	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Ex. Design Hour
Project Description	High River Energy Center Site No. A	Unit	United States Customary
Direction 1 Geometric Data			
Direction 1	Eastbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	70.0		
Direction 1 Adjustment Facto	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 1 Demand and Cap	acity		
Volume(V) veh/h	1499	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	870
Total Trucks, %	9.05	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Direction 1 Speed and Densi	ty		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	12.8
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	В
Access Point Density Adjustment (fA)	0.0		
Direction 1 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	797	Effective Speed Factor (St)	5.07
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	5.52
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	F
Copyright © 2019 University of Florida, All Pights	D LICCOTT NA IVI	ano Version 7.8	Gaparatad: 06/13/2019 15:40:20

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Ex. Design Hour
Project Description	High River Energy Center Site No. A	Unit	United States Customary
Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	70.0		
Direction 2 Adjustment Factor	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 2 Demand and Cap	acity		
Volume(V) veh/h	1000	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	580
Total Trucks, %	9.05	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26
Direction 2 Speed and Densi	ty		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	8.5
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	0.0		
Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (vol.),veh/h	532	Effective Speed Factor (St)	5.07
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	5.32
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	E
Convigant © 2019 University of Florida, All Pights		lang Version 7.8	Gaparatad: 06/13/2019 15:43:56

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Ex. Design Hour
Project Description	High River Energy Center Site No. B	Unit	United States Customary
Direction 1 Geometric Data			
Direction 1	Eastbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	70.0		
Direction 1 Adjustment Facto	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 1 Demand and Cap	acity		
Volume(V) veh/h	1773	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.94	Flow Rate (V _p), pc/h/ln	1028
Total Trucks, %	9.05	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Direction 1 Speed and Densit	Зу		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	15.1
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	В
Access Point Density Adjustment (fA)	0.0		
Direction 1 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	943	Effective Speed Factor (St)	5.07
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	5.61
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	F
	1	<u> </u>	1

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Ex. Design Hour
Project Description	High River Energy Center Site No. B	Unit	United States Customary
Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	70.0		
Direction 2 Adjustment Facto	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 2 Demand and Cap	acity		
Volume(V) veh/h	1182	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.94	Flow Rate (V _p), pc/h/ln	686
Total Trucks, %	9.05	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Direction 2 Speed and Densit	У		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	10.1
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	А
Access Point Density Adjustment (fA)	0.0		
Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	629	Effective Speed Factor (St)	5.07
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	5.40
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	E
	1	<u> </u>	<u> </u>

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Ex. Design Hour
Project Description	High River Energy Center Site No. C	Unit	United States Customary
Direction 1 Geometric Data			
Direction 1	Northbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	2
Median Type	Divided	Total Lateral Clearance (TLC), ft	8
Free-Flow Speed (FFS), mi/h	53.4		
Direction 1 Adjustment Factor	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 1 Demand and Cap	acity		
Volume(V) veh/h	1100	Heavy Vehicle Adjustment Factor (fHV)	0.944
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	620
Total Trucks, %	5.91	Capacity (c), pc/h/ln	2040
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1975
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Direction 1 Speed and Densi	ty		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	52.0
Total Lateral Clearance Adj. (fLLC)	0.9	Density (D), pc/mi/ln	11.9
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	В
Access Point Density Adjustment (fA)	0.8		
Direction 1 Bicycle LOS			
Flow Rate in Outside Lane (vol.),veh/h	585	Effective Speed Factor (St)	4.79
Effective Width of Volume (W _v), ft	18	Bicyle LOS Score (BLOS)	4.04
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	D
Copyright © 2019 University of Florida, All Pights		ano Version 7.8	Gaparatad: 06/13/2019 15:45:32

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Ex. Design Hour
Project Description	High River Energy Center Site No. C	Unit	United States Customary
Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	2
Median Type	Divided	Total Lateral Clearance (TLC), ft	8
Free-Flow Speed (FFS), mi/h	53.4		
Direction 2 Adjustment Facto	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 2 Demand and Cap	acity		
Volume(V) veh/h	733	Heavy Vehicle Adjustment Factor (fHV)	0.944
Peak Hour Factor	0.94	Flow Rate (V _p), pc/h/ln	413
Total Trucks, %	5.91	Capacity (c), pc/h/ln	2040
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1975
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Direction 2 Speed and Densit	ty		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	52.0
Total Lateral Clearance Adj. (fLLC)	0.9	Density (D), pc/mi/ln	7.9
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	А
Access Point Density Adjustment (fA)	0.8		
Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	390	Effective Speed Factor (St)	4.79
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	3.84
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	D
<u></u>	1	<u> </u>	<u> </u>

