

APPENDIX D: Future Conditions Analysis

Route 9W Corridor Management Plan
Towns of Marlborough and Lloyd
Ulster County, NY

Appendix D: Future Conditions Analysis

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- 1. Traffic Counts and Speed Surveys**
- 2. HCM Intersection Analysis – Route 9W & Milton Turnpike**
- 3. HCS Arterial LOS Calculations for Proposed Lane Reconfiguration**

1. Traffic Counts and Speed Surveys

PEAK HOUR TRAFFIC VOLUMES

Intersection: Route 9W & Milton Turnpike

Date and Time: Wednesday, May 24 2017
 Project: Route 9W Corridor Management Plan

Municipality, State: Marlborough, NY

Morning Traffic Counts (7:00 - 9:00AM)

		Route 9W										Milton Turnpike										15 minute		
		NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					Totals		
Start	End	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Totals		
7:00	7:15	9	143	8	0	160	4	126	9	0	139	8	11	13	0	32	14	5	5	0	24	355		
7:15	7:30	6	147	14	0	167	0	161	6	0	167	16	7	15	0	38	13	8	6	0	27	399	Hourly	
7:30	7:45	3	208	9	0	220	2	130	5	0	137	12	8	10	0	30	10	12	14	0	36	423	Totals	
7:45	8:00	10	222	12	0	244	4	116	4	0	124	18	12	16	0	46	17	4	8	0	29	443		1620
8:00	8:15	6	157	14	0	177	4	127	7	0	138	15	9	14	0	38	13	6	14	0	33	386		1651
8:15	8:30	5	182	13	0	200	6	136	6	0	148	14	3	18	0	35	9	13	6	0	28	411		1663
8:30	8:45	8	172	12	0	192	4	101	2	0	107	18	6	17	0	41	9	10	2	0	21	361		1601
8:45	9:00	9	121	9	0	139	2	125	14	0	141	17	9	9	0	35	19	4	4	0	27	342		1500
Total		56	1352	91	0	1499	26	1022	53	0	1101	118	65	112	0	295	104	62	59	0	225			
AM Peak Hour Total (7:30-8:30 AM)		28	720	43	0	791	10	533	24	0	567	54	38	54	0	146	54	29	33	0	116		1663	Peak Hour
Peak Hour Factor		0.70	0.81	0.77	0.00	0.81	0.63	0.83	0.67	0.00	0.85	0.75	0.79	0.84	0.00	0.79	0.79	0.60	0.59	0.00	0.81			

Afternoon Traffic Counts (4:00 - 6:00PM)

		Route 9W										Milton Turnpike										15 minute		
		NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					Totals		
Start	End	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Totals		
16:00	16:15	8	149	9	0	166	3	214	16	0	233	11	13	12	0	36	15	12	2	0	29	464		
16:15	16:30	22	143	13	0	178	6	197	20	0	223	10	4	13	0	27	15	5	3	0	23	451	Hourly	
16:30	16:45	12	147	8	0	167	4	206	12	0	222	19	4	12	0	35	21	13	4	0	38	462	Totals	
16:45	17:00	15	113	11	0	139	7	213	13	0	233	13	9	14	0	36	14	12	3	0	29	437		1814
17:00	17:15	14	154	11	0	179	6	170	7	0	183	5	9	4	0	18	18	7	4	0	29	409		1759
17:15	17:30	10	184	17	0	211	11	225	13	0	249	15	7	9	0	31	12	6	3	0	21	512		1820
17:30	17:45	12	147	15	0	174	7	210	4	0	221	16	7	9	0	32	19	8	6	0	33	460		1818
17:45	18:00	10	136	8	0	154	5	149	7	0	161	9	3	7	0	19	10	6	1	0	17	351		1732
Total		103	1173	92	0	1368	49	1584	92	0	1725	98	56	80	0	234	124	69	26	0	219			
PM Peak Hour Total (4:30-5:30 PM)		46	621	51	0	718	29	754	31	0	814	45	26	29	0	100	59	27	14	0	100		1820	Peak Hour
Peak Hour Factor		0.52	0.84	0.98	0.00	1.01	1.04	0.88	0.39	0.00	0.87	0.59	0.50	0.52	0.00	0.69	0.70	0.52	0.88	0.00	0.66			



**2017 Traffic Count Locations:
Station 0036C:
From Hudson Bluff Dr to Hillside Dr**

County of Ulster
Traffic Count Hourly Report

ROUTE #: US 9W ROAD NAME: FROM: Orange/Ulster Co Line TO: MILTON TURNPIKE
 DIRECTION: Southbound REC. SERIAL #: AC64
 STATE DIR CODE: 7 PLACEMENT: 740' N of Hudson Bluff Dr
 FACTOR GROUP: 30 WK OF YR: @ REF MARKER:
 DATE OF COUNT: 07/25/2017 JURIS: City
 NOTES LANE 1: SB travel lane
 COUNT TAKEN BY: ORG CODE: TST INITIALS: BEK
 PROCESSED BY: ORG CODE: ULS INITIALS: DS
 ADDL DATA: Class Speed
 COUNT TYPE: VEHICLES
 CC SIn: BATCH ID: ULS-860036C
 RR CROSSING: HPMS SAMPLE: 1002967
 BIN: 1007300
 LION#: TOWN: COUNTY: Ulster
 FUNG. CLASS: 14

DATE	DAY	AM												PM												DAILY TO	DAILY HIGH	TOTAL	
1	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
2	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
3	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
4	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
5	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
6	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
7	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
8	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
9	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
10	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
11	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
12	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
13	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
14	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
15	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
16	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
17	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
18	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
19	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
20	W	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
21	W	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
22	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
23	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
24	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
25	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
26	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
27	T	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
28	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
29	F	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
30	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12
31	S	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	11	12	12

DATE	DAY	DAYS Counted	HOURS Counted	WEEKDAYS WEEKDAY Counted Hours	AVERAGE WEEKDAY High Hour	Average WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ADT	ESTIMATED
1	S	59	37	89	470	9%	1.000	1.093	812	8192
2	S	55	47	36	483				813	
3	S	51	33	42	443				810	
4	T	55	47	31	431				813	
5	T	51	33	40	478				810	
6	F	51	33	42	464				812	
7	F	70	26	39	497				812	
8	S	55	47	36	485				813	
9	S	55	47	36	485				813	
10	S	55	47	36	485				813	
11	T	55	47	36	485				813	
12	T	55	47	36	485				813	
13	W	55	47	36	485				813	
14	W	55	47	36	485				813	
15	F	55	47	36	485				813	
16	F	55	47	36	485				813	
17	S	55	47	36	485				813	
18	S	55	47	36	485				813	
19	T	55	47	36	485				813	
20	T	55	47	36	485				813	
21	W	55	47	36	485				813	
22	W	55	47	36	485				813	
23	F	55	47	36	485				813	
24	F	55	47	36	485				813	
25	S	55	47	36	485				813	
26	S	55	47	36	485				813	
27	T	55	47	36	485				813	
28	T	55	47	36	485				813	
29	F	55	47	36	485				813	
30	F	55	47	36	485				813	
31	S	55	47	36	485				813	

ROUTE #: US 9W ROAD NAME: FROM: Orange/Ulster Co Line TO: MILTON TURNPIKE
 STATE DIR CODE: 7 PLACEMENT: 740' N of Hudson Bluff Dr
 COUNTY: Ulster DATE OF COUNT: 07/25/2017

**County of Ulster
Classification Count Average Weekday Data Report**

ROUTE # COUNTY NAME ROAD NAME YEAR 2017 STATION 860036
 9 Ulster
 FROM Orange Ulster Co., Inc
 TO MILTON TURNPIKE
 REF-MARKER 0532 NO. OF LANES 2
 END MILEPOINT 0036 R.P.M.S. NO. 1002967
 FUNCTION CLASS 14 LION#
 STATION NO. 0036
 COUNT TAKEN BY
 PROCESSED BY

