefits and Drawbacks of Alternative 1: Frontage Road:

- Benefits
  - Bicycle pedestrian facilities adjacent are on lower-speed, lower-volume street
  - Provide local-orientated street at-grade
  - Lawrence depressed below grade
- Drawbacks
  - Cost
  - Implementation challenges
  - Time to construct

Alternative 2: Interchange
Adam described this alternative concept of having the turning movements onto side streets signalized and separated at different grades from Lawrence Expressway. Lawrence will be unsignalized and elevated at Monroe Street and Kifer Road and partially depressed at Central Expressway and Arques Avenue. Alternatively, the left turn movements onto the side streets will be below grade at Monroe Street and Kifer Road, and above grade at Central Expressway and Arques Avenue. Bicycles and pedestrians will have access on the side as they exist today but without signals. Pedestrians and bicyclists will be crossing 2 lanes at a signalized intersection instead of the 10-12 lanes of Expressway today.

Adam discussed the benefits and drawbacks of Alternative 2: Interchange concept:

- Benefits
    - Significantly reduces size of existing intersections
    - Can be implemented in phases, such as one intersection at a time
    - Keeps traffic on the expressway instead of local streets
- Drawbacks
    - May require additional right-of-way at intersections
    - Moves local access to Central Expressway
    - Caltrain access is not improved.

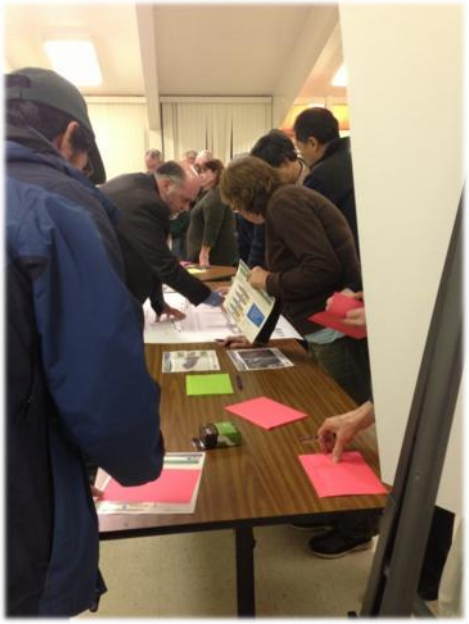
Alternative 3: Grid Network
The grid network uses the existing street network, relying on the side streets to carry more volume. There is a grade separation at Arques Avenue, with no access to Lawrence, requiring drivers to use Titan Way and Kern Avenue to get to Arques.

Bicycle and Pedestrian access at Reed/Monroe uses the same concept as Alternative 2, using the turning movements to access.

Adam discussed the benefits and drawbacks:

- Benefits
    - Lowest cost
    - Can be implemented in phases
    - Reduces number of conflicts on the street
- Drawbacks
    - Increases traffic on some nearby streets
    - Requires redevelopment and expansion of grid network to implement
    - Results in some out of direction travel to access Lawrence

Adam discussed the next steps following this meeting. After input from the community meetings, staff will review the feedback, then analyze and perform technical design. Once everything is pulled together, they will look at the preferred alternative.



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Before moving onto the next segment of the meeting, Eileen introduced Michael Murdter, Director of the Santa Clara County Roads and Airport Department. Michael thanked the audience for attending and noted how incredibly valuable their participation is and will drive our decision on how to move forward.

3. Open House

Eileen directed the audience to four stations around the room asking individuals to visit each station to provide input on the alternatives. Once the audience members have visited the stations, they were free to leave. She also referred to the website, email, and hotline number for more information. Dawn added that a meeting summary will be prepared and posted on the project website.

The stations were as follows:

- Station 1 Frontage Road Alternative
- Station 2 Interchange Alternative
- Station 3 Grid Network Alternative
- Station 4- Background information/9 concept review

Each alternative at Stations 1-3 had a detailed map of a typical road layout, cross-section, sample photographs, and bicycle, pedestrian, and transit access. Project staff members were at each station to answer any questions regarding the alternative.

A comment board encouraged audience members to write on post-it papers regarding positive or dislikes/disadvantages of the alternative.

Eileen also referred to a yellow Comment card at the sign-in table for audience members to list other options, alternatives, or general comments about the project.

Station 4 displayed the 9 concepts that were originally developed based on technical and community feedback. These concepts evolved into the three alternatives that were displayed at the other stations. Project staff members were at this station to answer any questions regarding the concepts that were not chosen or any other background or general project information.