	HCS7 Two	-Lane Highwa	ay Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc	c. Analysis Ye	ar	2019
Jurisdiction		Time Perio	d Analyzed	Ex. Design Hour
Project Description	High River Energy Location D	Center Unit		United States Customary
		Segment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		7920
Lane Width, ft	12	Shoulder V	Vidth, ft	6
Speed Limit, mi/h	55	Access Poi	nt Density, pts/mi	0.0
Demand and Capacity				
Directional Demand Flow Rate, veh	/h 261	Opposing	Demand Flow Rate, veh/h	173
Peak Hour Factor	0.94	Total Truck	s, %	8.79
Segment Capacity, veh/h 1700		Demand/C	apacity (D/C)	0.15
Intermediate Results	<u> </u>			
Segment Vertical Class	1	Free-Flow	Speed, mi/h	62.4
Speed Slope Coefficient	3.70080	Speed Pow	er Coefficient	0.54710
PF Slope Coefficient	-1.18691	PF Power C	Coefficient	0.81097
In Passing Lane Effective Length?	No	Total Segm	nent Density, veh/mi/ln	1.4
%Improved % Followers	0.0	% Improve	d Avg Speed	0.0
Subsegment Data		<u>'</u>		
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	7920	-	-	61.0
Vehicle Results				
Average Speed, mi/h	61.0	Percent Fo	llowers, %	32.9
Segment Travel Time, minutes	1.47	Followers [Density, followers/mi/ln	1.4
Vehicle LOS	-			
Bicycle Results				
Percent Occupied Parking	0	Pavement	Condition Rating	3
Flow Rate Outside Lane, veh/h	261		ective Width, ft	24
Bicycle LOS Score	4.99		ective Speed Factor	4.79
Bicycle LOS	E	-		

	HCS7 Two-Lar	ne Highway	y Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	ſ	2019
Jurisdiction		Time Period	Analyzed	Ex. Design Hour
Project Description	High River Energy Cente Location E	r Unit		United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		3400
Lane Width, ft	12	Shoulder Wi	dth, ft	6
Speed Limit, mi/h	55	Access Point	Density, pts/mi	0.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	227	Opposing De	emand Flow Rate, veh/h	151
Peak Hour Factor	0.94	Total Trucks,	%	14.25
Segment Capacity, veh/h	1700	Demand/Cap	pacity (D/C)	0.13
Intermediate Results				
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	62.2
Speed Slope Coefficient	3.63840	Speed Power	r Coefficient	0.55437
PF Slope Coefficient	-1.20770	PF Power Co	efficient	0.81896
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	1.1
%Improved % Followers	0.0	% Improved	Avg Speed	0.0
Subsegment Data		·		
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	3400		-	61.1
Vehicle Results	· ·			
Average Speed, mi/h	61.1	Percent Follo	owers, %	30.1
Segment Travel Time, minutes	0.63	Followers De	ensity, followers/mi/ln	1.1
Vehicle LOS	A			
Bicycle Results				•
Percent Occupied Parking	0	Pavement Co	ondition Rating	3
Flow Rate Outside Lane, veh/h	227		tive Width, ft	24
Bicycle LOS Score	7.30	Bicycle Effect	tive Speed Factor	4.79
Bicycle LOS	F			