DIRECTION		North	South	TOTAL
NUMBER OF VEHICLES		9086	8949	18035
NUMBER OF AXLES		18777	18528	37305
% HEAVY VEHICLES (F4-F13)		7.08%	6.58%	6.83%
% TRUCKS AND BUSES (F3-F13)		22.02%	20.67%	21.35%
AXLE CORRECTION FACTOR		0.97	0.97	0.97

BATCH ID: ULS-960036C

VEHICLE CLASS	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	TOTAL
NO. OF AXLES	2	2	2	2, 5	2	3	4	3, 5	5	6	5	6	8, 7, 5	
ENDING HOUR	0	66	8	1	3	1	0	1	1	0	0	0	0	81
	2	41	5	1	0	0	0	1	2	0	0	0	0	50
	0	26	4	0	0	1	0	0	2	0	0	0	0	33
	0	28	6	1	0	3	0	0	1	0	0	0	0	39
	0	29	7	5	2	2	0	0	2	0	0	0	0	47
	3	97	23	5	5	1	0	1	3	1	0	0	0	139
	2	318	77	10	21	5	1	5	7	1	0	0	1	448
	2	547	111	24	19	2	1	3	8	3	0	0	1	707
	2	524	78	13	29	4	1	2	7	2	0	0	0	662
	3	343	84	8	18	3	1	3	5	2	0	0	1	490
	2	367	80	9	19	3	0	2	9	1	0	0	0	482
	1	366	77	7	22	3	0	4	10	2	0	0	0	510
	4	379	85	8	26	5	0	4	3	2	0	0	0	516
	4	404	79	6	24	2	1	2	9	1	0	0	0	531
	4	463	107	4	21	2	1	1	7	0	0	0	0	631
	3	525	110	6	20	2	0	2	5	0	0	0	1	674
	2	602	107	2	16	1	0	2	4	1	0	0	0	737
	4	455	73	2	9	2	0	1	2	0	0	0	1	549
	2	345	57	2	10	0	0	1	1	0	0	0	0	418
	2	247	41	1	5	0	0	0	3	1	0	0	0	304
	1	223	32	1	9	0	0	1	3	0	0	0	0	266
	2	145	15	1	6	0	0	0	2	0	0	0	0	171
	2	117	14	0	2	0	0	0	3	0	0	0	0	137
TOTAL VEHICLES	45	7040	1358	109	313	44	6	40	108	16	0	0	7	9086
TOTAL AXLES	90	14080	2716	272	626	132	24	140	540	96	0	0	61	18777
ENDING HOUR	1:00	0	50	5	1	0	0	0	2	0	0	0	0	67
	2:00	1	28	3	0	0	0	0	2	0	0	0	0	36
	3:00	0	27	5	0	0	0	0	3	1	0	0	0	37
	4:00	1	29	5	2	0	0	0	2	0	0	0	0	39
	5:00	1	64	15	2	0	0	2	5	0	0	0	0	90
	6:00	1	167	46	4	2	0	2	4	1	0	0	0	237
	7:00	1	291	78	6	1	0	2	4	0	0	0	0	401
	8:00	2	423	86	7	2	0	3	6	0	0	0	0	566
	9:00	1	432	88	8	3	4	2	6	0	0	0	0	542
	10:00	2	334	96	7	4	3	4	12	1	0	0	1	471
	11:00	3	305	71	5	4	1	3	9	1	0	0	1	420
	12:00	4	338	77	7	2	2	4	9	1	0	0	1	464
	13:00	4	376	66	5	2	0	4	11	0	0	0	0	484
	14:00	3	376	69	7	2	0	3	7	1	0	0	0	484
	15:00	2	409	75	9	4	0	5	6	1	0	0	0	533
	16:00	1	526	99	7	21	4	4	6	2	0	0	0	671
	17:00	3	639	95	6	18	2	2	7	0	0	0	1	772
	18:00	3	702	79	5	12	0	3	3	0	0	0	1	810
	19:00	2	436	69	5	11	1	4	3	0	0	0	0	531
	20:00	3	337	49	2	6	0	1	4	0	0	0	0	402
	21:00	2	295	32	1	5	0	1	3	0	0	0	0	339
	22:00	1	228	29	0	2	0	1	1	0	0	0	0	262
	23:00	1	142	21	1	2	0	0	3	0	0	0	0	170
	24:00	0	103	13	1	0	0	1	5	0	0	0	0	124
TOTAL VEHICLES	42	7057	1261	96	267	36	10	51	123	10	0	0	5	8949
TOTAL AXLES	84	14114	2522	240	514	108	40	178	615	60	0	0	52	18528
GRAND TOTAL VEHICLES	87	14097	2619	205	570	80	16	91	231	26	0	0	13	18035
GRAND TOTAL AXLES	174	28194	5238	512	1140	240	64	318	1165	186	0	0	114	37305

VEHICLE CLASSIFICATION CODES:

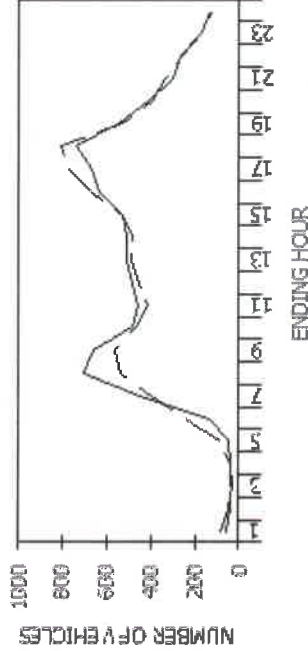
- F1. Motorcycles
- F2. Autos*
- F3. 2 Axle, 4-Tire Pickups, Vans, Motorhomes*
- F4. Buses
- F5. 2 Axle, 6-Tire Single Unit Trucks
- F6. 3 Axle Single Unit Trucks
- F7. 4 or More Axle Single Unit Trucks
- F8. 4 or Less Axle Vehicles, One Unit is a Truck
- F9. 5 Axle Double Unit Vehicles, One Unit is a Truck
- F10. 6 or More Double Unit Vehicles, One Unit is a Truck
- F11. 5 or Less Axle Multi-Unit Trucks
- F12. 6 Axle Multi-Unit Trucks
- F13. 7 or More Axle Multi-Unit Trucks

* INCLUDING THOSE HAULING TRAILERS

FUNCTIONAL CLASS CODES:

- RURAL
- URBAN
- SYSTEM
- 01 11 PRINCIPAL ARTERIAL-INTERSTATE
- 02 12 PRINCIPAL ARTERIAL-EXPRESSWAY
- 06 14 PRINCIPAL ARTERIAL-OTHER
- 07 16 MINOR ARTERIAL
- 08 17 MAJOR COLLECTOR
- 09 19 MINOR COLLECTOR

TRAFFIC FLOW BY DIRECTION



PEAK HOUR DATA	
Direction	Hour
North	18
South	18
2-WAY A.M.	Count
	1249
2-WAY P.M.	Count
	1547

Count duration:
74 hours
14
30
U.S.-860036C
Org: TST Init: BEK
Org: ULS Init: DS

Functional class:
Factor group:
Batch ID:
Count taken by:
Processed by:

County of Ulster
Speed Count Average Weekday Report
Start date: Tue 07/25/2017 08:00
End date: Fri 07/28/2017 09:45
County: Ulster
Town: Ulster
Speed limit: 55
LION#: 55

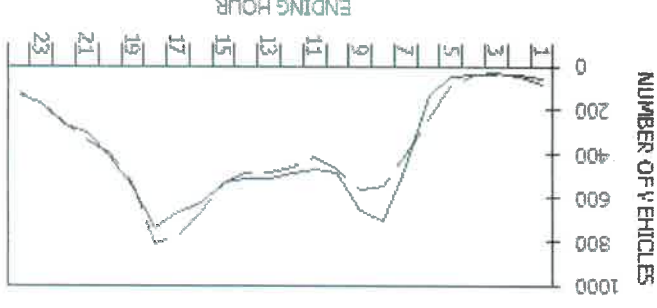
Station: 860036
Route #: US 9W
From: Orange/Ulster Co Line
To: MILTON TURNPIKE
Direction: North