Summary

Project staff received valuable feedback from the community in regards to the three alternatives presented. The Appendix of Written Comments is attached to reference comments as transcribed. The summary below captures the general themes discussed by Alternative.

Alternative 1, Frontage Road: Community members noted several positive benefits in terms of being the best long-term solution for traffic flow and consideration for bicycles and pedestrians. Drawbacks for this alternative include the concerns about the cost to construct, impacts during construction as well as length of construction and how much additional right-of-way is needed for this project.

Alternative 2, Interchange: Comments were less focused on benefits with more attention to drawbacks and concerns regarding access to Caltrain via all modes, traffic backups/long queuing on elevated ramps, bicycle and pedestrian safety, and possible negative impacts to local businesses and residents.

Alternative 3, Grid Network, also focused more on drawbacks than benefits with concerns about increased traffic on the side streets to access Lawrence Expressway and major cross streets. Operational concerns, especially in relation to future traffic growth, were expressed and suggestions on lane widths, ramp lengths, and bicycle & pedestrian access and safety were provided.

Community Meeting #3: Summary

Date & Time: March 3, 2014, 6:30-8:00pm

Location: Briarwood Elementary School, 1930 Townsend Avenue, Santa Clara

Attendees:
Public: 70 members of the community
County Staff: Dawn Cameron, Dan Collen, Janice Spuller, Bill Yeung, Ivana Yeung
City of Santa Clara: Dennis Ng
City of Sunnyvale: Council Member Jim Davis
Kimley-Horn Staff: Adam Dankberg, Brian Sowers, Jiaxin Tong
Apex Strategies: Eileen Goodwin

Attachment: Appendix of written & discussion comments/questions

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The Lawrence Expressway Community Meeting is the third and final meeting in a series of three to discuss improvements between Reed/Monroe and Arques Drives. The first meeting introduced the projects and gathered general feedback from the community on the experiences on Lawrence Expressway. This second meeting actually offered two meeting times during the same day- 7:30 am – 9:00 am and 6:30 pm – 8:00 pm on November 6, 2014. This meeting shared three alternatives for feedback and discussion: 1) Frontage Road Concept, 2) Interchange Concept, and 3) Grid Network Concept. The summary below of the third meeting discusses the evolution of the project with a recommended concept. Furthermore, an Appendix of written and verbal comments during discussion are transcribed and attached to this summary.

Agenda

1. **Welcome and Introductions**

   Eileen welcomed the public to the meeting and introduced Sunnyvale Council Member Jim Davis. She did a few quick hand tally polls:

   How did you find out about the meeting?

Printed Card	75%
Mailing List within ½ mile radius of project site	50%
Attended a previous meeting and received an email	33%
Board of Supervisors email	20%
San Jose Mercury Gary Richards' Roadshow article	25%
City of Sunnyvale Lawrence Station Area Plan	33%
City or County Website	0%
Other (Sunnyvale Council Nextdoor.com, Word Of Mouth)	5%

What previous Community Meeting did you attend?

June 2013 Meeting	25%
November 2013 Meeting (s)	25%

2. Meeting Format and Agenda

Eileen described the format of the meeting. She said there will be a PowerPoint presentation followed by discussion with question and answer, and if time permits, to visit the displays and the video simulation.

Eileen referred to the project fact sheet, the Expressway Plan 2040 Fact Sheet (another project that will incorporate this project) as well as the Expressway Plan 2040 Fact Sheet for Lawrence Expressway. There are websites for both projects, hotline phone number, and email address. She also mentioned the comment cards for those that may not be interested in speaking rather writing comments. County Roads and Airport Staff will post the fact sheets, presentation, and possibly the video simulation on the project website.

Eileen introduced Dawn Cameron, County Transportation Planner for the County Roads and Airport Department to provide the project overview.

3. Presentation on Study Process and Proposed Concept

A PowerPoint presentation was used to support the presentations.
Dawn gave a project overview describing existing challenges, project goals, and the project process. She shared the Level of Service (LOS)[1] along the entirety of Lawrence Expressway as well as noting that of the intersections in the Countywide Expressway system, Lawrence Expressway at Reed, Kifer, and Arques rank number 1, 2, and 5 respectively of LOS F intersections by traffic delay.