		HCS7 Two-La	ane	Highway Re	eport	
Pro	ject Information					
Anal	yst	Macen Whirrett		Date		6/5/2019
Ager	ncy	TRC Engineers, Inc.		Analysis Year		2019
Juris	diction			Time Period Analy	vzed	Ex. Design Hour
Proje	ect Description	High River Energy Cent Location F	iter	Unit		United States Customar
		Se	egm	ent 1		
Veh	nicle Inputs					
Segn	nent Type	Passing Zone		Length, ft		15840
Lane	Width, ft	12		Shoulder Width, f	t	6
Spee	ed Limit, mi/h	55		Access Point Dens	sity, pts/mi	1.0
Der	mand and Capacity					
Dire	ctional Demand Flow Rate, veh/h	40		Opposing Deman	d Flow Rate, veh/h	27
Peak	Hour Factor	0.94		Total Trucks, %		5.29
Segment Capacity, veh/h		1700	Demand/Cap		(D/C)	0.02
Inte	ermediate Results					
Segn	nent Vertical Class	1		Free-Flow Speed,	mi/h	62.3
Spee	ed Slope Coefficient	3.63002		Speed Power Coefficient		0.62039
PF SI	ope Coefficient	-1.13794		PF Power Coeffici	ent	0.81082
In Pa	ssing Lane Effective Length?	No		Total Segment De	nsity, veh/mi/ln	0.1
%lm	proved % Followers	0.0		% Improved Avg	Speed	0.0
Suk	osegment Data					
#	Segment Type	Length, ft	Radii	us, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	15840	-		-	62.3
Veh	nicle Results	1				
Aver	age Speed, mi/h	62.3		Percent Followers	 , %	8.1
Segn	nent Travel Time, minutes	2.89		Followers Density, followers/mi/ln		0.1
	cle LOS	А		The state of the s		
Bic	ycle Results	<u>'</u>				<u>'</u>
	ent Occupied Parking	0		Pavement Conditi	on Rating	3
	Rate Outside Lane, veh/h	40		Bicycle Effective V		39
	cle LOS Score	0.00		Bicycle Effective S		4.79
	cle LOS	+		<u>-</u>	-	_

	HCS7 Two-La	ne	Highway Re	eport	
Project Information					
Analyst	Macen Whirrett		Date		6/5/2019
Agency	TRC Engineers, Inc.		Analysis Year		2019
Jurisdiction			Time Period Analy	zed	Ex. Design Hour
Project Description	High River Energy Cent Location G	er	Unit		United States Customary
	Se	gn	nent 1		
Vehicle Inputs					
Segment Type	Passing Zone		Length, ft		7920
Lane Width, ft	12		Shoulder Width, ft	i	1
Speed Limit, mi/h	55		Access Point Dens	ity, pts/mi	1.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	13		Opposing Demand	d Flow Rate, veh/h	9
Peak Hour Factor	0.94	0.94			5.33
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.01
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed,	mi/h	58.8
Speed Slope Coefficient	3.39754		Speed Power Coefficient		0.64365
PF Slope Coefficient	-1.12071		PF Power Coefficient		0.82620
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		0.0
%Improved % Followers	0.0		% Improved Avg S	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	7920	-		-	58.8
Vehicle Results					
Average Speed, mi/h	58.8		Percent Followers, %		3.0
Segment Travel Time, minutes	1.53		Followers Density, followers/mi/ln		0.0
Vehicle LOS	А				
Bicycle Results					
Percent Occupied Parking	0		Pavement Condition	on Rating	3
Flow Rate Outside Lane, veh/h	13		Bicycle Effective W	/idth, ft	25
Bicycle LOS Score	2.03		Bicycle Effective S	peed Factor	4.79
Bicycle LOS	В				
Converget © 2010 University of Florida, All Bights	D 1 1100-1-7		ana Varsian 7.9		Caparated: 06/12/2010 15:50:43

Generated: 06/13/2019 15:50:43

	HCS7 Two-Lar	ne Highway	y Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year		2019
Jurisdiction		Time Period	Analyzed	Ex. Design Hour
Project Description	High River Energy Cente Location H	r Unit		United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		7920
Lane Width, ft	12	Shoulder Wi	dth, ft	1
Speed Limit, mi/h	55	Access Point	Density, pts/mi	1.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	16	Opposing De	emand Flow Rate, veh/h	11
Peak Hour Factor	0.94	Total Trucks,	%	8.80
Segment Capacity, veh/h	acity, veh/h 1700 Demand/Ca		pacity (D/C)	0.01
Intermediate Results	·	·		
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	58.7
Speed Slope Coefficient	3.39484	Speed Power	r Coefficient	0.64000
PF Slope Coefficient	-1.12391	PF Power Co	efficient	0.82540
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	0.0
%Improved % Followers	0.0	% Improved	Avg Speed	0.0
Subsegment Data		·		
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	7920	-	-	58.7
Vehicle Results	<u> </u>			
Average Speed, mi/h	58.7	Percent Follo	owers, %	3.6
Segment Travel Time, minutes	1.53	Followers De	ensity, followers/mi/ln	0.0
Vehicle LOS	A			
Bicycle Results	<u>'</u>			•
Percent Occupied Parking	0	Pavement Co	ondition Rating	3
Flow Rate Outside Lane, veh/h	16		tive Width, ft	25
Bicycle LOS Score	3.33	Bicycle Effect	tive Speed Factor	4.79
Bicycle LOS	С			