Hour	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Average hour	Pct	Cum. Percent
0.0-	23	13	22	14	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3%	1.3%
30.1-	1	3	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.8%	4.1%
35.0-	2	3	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3%	5.4%
40.0-	13	18	23	14	9	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.2%	9.6%
45.1-	22	28	35	22	14	11	6	3	2	2	3	4	5	6	7	8	9	10	11	11	11	10	10	10	10	12.5%	22.1%
50.1-	14	22	30	18	11	8	5	3	2	2	3	4	5	6	7	8	9	10	11	11	10	10	10	10	10	19.4%	41.5%
55.0-	4	9	14	8	5	3	2	2	2	2	3	4	5	6	7	8	9	10	11	11	10	10	10	10	10	46.8%	88.3%
60.1-	1	3	6	4	3	2	2	2	2	2	3	4	5	6	7	8	9	10	11	11	10	10	10	10	10	81.1%	99.4%
65.0-	4	9	14	8	5	3	2	2	2	2	3	4	5	6	7	8	9	10	11	11	10	10	10	10	10	99.9%	100.0%
70.1-	1	3	6	4	3	2	2	2	2	2	3	4	5	6	7	8	9	10	11	11	10	10	10	10	10	100.0%	100.0%
75.1-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80.1-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85.1-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg	49.5	50.3	57.8	50.3	51.9	58.9	58.2	59.7	57.1	57.1	56.6	56.6	56.0	48.9	48.4	48.0	48.0	48.8	48.0	48.0	48.7	50.7	50.7	50.7	57.3	57.1	90.93
50th%	48.5	50.6	57.1	50.6	51.6	58.8	58.2	59.7	57.1	57.1	56.8	56.8	56.0	49.8	48.4	48.0	48.0	48.8	48.0	48.0	48.7	50.7	50.7	50.7	57.3	57.1	90.93
85th%	48.5	50.6	57.1	50.6	51.6	58.8	58.2	59.7	57.1	57.1	56.8	56.8	56.0	49.8	48.4	48.0	48.0	48.8	48.0	48.0	48.7	50.7	50.7	50.7	57.3	57.1	90.93
Total	50.6	57.1	57.1	50.6	51.6	58.8	58.2	59.7	57.1	57.1	56.8	56.8	56.0	49.8	48.4	48.0	48.0	48.8	48.0	48.0	48.7	50.7	50.7	50.7	57.3	57.1	90.93

Speeds, mph

TRAFFIC FLOW BY DIRECTION

-- South
-- North



Direction	Avg. Speed	50th% Speed	85th% Speed
North	48.5	50.6	57.1
South	51.0	51.9	57.7

Peak Hour Data

Direction	Hour	Count
North	18	740
South	18	811

2-Way
A.M.
P.M.

Hour	Count
8	1251
18	1551

Count duration: 74 hours
 Functional class: 14
 Factor group: 30
 Batch ID: ULS-860036C
 Count taken by: Org: TST Init: BEK
 Processed by: Org: ULS Init: DS

County of Ulster
 Speed Count Average Weekday Report

Start date: Tue 07/25/2017 08:00
 End date: Fri 07/28/2017 09:45
 County: Ulster
 Town: Ulster
 Speed limit: 55
 LION#: 55

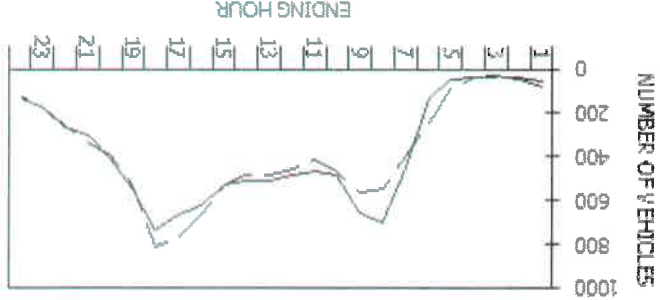
Station: 860036
 Route #: US 9W
 From: Orange/Ulster Co Line
 To: MILTON TURNPIKE
 Direction: South

Speeds, mph

Hour	0.0-	30.0-	35.0-	40.0-	45.0-	50.0-	55.0-	60.0-	65.0-	70.0-	75.0-	80.0-	85.0-	90.0-	95.0-	Total
1:00	0	0	0	1	6	15	17	16	3	1	0	0	0	0	0	59
2:00	0	0	0	0	1	10	14	7	2	1	0	0	0	0	0	35
3:00	0	0	0	1	2	5	14	9	4	1	0	0	0	0	0	36
4:00	0	0	0	0	2	6	15	6	6	1	0	0	0	0	0	40
5:00	0	0	0	0	0	15	27	3	27	12	2	1	0	0	0	89
6:00	0	0	0	0	5	23	78	8	88	33	6	1	0	0	0	237
7:00	0	0	0	0	5	43	150	8	150	46	6	1	0	0	0	401
8:00	0	0	0	0	8	23	78	8	88	33	6	1	0	0	0	401
9:00	1	1	1	1	11	37	208	135	139	31	1	0	0	0	0	566
10:00	2	2	1	5	45	149	165	86	86	17	1	0	0	0	0	471
11:00	2	2	2	4	45	124	153	77	77	11	1	0	0	0	0	419
12:00	1	0	0	8	53	178	178	84	84	16	2	0	0	0	0	464
13:00	1	0	0	16	36	147	194	81	81	16	2	0	0	0	0	489
14:00	2	2	1	6	36	147	194	81	81	16	2	0	0	0	0	485
15:00	1	1	1	15	54	149	198	94	94	20	1	0	0	0	0	532
16:00	7	1	1	11	21	256	256	101	101	18	1	0	0	0	0	669
17:00	1	3	3	14	65	244	272	132	104	18	4	0	0	0	0	772
18:00	2	1	1	9	74	272	297	132	104	18	2	0	0	0	0	811
19:00	0	0	0	10	28	133	222	106	77	19	3	0	0	0	0	531
20:00	0	0	1	8	28	98	159	86	66	19	2	0	0	0	0	401
21:00	1	0	0	5	24	85	147	59	59	14	3	0	0	0	0	336
22:00	1	1	1	2	19	68	98	57	57	15	1	0	0	0	0	262
23:00	1	0	0	2	12	35	66	40	40	11	1	0	0	0	0	170
24:00	0	0	0	1	9	28	39	35	35	11	2	0	0	0	0	125
Average hour	1	0.4%	0.2%	1.5%	7.9%	26.3%	34.3%	19.2%	4.8%	4.25	5.2	3	0	0	0	894.5
Cum. Percent	0.3%	0.3%	0.3%	1.5%	7.9%	26.3%	38.2%	20.4%	4.8%	9.9%	10.0%	10.0%	10.0%	10.0%	10.0%	37.3