Adam Dankberg, Project Manager from Kimley-Horn and Associates, discussed concept development from data collection and analysis and incorporating community feedback from the previous meetings. He reviewed suggested intersection treatments that were analyzed and explained why some treatments wouldn't work along Lawrence, such as roundabouts could not handle the amount of traffic volume along Lawrence He stated there were 9 concepts which featured various innovative treatments that were analyzed and evaluated. The concepts were narrowed down to 3 alternatives based on public outreach, stakeholder outreach, project working group input, cost-benefit comparison and technical analysis. The alternatives are listed below with a brief description:

<u>Alternative 1: Frontage Road</u>
Lawrence Expressway depressed as a 6-lane roadway to serve through traffic. To access local streets, frontage roads will be at-grade with a 30-35mph speed limit, with 2 lanes in each direction.

[1] A qualitative measure of traffic based on speed and travel time, density and delay at a given period of time and day. LOS is ranked from A-F with LOS A as free flowing traffic and LOS F meaning the most delay and congestion.

Alternative 2: Interchange
Adam described this alternative concept of having the turning movements onto side streets signalized and separated at different grades from Lawrence Expressway. Lawrence will be unsignalized and elevated at Monroe Street and Kifer Road and partially depressed at Central Expressway and Arques Avenue. Alternatively, the left turn movements onto the side streets will be below grade at Monroe Street and Kifer Road, and above grade at Central Expressway and Arques Avenue. Bicycles and pedestrians will have access on the side as they exist today but without signals. Pedestrians and bicyclists will be crossing 2 lanes at a signalized intersection instead of the 10-12 lanes of Expressway today.

Alternative 3: Grid Network
The grid network uses the existing street network, relying on the side streets to carry more volume. There is a grade separation at Arques Avenue, with no access to Lawrence, requiring drivers to use Titan Way and Kern Avenue to get to Arques.

Bicycle and Pedestrian access at Reed/Monroe uses the same concept as Alternative 2, using the turning movements to access.

He shared a comparison of analysis alternatives that included cost range, number of parcels impacted, construction time frame, traffic handling, and reduction in traffic delay, bike/peds along and crossing the expressway. Each of the three alternatives presented benefits and challenges.

After receiving feedback from the second public meeting hosted November 6, 2013, staff narrowed down the three alternatives to one proposed concept. Alternative 3 was eliminated for reasons which included bicycle and pedestrian conflicts. Alternative 1, Frontage Road, people liked the depressed roadway but shared a strong concern about the frontage road and bicycle/ped conflicts. Alternative 2, Interchange Concept, people also liked but were concerned about having an elevated roadway and bicycle/pedestrian conflicts. From taking the positives from Alternatives 1 and 2, those elements were combined to create the Proposed Concept.

The Proposed Concept was reviewed referring to graphics on the PowerPoint presentation as well as on large graphics in the meeting room. Adam reviewed the proposed concept for the roadway, bicycle and pedestrian circulation, including a bicycle/pedestrian corridor, and Caltrain access. There were also schematic renderings and a video simulation located in the room and will be posted on the project website.

Benefits of the proposed concept included eliminating over 1.4 million annual hours of vehicle delay by 2040, reduced fuel conception by reducing travel time and idling, improve bicycle and pedestrian safety, removing a visual and contextual community barriers, and keep regional traffic on the Expressway instead of city streets.

The construction and implementation of this proposed concept is estimated at $400-$440 Million, with a construction time frame of 3-5 years. Funding is unknown. As with all major construction project, environmental analysis will be performed and would be the next step, which would also include a public review process.

4. **Discussion**
   This portion of the meeting was a Question and Answer section with the audience and staff. The commentary is located in the Appendix of the minutes.

5. **Adjourn**

   After a lengthy discussion period, staff thanked the audience for attending and encouraged those with additional questions to seek staff after the meeting, or visit the project boards and video simulation. Meeting items will be posted on the project website.

Summary

Project staff received valuable feedback from the community in regards proposed concept. The Appendix of Written & Discussion Comments is attached to reference comments as transcribed. The summary below captures the general themes of the Proposed Concept:

- Affected parcels- how much property will be taken and which are identified.
- Construction- phasing, how long, staging, and impending detours
- Traffic- the potential for traffic to bottleneck outside the project study area.
- General Transit, bicycle and pedestrian access

Project staff will be reviewing the proposed concept with the Cities of Santa Clara and Sunnyvale Planning Commissions and City Councils.

EXIT