	HCS7 Two-Lar	ne Highwa	y Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	,	2019
Jurisdiction		Time Period	Analyzed	Ex. Design Hour
Project Description	High River Energy Cente Location I	r Unit		United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		11088
Lane Width, ft	12	Shoulder Wi	dth, ft	5
Speed Limit, mi/h	40	Access Point	Density, pts/mi	2.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	267	Opposing De	emand Flow Rate, veh/h	178
Peak Hour Factor	0.94	Total Trucks,	%	13.36
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)		0.16
Intermediate Results		·		
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	44.0
Speed Slope Coefficient	2.72186	Speed Powe	r Coefficient	0.54579
PF Slope Coefficient	-1.24604	PF Power Co	efficient	0.73457
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	2.3
%Improved % Followers	0.0	% Improved	Avg Speed	0.0
Subsegment Data		·		·
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	11088	_	-	42.9
Vehicle Results	•			
Average Speed, mi/h	42.9	Percent Follo	owers, %	37.6
Segment Travel Time, minutes	2.93	Followers De	ensity, followers/mi/ln	2.3
Vehicle LOS	A			
Bicycle Results		·		•
Percent Occupied Parking	0	Pavement Co	ondition Rating	3
Flow Rate Outside Lane, veh/h	267	Bicycle Effec	tive Width, ft	22
Bicycle LOS Score	6.71	Bicycle Effec	tive Speed Factor	4.17
Bicycle LOS	F			

	HCS7 Two-Lar	ne Highway	y Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year		2019
Jurisdiction		Time Period	Analyzed	Ex. Design Hour
Project Description	High River Energy Cente Location J	er Unit		United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		11088
Lane Width, ft	12	Shoulder Wi	dth, ft	1
Speed Limit, mi/h	55	Access Point	Density, pts/mi	1.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	16	Opposing De	emand Flow Rate, veh/h	11
Peak Hour Factor	0.94	Total Trucks,	%	8.80
Segment Capacity, veh/h	1700	Demand/Cap	pacity (D/C)	0.01
Intermediate Results		<u> </u>		
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	58.7
Speed Slope Coefficient	3.41434	Speed Power	r Coefficient	0.64000
PF Slope Coefficient	-1.13571	PF Power Co	efficient	0.80583
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	0.0
%Improved % Followers	0.0	% Improved	Avg Speed	0.0
Subsegment Data	·	·		·
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	11088	-	-	58.7
Vehicle Results	•			
Average Speed, mi/h	58.7	Percent Follo	owers, %	4.0
Segment Travel Time, minutes	2.15	Followers De	ensity, followers/mi/ln	0.0
Vehicle LOS	A			
Bicycle Results	<u>'</u>			•
Percent Occupied Parking	0	Pavement Co	ondition Rating	3
Flow Rate Outside Lane, veh/h	16	Bicycle Effect	tive Width, ft	25
Bicycle LOS Score	3.33	Bicycle Effect	tive Speed Factor	4.79
Bicycle LOS	С			

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Prop. Design Hour
Project Description	High River Energy Center Site No. A	Unit	United States Customary
Direction 1 Geometric Data			
Direction 1	Eastbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	70.0		
Direction 1 Adjustment Facto	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 1 Demand and Cap	acity		
Volume(V) veh/h	1546	Heavy Vehicle Adjustment Factor (fHV)	0.909
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	904
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Direction 1 Speed and Densit	у		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	13.3
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	В
Access Point Density Adjustment (fA)	0.0		
Direction 1 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	822	Effective Speed Factor (St)	5.07
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	5.93
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	F
	1	<u> </u>	1

Generated: 10/07/2019 13:45:46

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Prop. Design Hour
Project Description	High River Energy Center Site No. A	Unit	United States Customary
Direction 2 Geometric Data			
Direction 2	Westbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	70.0		
Direction 2 Adjustment Factor	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 2 Demand and Cap	pacity		
Volume(V) veh/h	1031	Heavy Vehicle Adjustment Factor (fHV)	0.909
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	604
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Direction 2 Speed and Densi	ty		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	8.9
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	А
Access Point Density Adjustment (fA)	0.0		
Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	548	Effective Speed Factor (St)	5.07
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	5.73
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	F
	1	<u> </u>	1