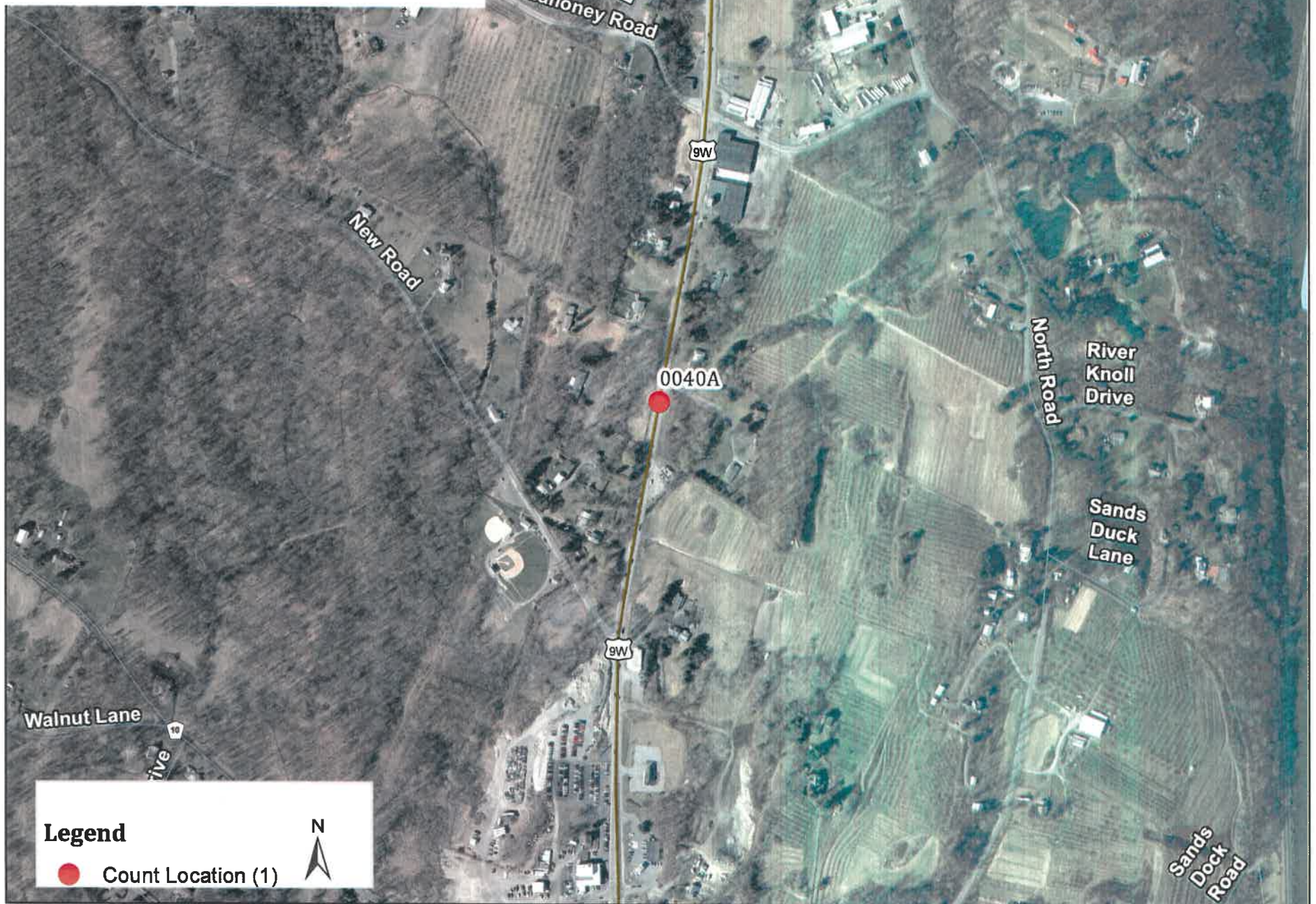
TRAFFIC FLOW BY DIRECTION

-- South
 -- North



Direction	Hour	Count	Avg. Speed	50th% Speed	85th% Speed
North	18	740	48.5	50.6	57.1
South	18	811	51.0	51.9	57.7
Peak Hour Data					
Direction	Hour	Count	Avg. Speed	50th% Speed	85th% Speed
North	18	740	48.5	50.6	57.1
South	18	811	51.0	51.9	57.7

**2017 Traffic Count Locations:
Station 0040A:
From New Rd to Mahoney Rd**



County of Ulster Classification Count Average Weekday Data Report

YEAR 2017
MONTH July

STATION

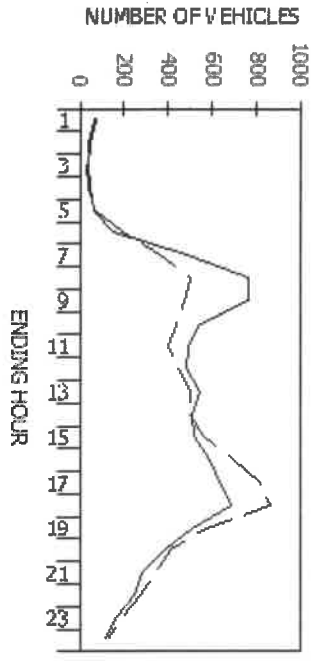
860040

ROUTE # US 9W ROAD NAME
 COUNTY NAME Ulster
 REGION CODE 5
 FPCW MOUNTAIN VIEW
 TO AFTER CHAPEL HILL RD
 REF MARKER 0790 NO OF LANES
 END MILEPOINT 14 HPMIS NO 2223756
 FUNC-CLASS 0040
 STATION NO 0040
 COUNT TAKEN BY
 PROCESSED BY ORG CODE ULS INITIALS DS BATCH ID ULS-960040A

DIRECTION	North	South	TOTAL
1. NUMBER OF VEHICLES	9153	8943	18096
2. NUMBER OF AXLES	18762	18314	37075
3. HEAVY VEHICLES (F4-F13)	6.01%	5.60%	5.81%
4. TRUCKS AND BUSES (F3-F13)	19.60%	19.14%	19.37%
AXLE CORRECTION FACTOR	0.98	0.98	0.98

VEHICLE CLASS	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	TOTAL
NO OF AXLES	2	2	2	2.5	2	3	4	3.5	5	6	5	6	8.75	70
ENDING HOUR	1:00	59	6	1	2	0	0	1	1	0	0	0	0	47
	2:00	42	3	0	0	0	0	0	1	0	0	0	0	47
	3:00	0	29	4	1	0	0	0	1	0	0	0	0	35
	4:00	0	33	7	1	0	0	0	1	0	0	0	0	44
	5:00	45	8	5	1	0	0	0	1	0	0	0	0	61
	6:00	2	107	23	5	2	0	1	4	1	0	0	0	153
	7:00	356	84	79	5	0	0	5	4	1	0	0	0	485
	8:00	2	107	84	7	20	0	4	4	1	0	0	0	771
	9:00	627	87	107	9	30	1	5	5	1	0	0	1	770
	10:00	1	412	81	8	26	0	4	4	1	0	0	0	543
	11:00	1	387	67	6	15	3	4	5	1	0	0	0	492
	12:00	1	374	76	6	17	4	3	4	1	0	0	0	488
	13:00	1	419	84	6	24	0	4	5	1	0	0	1	547
	14:00	1	404	70	6	20	0	4	4	0	0	0	1	515
	15:00	4	482	80	5	21	0	4	3	2	0	0	1	571
	16:00	2	516	82	3	18	0	2	3	1	0	0	1	521
	17:00	2	572	88	5	19	0	2	3	0	0	0	1	597
	18:00	3	451	89	2	15	0	2	4	0	0	0	0	634
	19:00	3	328	89	2	7	0	2	2	0	0	0	0	508
	20:00	3	328	45	1	8	0	2	2	0	0	0	0	387
	21:00	2	242	35	1	6	0	1	1	0	0	0	0	288
	22:00	1	212	27	1	3	0	0	1	0	0	0	0	245
	23:00	1	141	13	2	2	0	0	1	0	0	0	0	159
	24:00	1	104	9	0	0	0	0	1	0	0	0	0	116
TOTAL VEHICLES	35	7324	1244	91	277	49	4	45	67	11	0	0	6	9153
TOTAL AXLES	70	14648	2488	228	554	147	16	158	335	66	66	52	8	18762
ENDING HOUR	1:00	0	54	6	0	0	0	0	1	0	0	0	0	61
	2:00	0	30	3	1	0	0	0	1	0	0	0	0	36
	3:00	0	25	4	0	0	0	0	1	1	0	0	0	32
	4:00	1	54	3	2	0	0	0	1	0	0	0	0	35
	5:00	0	10	0	2	0	0	2	3	0	0	0	0	73
	6:00	2	136	39	2	5	0	3	3	0	0	0	0	194
	7:00	1	273	63	8	2	2	2	3	0	0	0	0	366
	8:00	3	389	78	5	3	2	2	2	0	0	0	1	503
	9:00	1	389	74	8	21	1	4	2	0	0	0	0	483
	10:00	2	320	78	8	13	5	7	7	0	0	0	0	439
	11:00	2	305	63	5	15	1	6	7	1	0	0	0	407
	12:00	3	395	74	5	15	2	9	6	0	0	0	0	480
	13:00	5	381	67	9	16	1	2	6	2	0	0	0	502
	14:00	5	389	68	7	19	0	2	6	0	0	0	0	503
	15:00	2	432	85	6	21	0	3	3	1	0	0	0	561
	16:00	2	549	105	9	23	1	6	3	1	0	0	0	653
	17:00	4	684	100	6	20	0	2	3	1	0	0	1	822
	18:00	3	756	80	4	10	0	2	1	0	0	0	0	858
	19:00	3	480	68	7	3	0	3	1	0	0	0	0	573
	20:00	3	356	49	3	6	0	1	2	0	0	0	0	420
	21:00	2	301	36	1	3	0	1	2	0	0	0	0	346
	22:00	1	242	27	1	2	0	1	0	0	0	0	0	275
	23:00	1	163	20	1	2	0	1	2	0	0	0	0	190
	24:00	0	107	11	1	2	0	0	1	0	0	0	0	122