Generated: 10/07/2019 13:46:30

	HCS7 Multilane	Highway Report		
Project Information				
Analyst	Macen Whirrett	Date	6/5/2019	
Agency	TRC Engineers, Inc.	Analysis Year	2019	
Jurisdiction		Time Period Analyzed	Prop. Design Hour	
Project Description	High River Energy Center Site No. B	Unit	United States Customary	
Direction 1 Geometric Data				
Direction 1	Eastbound			
Number of Lanes (N), In	2	Terrain Type	Level	
Segment Length (L), ft	-	Percent Grade, %	-	
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-	
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0	
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6	
Median Type	Divided	Total Lateral Clearance (TLC), ft	12	
Free-Flow Speed (FFS), mi/h	70.0			
Direction 1 Adjustment Fact	ors			
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975	
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968	
Driver Population CAF	0.968			
Direction 1 Demand and Cap	pacity		<u>'</u>	
Volume(V) veh/h	1866	Heavy Vehicle Adjustment Factor (fHV)	0.909	
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	1092	
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300	
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226	
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49	
Direction 1 Speed and Densi	ty	'	•	
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2	
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	16.0	
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	В	
Access Point Density Adjustment (fA)	0.0	` '		
Direction 1 Bicycle LOS				
Flow Rate in Outside Lane (vOL),veh/h	993	Effective Speed Factor (St)	5.07	
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	6.03	
	1.0	,.0 -00 00010 (0100)	1	

	HC3/ Multilane	Highway Report		
Project Information				
Analyst	Macen Whirrett	Date	6/5/2019	
Agency	TRC Engineers, Inc.	Analysis Year	2019	
Jurisdiction		Time Period Analyzed	Prop. Design Hour	
Project Description	High River Energy Center Site No. B	Unit	United States Customar	
Direction 2 Geometric Data				
Direction 2	Westbound			
Number of Lanes (N), In	2	Terrain Type	Level	
Segment Length (L), ft	-	Percent Grade, %	-	
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-	
Base Free-Flow Speed (BFFS), mi/h	70.0	Access Point Density, pts/mi	0.0	
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6	
Median Type	Divided	Total Lateral Clearance (TLC), ft	12	
Free-Flow Speed (FFS), mi/h	70.0			
Direction 2 Adjustment Fact	ors			
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975	
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968	
Driver Population CAF	0.968			
Direction 2 Demand and Cap	pacity			
Volume(V) veh/h	1244	Heavy Vehicle Adjustment Factor (fHV)	0.909	
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	728	
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300	
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2226	
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33	
Direction 2 Speed and Densi	ty	<u>'</u>		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.2	
Total Lateral Clearance Adj. (fLLC)	0.0	Density (D), pc/mi/ln	10.7	
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	A	
Access Point Density Adjustment (fA)	0.0			
Direction 2 Bicycle LOS				
Flow Rate in Outside Lane (vOL),veh/h	662	Effective Speed Factor (St)	5.07	
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	5.82	
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	F	

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Prop. Design Hour
Project Description	High River Energy Center Site No. C	Unit	United States Customary
Direction 1 Geometric Data			
Direction 1	Northbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	2
Median Type	Divided	Total Lateral Clearance (TLC), ft	8
Free-Flow Speed (FFS), mi/h	53.4		
Direction 1 Adjustment Facto	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 1 Demand and Cap	acity		
Volume(V) veh/h	1116	Heavy Vehicle Adjustment Factor (fHV)	0.935
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	635
Total Trucks, %	7.00	Capacity (c), pc/h/ln	2040
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1975
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Direction 1 Speed and Densit	У		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	52.0
Total Lateral Clearance Adj. (fLLC)	0.9	Density (D), pc/mi/ln	12.2
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	В
Access Point Density Adjustment (fA)	0.8		
Direction 1 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	594	Effective Speed Factor (St)	4.79
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	4.41
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	D
	1	I	1