TRAFFIC FLOW BY DIRECTION



PEAK HOUR DATA

DIRECTION	HOUR	COUNT	2-WAY	HOUR	COUNT
North	8	771	A.M.	8	1274
South	18	859	P.M.	18	1546

VEHICLE CLASSIFICATION CODES:

VEHICLE CLASSIFICATION CODES:	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	TOTAL
F1. Motorcycles	17	44	66	10	0	0	0	0	0	0	0	0	0	2
F2. Autos*	61	154	330	60	0	0	0	0	0	0	0	0	0	8943
F3. 2-Axle, 4-Tire Pickups, Vans, Motorhomes*	21	89	133	21	0	0	0	0	0	0	0	0	0	18314
F4. Buses	84	312	655	126	0	0	0	0	0	0	0	0	0	18096
F5. 2-Axle, 6-Tire Single Unit Trucks														
F6. 3-Axle Single Unit Trucks														
F7. 4 or More Axle Single Unit Trucks														
F8. 4 or Less Axle Vehicles, One Unit is a Truck														
F9. 5-Axle Double Unit Vehicles, One Unit is a Truck														
F10. 6 or More Double Unit Vehicles, One Unit is a Truck														
F11. 5 or Less Axle Multi-Unit Trucks														
F12. 6-Axle Multi-Unit Trucks														
F13. 7 or More Axle Multi-Unit Trucks														

* INCLUDING THOSE HAULING TRAILERS

FUNCTIONAL CLASS CODES:
 RURAL URBAN SYSTEM

**County of Ulster
Speed Count Average Weekday Report**

Station: 860040
Route #: US 9W Road name:
From: MILTON TURNPIKE
To: AFTER CHAPEL HILL RD
Direction: North

Start date: Tue 07/25/2017 06:00
End date: Fri 07/28/2017 07:45
County: Ulster
Town:
Speed limit: 55
LION#:

Count duration: 74 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860040A
Count taken by: Org: TST Init: BEK
Processed by: Org: ULS Init: DS

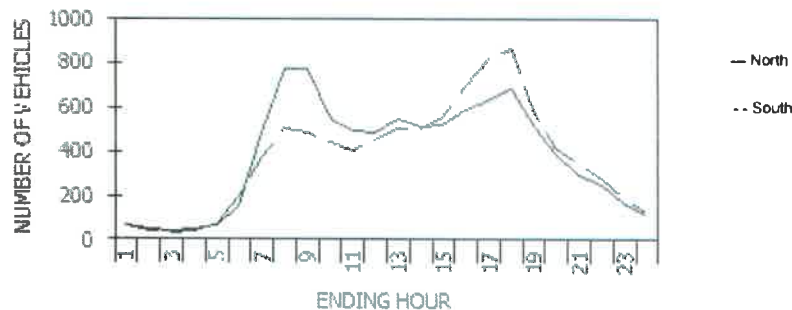
Speeds, mph

Hour	0.0-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-80.0	80.1-85.0	85.1-115.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	% Exc 70.0	% Exc 75.0	Avg	50th%	85th%	Total
1:00	1	0	2	4	10	27	18	4	1	0	0	0	0	34.3	7.5	1.5	0.0	0.0	51.0	53.1	58.6	67
2:00	0	0	0	3	13	17	12	3	0	0	0	0	0	31.3	6.3	0.0	0.0	0.0	51.9	52.4	58.3	48
3:00	0	0	0	3	9	12	8	3	0	0	0	0	0	31.4	8.6	0.0	0.0	0.0	51.8	52.3	58.6	35
4:00	1	0	1	3	7	16	13	2	1	0	0	0	0	36.4	6.8	2.3	0.0	0.0	50.4	53.2	58.7	44
5:00	1	1	1	7	13	18	16	4	1	0	0	0	0	33.9	8.1	1.6	0.0	0.0	49.8	52.3	58.7	62
6:00	2	3	3	5	27	59	40	12	3	0	0	0	0	35.7	9.7	1.9	0.0	0.0	51.1	53.2	59.0	154
7:00	3	7	14	49	118	180	93	18	2	0	0	0	0	23.3	4.1	0.4	0.0	0.0	49.7	51.5	57.2	484
8:00	3	6	25	102	254	276	93	13	1	0	0	0	0	13.8	1.8	0.1	0.0	0.0	48.8	50.0	54.9	773
9:00	5	6	21	112	281	247	86	13	1	0	0	0	0	13.0	1.8	0.1	0.0	0.0	48.3	49.4	54.7	772
10:00	2	8	18	82	181	181	64	9	1	0	0	0	0	13.6	1.8	0.2	0.0	0.0	48.4	49.6	54.8	546
11:00	2	3	16	84	162	162	53	9	1	0	0	0	0	12.8	2.0	0.2	0.0	0.0	48.4	49.4	54.7	492
12:00	2	3	10	53	181	172	55	11	1	0	0	0	0	13.7	2.5	0.2	0.0	0.0	49.1	49.9	54.9	488
13:00	2	7	24	103	212	155	37	7	1	0	0	0	0	8.2	1.5	0.2	0.0	0.0	47.4	48.3	53.8	548
14:00	3	3	22	81	200	156	44	5	1	0	0	0	0	9.7	1.2	0.2	0.0	0.0	47.8	48.8	54.2	515
15:00	1	4	9	53	185	193	69	7	0	0	0	0	0	14.6	1.3	0.0	0.0	0.0	49.4	50.3	55.0	521
16:00	2	2	9	66	225	197	73	14	1	0	0	0	0	14.9	2.5	0.2	0.0	0.0	49.3	49.8	55.0	589
17:00	4	4	24	79	215	216	78	13	1	0	0	0	0	14.5	2.2	0.2	0.0	0.0	48.6	49.8	55.0	634
18:00	4	6	16	88	223	245	92	11	1	1	0	0	0	15.3	1.9	0.3	0.1	0.0	48.9	50.2	55.2	687
19:00	1	3	6	38	149	192	99	19	1	0	0	0	0	23.4	3.9	0.2	0.0	0.0	50.6	51.5	57.2	508
20:00	0	1	2	27	118	159	64	13	3	0	0	0	0	20.7	4.1	0.8	0.0	0.0	50.9	51.5	56.8	387
21:00	1	1	5	27	102	103	39	10	1	0	0	0	0	17.3	3.8	0.3	0.0	0.0	49.7	50.5	55.9	289
22:00	1	1	5	25	87	80	39	7	1	0	0	0	0	19.1	3.3	0.4	0.0	0.0	49.6	50.3	56.3	246
23:00	0	2	2	11	43	59	31	10	1	0	0	0	0	26.4	6.9	0.6	0.0	0.0	51.0	51.9	58.0	159
24:00	0	1	1	8	27	45	29	5	2	0	0	0	0	30.5	5.9	1.7	0.0	0.0	51.6	52.5	58.2	118
Avg. Daily Total	41	72	236	1113	3042	3167	1245	222	27	1	0	0	0	16.3	2.7	0.3	0.0	0.0	49.1	50.2	55.5	9166
Percent	0.4%	0.8%	2.6%	12.1%	33.2%	34.6%	13.6%	2.4%	0.3%	0.0%	0.0%	0.0%	0.0%									
Cum. Percent	0.4%	1.2%	3.8%	16.0%	49.1%	83.7%	97.3%	99.7%	100.0%	100.0%	100.0%	100.0%	100.0%									
Average hour	2	3	10	46	127	132	52	9	1	0	0	0	0									382