Generated: 10/07/2019 13:50:48

	HCS7 Multilane	Highway Report	
Project Information			
Analyst	Macen Whirrett	Date	6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year	2019
Jurisdiction		Time Period Analyzed	Prop. Design Hour
Project Description	High River Energy Center Site No. C	Unit	United States Customary
Direction 2 Geometric Data			
Direction 2	Southbound		
Number of Lanes (N), In	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	2
Median Type	Divided	Total Lateral Clearance (TLC), ft	8
Free-Flow Speed (FFS), mi/h	53.4		
Direction 2 Adjustment Fact	ors		
Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Driver Population SAF	0.975	Final Capacity Adjustment Factor (CAF)	0.968
Driver Population CAF	0.968		
Direction 2 Demand and Cap	pacity		
Volume(V) veh/h	743	Heavy Vehicle Adjustment Factor (fHV)	0.935
Peak Hour Factor	0.94	Flow Rate (V _p), pc/h/ln	422
Total Trucks, %	7.00	Capacity (c), pc/h/ln	2040
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1975
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Direction 2 Speed and Densi	ty		
Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	52.0
Total Lateral Clearance Adj. (fLLC)	0.9	Density (D), pc/mi/ln	8.1
Median Type Adjustment (fM)	0.0	Level of Service (LOS)	А
Access Point Density Adjustment (fA)	0.8		
Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (vOL),veh/h	395	Effective Speed Factor (St)	4.79
Effective Width of Volume (Wv), ft	18	Bicyle LOS Score (BLOS)	4.21
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	D
		1	1

Generated: 10/07/2019 13:52:29

	HCS7 Two-La	ne Highway	Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year		2019
Jurisdiction		Time Period A	nalyzed	Prop. Design Hour
Project Description	High River Energy Cent Location D	er Unit		United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		7920
Lane Width, ft	12	Shoulder Wid	th, ft	6
Speed Limit, mi/h	55	Access Point [Density, pts/mi	0.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	269 Opposing De		mand Flow Rate, veh/h	179
Peak Hour Factor	0.94	Total Trucks, 9	6	10.00
Segment Capacity, veh/h	1700	Demand/Capa	acity (D/C)	0.16
Intermediate Results		·		·
Segment Vertical Class	1	Free-Flow Spe	eed, mi/h	62.4
Speed Slope Coefficient	3.70070	Speed Power	Coefficient	0.54546
PF Slope Coefficient	-1.18835	PF Power Coe	fficient	0.81058
In Passing Lane Effective Length?	No	Total Segmen	t Density, veh/mi/ln	1.5
%Improved % Followers	0.0	% Improved A	lvg Speed	0.0
Subsegment Data		·		·
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	7920	-	-	61.0
Vehicle Results				
Average Speed, mi/h	61.0	Percent Follow	vers, %	33.6
Segment Travel Time, minutes	1.48	Followers Der	nsity, followers/mi/ln	1.5
Vehicle LOS	A			
Bicycle Results		<u> </u>		
Percent Occupied Parking	0	Pavement Cor	ndition Rating	3
Flow Rate Outside Lane, veh/h	269	Bicycle Effecti		24
Bicycle LOS Score	5.48	-	ve Speed Factor	4.79
Bicycle LOS	E	-		

	HCS7 Two-La	ne	Highway Re	eport	
Project Information					
Analyst	Macen Whirrett		Date		6/5/2019
Agency	TRC Engineers, Inc.		Analysis Year		2019
Jurisdiction			Time Period Analy	zed	Prop. Design Hour
Project Description	High River Energy Cent Location E	er	Unit		United States Customary
	Se	gn	nent 1		
Vehicle Inputs					
Segment Type	Passing Zone		Length, ft		3400
Lane Width, ft	12		Shoulder Width, ft	i	6
Speed Limit, mi/h	55		Access Point Dens	ity, pts/mi	0.0
Demand and Capacity					
Directional Demand Flow Rate, veh/h	384		Opposing Demand Flow Rate, veh/h		255
Peak Hour Factor	0.94	0.94			24.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.23
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed, mi/h		61.9
Speed Slope Coefficient	3.65903		Speed Power Coefficient		0.52506
PF Slope Coefficient	-1.23339		PF Power Coefficient		0.81146
In Passing Lane Effective Length?	No		Total Segment Density, veh/mi/ln		2.8
%Improved % Followers	0.0		% Improved Avg S	Speed	0.0
Subsegment Data					
# Segment Type	Length, ft	Rad	lius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	3400	-		-	60.0
Vehicle Results					
Average Speed, mi/h	60.0		Percent Followers, %		43.3
Segment Travel Time, minutes	0.64		Followers Density, followers/mi/ln		2.8
Vehicle LOS	В				
Bicycle Results					
Percent Occupied Parking	0		Pavement Condition	on Rating	3
Flow Rate Outside Lane, veh/h	384		Bicycle Effective W	/idth, ft	24
Bicycle LOS Score	13.35		Bicycle Effective S	peed Factor	4.79
Bicycle LOS	F				
Conveight © 2010 University of Florida, All Bights	D 1 1100-17		ana Varsian 7.9		Caparatad: 10/07/2010 12:E7:4/

Copyright © 2019 University of Florida. All Rights Reserved.

HCSTM Two-Lane Version 7.8 Location E - Prop. Design Hour.xuf Generated: 10/07/2019 13:57:40

	HCS7 Two-L	_ane	Highway F	Report	
Project Information					
Analyst	Macen Whirrett		Date		6/5/2019
Agency	TRC Engineers, Inc.		Analysis Year		2019
Jurisdiction			Time Period Ana	llyzed	Prop. Design Hour
Project Description	High River Energy Co Location F	enter	Unit		United States Customary
	9	Segn	nent 1		
Vehicle Inputs					
Segment Type	Passing Zone		Length, ft		15840
Lane Width, ft	12		Shoulder Width,	ft	6
Speed Limit, mi/h	55		Access Point De	nsity, pts/mi	1.0
Demand and Capacity	·				
Directional Demand Flow Rate, veh/h	99 Opp		Opposing Dema	nd Flow Rate, veh/h	65
Peak Hour Factor	0.94		Total Trucks, %		25.00
Segment Capacity, veh/h	1700		Demand/Capacity (D/C)		0.06
Intermediate Results					
Segment Vertical Class	1		Free-Flow Speed	d, mi/h	61.6
Speed Slope Coefficient	3.62450		Speed Power Coefficient		0.59209
PF Slope Coefficient	-1.16312		PF Power Coefficient		0.80433
In Passing Lane Effective Length?	No		Total Segment D	ensity, veh/mi/ln	0.3
%Improved % Followers	0.0		% Improved Avg	speed	0.0
Subsegment Data	·				·
# Segment Type	Length, ft	Rad	ius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	15840	-		-	61.6
Vehicle Results				<u>'</u>	•
Average Speed, mi/h	61.6		Percent Followers, %		16.6
Segment Travel Time, minutes	2.92		Followers Density, followers/mi/ln		0.3
Vehicle LOS	A				
Bicycle Results					
Percent Occupied Parking	0		Pavement Condi	ition Rating	3
Flow Rate Outside Lane, veh/h	99		Bicycle Effective		34
Bicycle LOS Score	10.47		Bicycle Effective	Speed Factor	4.79
Bicycle LOS	F				

	HCS7 Two-L	ane Highw	ay Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Ye	ear	2019
Jurisdiction		Time Perio	od Analyzed	Prop. Design Hour
Project Description	High River Energy Cer Location G	nter Unit		United States Customary
	S	egment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		7920
Lane Width, ft	12	Shoulder \	Width, ft	1
Speed Limit, mi/h	55	Access Po	nt Density, pts/mi	1.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	112	2 Opposing Demand		74
Peak Hour Factor	0.94	Total Truck	······································	32.00
Segment Capacity, veh/h	1700	Demand/0	Capacity (D/C)	0.07
Intermediate Results		·		·
Segment Vertical Class	1	Free-Flow	Speed, mi/h	57.9
Speed Slope Coefficient	3.40861	Speed Pov	ver Coefficient	0.58672
PF Slope Coefficient	-1.17058	PF Power	Coefficient	0.81233
n Passing Lane Effective Length?	No	Total Segn	nent Density, veh/mi/ln	0.3
%Improved % Followers	0.0	% Improve	ed Avg Speed	0.0
Subsegment Data		·		·
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	7920	-	-	57.6
Vehicle Results				•
Average Speed, mi/h	57.6	Percent Fo	llowers, %	17.9
Segment Travel Time, minutes	1.56	Followers	Density, followers/mi/ln	0.3
Vehicle LOS	А			
Bicycle Results				
Percent Occupied Parking	0	Pavement	Condition Rating	3
Flow Rate Outside Lane, veh/h	112		ective Width, ft	19
Bicycle LOS Score	20.02	-	ective Speed Factor	4.79
	+			

	HCS7 Two-La	ne Highway	y Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Year		2019
Jurisdiction		Time Period	Analyzed	Prop. Design Hour
Project Description	High River Energy Cent Location H	er Unit		United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		11088
Lane Width, ft	12	Shoulder Wie	dth, ft	5
Speed Limit, mi/h	55	Access Point	Density, pts/mi	2.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	115	Opposing Demand Flow		77
Peak Hour Factor	0.94	Total Trucks,	%	35.00
Segment Capacity, veh/h	1700	Demand/Cap	pacity (D/C)	0.07
Intermediate Results				
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	60.3
Speed Slope Coefficient	3.56217	Speed Power	· Coefficient	0.58559
PF Slope Coefficient	-1.17345	PF Power Co	efficient	0.80041
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	0.4
%Improved % Followers	0.0	% Improved	Avg Speed	0.0
Subsegment Data		·		
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	11088	-	-	60.0
Vehicle Results				
Average Speed, mi/h	60.0	Percent Follo	wers, %	18.8
Segment Travel Time, minutes	2.10	Followers De	nsity, followers/mi/ln	0.4
Vehicle LOS	А			
Bicycle Results	<u> </u>			<u>'</u>
Percent Occupied Parking	0	Pavement Co	ondition Rating	3
Flow Rate Outside Lane, veh/h	115	Bicycle Effect	tive Width, ft	30
Bicycle LOS Score	20.00	Bicycle Effect	tive Speed Factor	4.79
Bicycle LOS	F			

	HCS7 Two-L	ane Highwa	y Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	Analysis Yea	ŗ	2019
Jurisdiction		Time Period	Analyzed	Prop. Design Hour
Project Description	High River Energy Ce Location I	enter Unit		United States Customary
	9	Segment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		11088
Lane Width, ft	12	Shoulder Wi	dth, ft	5
Speed Limit, mi/h	40	40 Access Point Density, pts/mi		2.0
Demand and Capacity				
Directional Demand Flow Rate, veh/h	276	Opposing D	emand Flow Rate, veh/h	183
Peak Hour Factor	0.94	Total Trucks,	%	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)		0.16
Intermediate Results	·	·		
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	43.9
Speed Slope Coefficient	2.72275	Speed Powe	r Coefficient	0.54418
PF Slope Coefficient	-1.24757	PF Power Co	efficient	0.73416
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	2.5
%Improved % Followers	0.0	% Improved	Avg Speed	0.0
Subsegment Data	·	·		
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	11088	-	-	42.9
Vehicle Results				
Average Speed, mi/h	42.9	Percent Follo	owers, %	38.4
Segment Travel Time, minutes	2.94	Followers De	ensity, followers/mi/ln	2.5
Vehicle LOS	A			
Bicycle Results				•
Percent Occupied Parking	0	Pavement Co	ondition Rating	3
Flow Rate Outside Lane, veh/h	276	Bicycle Effec	tive Width, ft	22
Bicycle LOS Score	6.99	Bicycle Effec	tive Speed Factor	4.17
Bicycle LOS	F			

	HCS7 Two-Lar	ne Highwa	y Report	
Project Information				
Analyst	Macen Whirrett	Date		6/5/2019
Agency	TRC Engineers, Inc.	TRC Engineers, Inc. Analysis Year		2019
Jurisdiction		Time Period	Analyzed	Prop. Design Hour
Project Description	High River Energy Cente Location J			United States Customary
	Se	gment 1		
Vehicle Inputs				
Segment Type	Passing Zone	Length, ft		11088
Lane Width, ft	12	Shoulder Wi	dth, ft	1
Speed Limit, mi/h	55	Access Point Density, pts/mi		1.0
Demand and Capacity				·
Directional Demand Flow Rate, veh/h	24	Opposing De	emand Flow Rate, veh/h	16
Peak Hour Factor	0.94	Total Trucks,	%	19.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)		0.01
Intermediate Results				•
Segment Vertical Class	1	Free-Flow Sp	peed, mi/h	58.3
Speed Slope Coefficient	3.40353	Speed Powe	r Coefficient	0.63231
PF Slope Coefficient	-1.14255	PF Power Co	efficient	0.80435
In Passing Lane Effective Length?	No	Total Segme	nt Density, veh/mi/ln	0.0
%Improved % Followers	0.0	% Improved	Avg Speed	0.0
Subsegment Data		·		·
# Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1 Tangent	11088	-	-	58.3
Vehicle Results				
Average Speed, mi/h	58.3	Percent Follo	owers, %	5.6
Segment Travel Time, minutes	2.16	Followers De	ensity, followers/mi/ln	0.0
Vehicle LOS	A			
Bicycle Results				•
Percent Occupied Parking	0	Pavement Co	ondition Rating	3
Flow Rate Outside Lane, veh/h	24	Bicycle Effec	tive Width, ft	25
Bicycle LOS Score	8.49	Bicycle Effec	tive Speed Factor	4.79
Bicycle LOS	F			