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	49.1	50.2	55.5
South	48.4	49.2	54.5

Direction	Peak Hour Data				
	Hour	Count	2-way	Hour	Count
North	8	773	A.M.	8	1276
South	18	859	P.M.	18	1546



**County of Ulster
Speed Count Average Weekday Report**

Station: 860040
Route #: US 9W Road name:
From: MILTON TURNPIKE
To: AFTER CHAPEL HILL RD
Direction: South

Start date: Tue 07/25/2017 06:00
End date: Fri 07/28/2017 07:45
County: Ulster
Town:
Speed limit: 55
LION#:

Count duration: 74 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860040A
Count taken by: Org: TST Init: BEK
Processed by: Org: ULS Init: DS

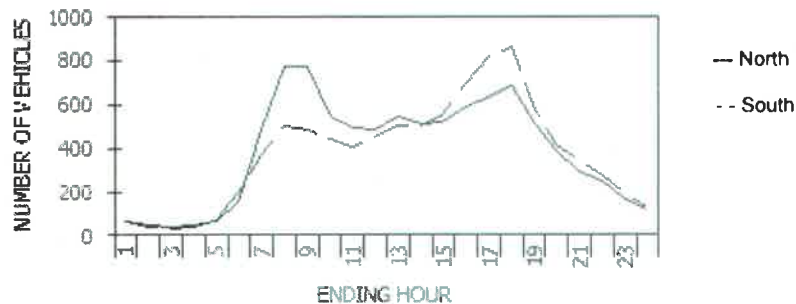
Speeds, mph

Hour	0.0-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-80.0	80.1-85.0	85.1-115.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	% Exc 70.0	% Exc 75.0	Avg	50th%	85th%	Total
1:00	0	0	1	10	18	19	12	3	0	0	0	0	0	24.6	4.9	0.0	0.0	0.0	50.1	51.0	57.5	81
2:00	0	0	0	3	10	13	10	1	0	0	0	0	0	29.7	2.7	0.0	0.0	0.0	51.5	52.2	57.8	37
3:00	0	0	0	2	8	12	10	2	0	0	0	0	0	37.5	6.3	0.0	0.0	0.0	52.6	53.4	58.6	32
4:00	1	0	0	3	8	11	11	2	0	1	0	0	0	37.8	8.1	2.7	2.7	0.0	50.3	53.0	58.9	37
5:00	0	1	2	4	13	26	19	7	0	0	0	0	0	36.1	9.7	0.0	0.0	0.0	51.8	53.1	59.0	72
6:00	1	0	2	10	32	76	59	13	2	0	0	0	0	37.9	7.7	1.0	0.0	0.0	52.4	53.5	58.8	195
7:00	2	2	9	28	94	153	67	12	1	0	0	0	0	21.7	3.5	0.3	0.0	0.0	50.2	51.7	56.9	368
8:00	0	7	15	70	166	170	86	8	1	0	0	0	0	14.9	1.8	0.2	0.0	0.0	48.9	49.9	55.0	503
9:00	4	5	15	65	198	148	42	4	1	0	0	0	0	9.8	1.0	0.2	0.0	0.0	47.8	48.9	54.2	482
10:00	3	6	18	75	181	118	34	5	1	0	0	0	0	9.1	1.4	0.2	0.0	0.0	47.3	48.3	53.9	441
11:00	2	3	16	65	170	118	28	5	2	0	0	0	0	8.6	1.7	0.5	0.0	0.0	47.7	48.5	53.9	409
12:00	0	2	14	71	165	150	42	4	0	0	0	0	0	10.3	0.9	0.0	0.0	0.0	48.5	49.2	54.3	448
13:00	2	8	16	87	206	149	29	3	0	0	0	0	0	8.4	0.6	0.0	0.0	0.0	47.4	48.4	53.6	500
14:00	4	4	20	100	210	136	23	5	0	0	0	0	0	5.6	1.0	0.0	0.0	0.0	48.9	48.0	53.3	502
15:00	2	2	14	85	236	177	40	4	0	0	0	0	0	7.9	0.7	0.0	0.0	0.0	48.1	48.8	53.9	590
16:00	0	6	26	134	289	188	46	3	0	0	0	0	0	7.1	0.4	0.0	0.0	0.0	47.5	48.1	53.6	694
17:00	6	7	29	125	355	252	41	6	0	0	0	0	0	5.7	0.7	0.0	0.0	0.0	47.4	48.5	53.5	821
18:00	2	8	25	123	363	285	52	1	0	0	0	0	0	6.2	0.1	0.0	0.0	0.0	48.0	48.8	53.7	859
19:00	1	2	9	61	226	211	58	5	0	0	0	0	0	11.0	0.9	0.0	0.0	0.0	49.2	49.8	54.5	573
20:00	0	3	11	41	145	152	60	8	0	0	0	0	0	16.2	1.9	0.0	0.0	0.0	49.8	50.4	55.5	420
21:00	0	0	6	31	119	142	43	5	1	0	0	0	0	14.1	1.7	0.3	0.0	0.0	50.0	50.7	54.9	347
22:00	0	0	5	35	108	97	28	4	0	0	0	0	0	10.9	1.5	0.0	0.0	0.0	49.2	49.6	54.5	275
23:00	0	1	3	22	59	70	30	5	0	1	0	0	0	18.8	3.1	0.5	0.5	0.0	50.0	50.8	56.3	191
24:00	0	0	3	13	33	48	21	4	0	0	0	0	0	20.5	3.3	0.0	0.0	0.0	50.3	51.3	56.6	122
Avg. Daily Total	30	67	261	1263	3408	2921	869	119	9	2	0	0	0	11.2	1.5	0.1	0.0	0.0	48.4	49.2	54.5	8949
Percent	0.3%	0.7%	2.9%	14.1%	38.1%	32.6%	9.7%	1.3%	0.1%	0.0%	0.0%	0.0%	0.0%									
Cum. Percent	0.3%	1.1%	4.0%	18.1%	56.2%	88.8%	98.5%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%									
Average hour	1	3	11	53	142	122	36	5	0	0	0	0	0									373

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	49.1	50.2	55.5
South	48.4	49.2	54.5

Direction	Peak Hour Data			
	Hour	Count	2-way	Hour
North	8	773	A.M.	8
South	18	859	P.M.	18



**2017 Traffic Count Locations:
Station 0036D:
From Old Indian Rd to South Rd**



STATION: 860036

County of Ulster Traffic Count Hourly Report

ROUTE #:	US 9W	ROAD NAME:	FROM: Orange/Ulster Co Line	TO: MILTON TURNPIKE	COUNTY:	Ulster			
DIRECTION:	Southbound	FACTOR GROUP:	30	REC. SERIAL #:	2604	FUNC. CLASS:	14	TOWN:	
STATE DIR CODE:	2	WK OF YR:	30	PLACEMENT:	675' N of Old Indian Rd	NHS:	yes	LION#:	
DATE OF COUNT:	07/25/2017	@ REF MARKER:		ADDL DATA:	Class Speed	JURIS:	City	BIN:	1007300
NOTES LANE 1:	SB Travel Lane	COUNT TYPE:	VEHICLES	BATCH ID:	ULS-860036D	RR CROSSING:		HPMS SAMPLE:	1002967
NOTES LANE 2:	SB Travel Lane	PROCESSED BY:	ORG CODE: TST INITIALS: BEK						
COUNT TAKEN BY:	ORG CODE: TST INITIALS: BEK								

DATE	DAY	AM												PM												DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
		12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12			
1	S																											
2	S																											
3	M																											
4	T																											
5	W																											
6	T																											
7	F																											
8	S																											
9	S																											
10	M																											
11	T																											
12	W																											
13	T																											
14	F																											
15	S																											
16	S																											
17	M																											
18	T																											
19	W																											
20	T																											
21	F																											
22	S																											
23	S																											
24	M																											
25	T																											
26	W	55	51	31	33	97	213	433	517	538	461	399	442	498	480	550	696	802	818	556	396	340	245	172	135			
27	T	53	38	40	40	74	221	399	538	539	480	450	508	520	514	563	743	793	813	553	379	360	294	209	126	9247	852	17
28	F	67	27	35	36	74	215	345	515																			
29	S																											
30	S																											
31	M																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT

58 39 35 36 82 216 392 523 540 456 436 462 507 501 554 713 797 828 555 416 359 278 181 129 9093

<u>DAYS Counted</u>	<u>HOURS Counted</u>	<u>WEEKDAYS Counted</u>	<u>WEEKDAY Hours</u>	<u>AVERAGE WEEKDAY High Hour</u>	<u>% of day</u>	<u>Axle Adj. Factor</u>	<u>Seasonal/Weekday Adjustment Factor</u>	<u>ESTIMATED</u>
4	72	4	72	828	9%	1.000	1.093	AADT 8319

ROUTE #:	US 9W	ROAD NAME:	FROM: Orange/Ulster Co Line	TO: MILTON TURNPIKE	COUNTY:	Ulster	
STATION:	860036	STATE DIR CODE:	2	PLACEMENT:	675' N of Old Indian Rd	DATE OF COUNT:	07/25/2017

County of Ulster Classification Count Average Weekly Data Report

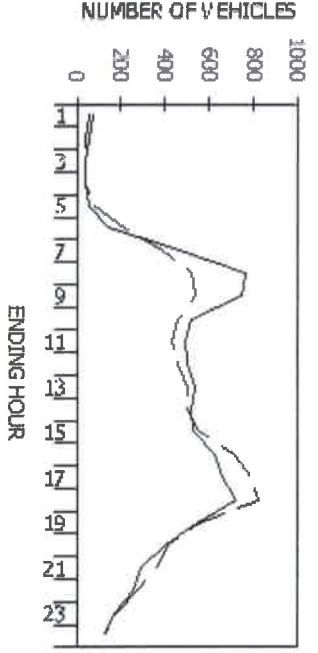
ROUTE #	US 9W	ROAD NAME	Ulster	STATION	860036
COUNTY NAME	Ulster			YEAR 2017	
REG-COUNTY CODE	03			MONTH	July
FROM	Charge Street to Wilton Turnpike				
TO					
REF-MARKER		NO OF LANES	4		
END-MILEPOINT	030532	PHS NO	1002967		
STATION NO	0036	LOTH			
COUNT TAKEN BY		BATCH ID	ULS-860036D		
PROCESSED BY					

DIRECTION	NUMBER OF VEHICLES	NUMBER OF AXLES	% TRUCKS AND BUSES (F3-F13)	AXLE CORRECTION FACTOR
North	9326	19260	9.35%	26.88%
South	9096	18631	7.20%	23.50%
TOTAL	18422	37891	8.25%	25.17%

VEHICLE CLASS	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	TOTAL
NO OF AXLES	2	2	2	25	2	3	4	35	5	6	5	6	875	
ENDING HOUR	1:00	57	10	1	4	1	0	1	1	2	0	0	0	75
	2:00	39	7	0	1	1	0	1	2	0	0	0	0	52
	3:00	27	5	1	1	1	0	0	2	0	0	0	0	35
	4:00	28	3	1	2	3	0	0	1	0	0	0	0	42
	5:00	34	7	1	3	1	0	2	0	0	0	0	0	53
	6:00	98	8	5	7	1	0	1	4	1	0	0	0	144
	7:00	310	23	8	32	8	1	6	8	1	0	0	0	467
	8:00	87	137	12	38	3	1	1	1	1	0	0	0	765
	9:00	555	117	13	39	6	1	3	8	1	0	0	0	746
	10:00	355	99	10	42	2	0	7	4	1	0	0	0	524
	11:00	344	94	10	30	2	1	4	9	1	0	0	0	459
	12:00	344	94	12	27	4	1	4	9	1	0	0	0	504
	1:00	367	106	11	34	4	1	7	1	1	0	0	0	537
	2:00	367	91	10	35	3	0	4	8	0	0	0	0	519
	3:00	364	102	10	37	4	0	3	5	1	0	0	0	531
	4:00	444	126	8	36	2	0	4	10	0	0	0	0	630
	5:00	481	126	8	33	2	0	3	7	0	0	0	0	653
	6:00	552	121	3	31	2	0	3	9	0	0	0	0	722
	7:00	430	86	3	19	2	0	2	3	0	0	0	0	549
	8:00	326	61	3	15	1	0	1	1	0	0	0	0	411
	9:00	223	54	1	10	1	0	0	2	3	0	0	0	295
	10:00	218	34	1	7	0	0	0	1	0	0	0	0	262
	11:00	144	21	1	6	0	0	0	1	2	0	0	0	174
	12:00	106	15	0	2	0	0	0	3	0	0	0	0	127
TOTAL VEHICLES	45	6774	1635	138	491	55	3	57	120	8	0	0	0	9326
TOTAL AXLES	90	13548	3270	345	982	165	12	200	600	48	0	0	0	19260

ENDING HOUR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	TOTAL
TOTAL VEHICLES	0	48	9	0	0	1	0	0	0	0	0	0	59
TOTAL AXLES	0	30	5	0	0	1	0	0	0	0	0	0	39
DIRECTION													
South	1	27	6	0	0	1	0	0	0	0	0	0	36
North	0	26	7	0	0	0	0	0	0	0	0	0	36
GRAND TOTAL VEHICLES	1	53	13	0	0	1	0	0	0	0	0	0	75
GRAND TOTAL AXLES	2	56	16	0	0	1	0	0	0	0	0	0	75

TRAFFIC FLOW BY DIRECTION



PEAK HOUR DATA			
DIRECTION	HOUR	COUNT	VEHICLE CLASS
North	8	765	2-WAY A.M.
South	18	828	P.M.

- F1. Motorcycles
 - F2. Autos*
 - F3. 2-Axle, 4-Tire Pickups, Vans, Motorhomes*
 - F4. Buses
 - F5. 2-Axle, 6-Tire Single Unit Trucks
 - F6. 3-Axle Single Unit Trucks
 - F7. 4 or More Axle Single Unit Trucks
 - F8. 4 or Less Axle Vehicles, One Unit is a Truck
 - F9. 5-Axle Double Unit Vehicles, One Unit is a Truck
 - F10. 6 or More Double Unit Vehicles, One Unit is a Truck
 - F11. 5 or Less Axle Multi-Unit Trucks
 - F12. 6-Axle Multi-Unit Trucks
 - F13. 7 or More Axle Multi-Unit Trucks
- * INCLUDING THOSE HAULING TRAILERS
- FUNCTIONAL CLASS CODES:
- | | | |
|-------|-------|-------------------------------|
| RURAL | URBAN | SYSTEM |
| 01 | 11 | PRINCIPAL ARTERIAL-INTERSTATE |
| 02 | 12 | PRINCIPAL ARTERIAL-EXPRESSWAY |
| 03 | 14 | PRINCIPAL ARTERIAL-OTHER |
| 06 | 16 | MINOR ARTERIAL |
| 07 | 17 | MAJOR COLLECTOR |
| 08 | 17 | MINOR COLLECTOR |
| 09 | 19 | LOCAL SYSTEM |

**County of Ulster
Speed Count Average Weekday Report**

Station: 860036
Route #: US 9W Road name:
From: Orange/Ulster Co Line
To: MILTON TURNPIKE
Direction: North
Lanes: 1, 2

Start date: Tue 07/25/2017 08:00
End date: Fri 07/28/2017 08:45
County: Ulster
Town:
Speed limit: 55
LION#:

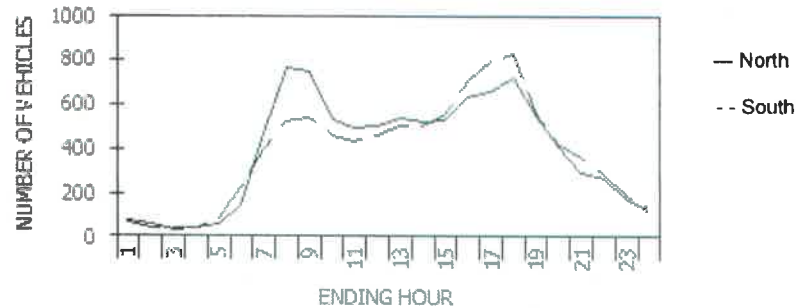
Count duration: 73 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860036D
Count taken by: Org: TST Init: BEK
Processed by: Org: TST Init: BEK

Hour	Speeds, mph														% Exc	% Exc	% Exc	% Exc	% Exc	Avg	50th%	85th%	Total
	0.0-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-80.0	80.1-85.0	85.1-115.0										
1:00	1	0	0	3	13	25	22	8	3	0	0	0	0	44.0	14.7	4.0	0.0	0.0	52.6	54.2	60.0	75	
2:00	3	2	3	3	7	15	12	6	1	0	0	0	0	36.5	13.5	1.9	0.0	0.0	46.6	52.7	59.7	52	
3:00	0	0	1	1	8	8	10	5	1	0	0	0	0	47.1	17.8	2.9	0.0	0.0	53.1	54.4	61.0	34	
4:00	2	0	1	2	4	16	9	5	1	0	0	0	0	37.5	15.0	2.5	0.0	0.0	49.1	53.5	60.0	40	
5:00	1	0	1	3	12	13	16	6	1	0	0	0	0	43.4	13.2	1.9	0.0	0.0	51.1	53.7	59.8	53	
6:00	4	1	1	4	17	41	43	26	7	1	0	0	0	53.1	23.4	5.5	0.7	0.0	52.3	55.6	62.4	145	
7:00	8	2	1	9	32	87	159	116	45	10	1	0	0	70.4	36.6	11.9	2.3	0.2	55.5	58.1	64.4	470	
8:00	25	1	4	16	62	151	228	181	77	19	3	1	0	66.3	36.6	13.0	3.0	0.5	53.9	57.8	64.6	768	
9:00	20	0	4	18	66	182	234	166	48	10	0	0	0	61.2	29.9	7.8	1.3	0.0	53.6	56.8	63.4	748	
10:00	11	1	3	14	63	136	176	96	24	3	0	0	0	56.7	23.3	5.1	0.8	0.0	53.2	56.1	62.3	527	
11:00	10	2	6	21	67	144	147	78	20	4	0	0	0	49.9	20.4	4.8	0.8	0.0	52.4	55.0	61.8	499	
12:00	13	0	4	23	77	140	155	74	16	3	1	0	0	49.2	18.6	4.0	0.8	0.2	51.9	54.9	61.3	506	
13:00	9	2	4	17	77	156	173	77	20	5	0	0	0	50.9	18.9	4.6	0.9	0.0	52.9	55.2	61.4	540	
14:00	16	1	3	22	77	163	155	66	18	1	1	0	0	46.1	16.4	3.8	0.4	0.2	51.3	54.4	60.6	523	
15:00	11	1	3	14	65	169	155	90	21	3	1	0	0	50.7	21.6	4.7	0.8	0.2	52.9	55.2	62.0	533	
16:00	14	2	3	14	61	178	204	120	30	5	0	0	0	56.9	24.6	5.5	0.8	0.0	53.4	56.1	62.6	631	
17:00	14	3	1	15	64	171	227	130	29	8	2	0	0	59.6	25.5	5.9	1.5	0.3	53.7	56.5	62.7	664	
18:00	15	0	6	12	52	190	264	143	36	5	1	0	0	62.0	25.6	5.8	0.8	0.1	54.0	56.7	62.7	724	
19:00	10	0	3	7	42	135	192	120	32	9	0	0	0	64.2	29.3	7.5	1.8	0.0	54.7	57.1	63.3	550	
20:00	7	0	2	11	38	115	149	69	17	3	1	0	0	58.0	21.8	5.1	1.0	0.2	53.8	56.2	62.1	412	
21:00	7	1	2	11	49	90	91	36	5	2	1	0	0	45.8	14.9	2.7	1.0	0.3	51.6	54.4	60.0	295	
22:00	4	1	3	14	42	94	75	24	5	1	1	0	0	40.2	11.7	2.7	0.8	0.4	51.7	53.7	59.5	264	
23:00	3	0	3	9	31	59	48	17	4	0	0	0	0	39.7	12.1	2.3	0.0	0.0	51.4	53.5	59.5	174	
24:00	2	0	0	4	21	43	39	13	6	0	0	0	0	45.3	14.8	4.7	0.0	0.0	52.7	54.4	60.0	128	
Avg. Daily Total	210	20	62	267	1047	2521	2983	1672	467	92	13	1	0	55.9	24.0	6.1	1.1	0.1	53.1	56.0	62.6	9355	
Percent	2.2%	0.2%	0.7%	2.9%	11.2%	26.9%	31.9%	17.9%	5.0%	1.0%	0.1%	0.0%	0.0%										
Cum. Percent	2.2%	2.5%	3.1%	6.0%	17.2%	44.1%	76.0%	93.9%	98.9%	99.9%	100.0%	100.0%	100.0%										
Average hour	9	1	3	11	44	105	124	70	19	4	1	0	0									380	

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	53.1	56.0	62.6
South	32.4	49.8	59.6

Direction	Peak Hour Data			
	Hour	Count	2-way	Hour
North	8	768	A.M.	8
South	18	824	P.M.	18



**County of Ulster
Speed Count Average Weekday Report**

Station: 860036
Route #: US 9W Road name:
From: Orange/Ulster Co Line
To: MILTON TURNPIKE
Direction: South
Lanes: 1, 2

Start date: Tue 07/25/2017 08:00
End date: Fri 07/28/2017 08:45
County: Ulster
Town:
Speed limit: 55
LION#:

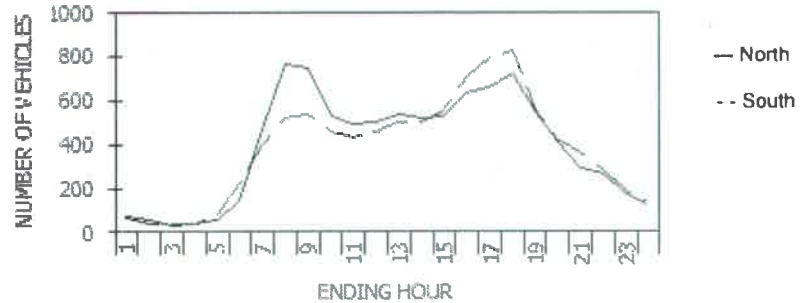
Count duration: 73 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860036D
Count taken by: Org: TST Init: BEK
Processed by: Org: TST Init: BEK

Hour	Speeds, mph																			Avg	50th%	85th%	Total
	0.0-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-80.0	80.1-85.0	85.1-115.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	% Exc 70.0	% Exc 75.0					
1:00	28	0	0	3	6	9	12	3	0	0	0	0	0	24.6	4.9	0.0	0.0	0.0	30.1	44.2	57.5	61	
2:00	16	0	0	2	4	9	5	2	1	0	0	0	0	20.5	7.7	2.6	0.0	0.0	31.5	46.9	57.2	39	
3:00	13	1	0	1	2	7	10	3	1	0	0	0	0	36.8	10.5	2.6	0.0	0.0	34.0	51.5	59.2	38	
4:00	15	0	1	1	2	3	10	2	2	1	0	0	0	40.5	13.5	8.1	2.7	0.0	32.2	48.8	59.8	37	
5:00	44	0	0	1	2	8	15	11	3	0	0	0	0	34.5	16.7	3.6	0.0	0.0	29.0	28.7	60.7	64	
6:00	105	0	0	2	6	18	44	31	14	2	0	0	0	41.0	21.2	7.2	0.9	0.0	30.6	48.4	62.3	222	
7:00	187	0	2	2	14	32	72	66	20	1	1	0	0	40.3	22.2	5.5	0.5	0.3	30.6	47.7	62.2	397	
8:00	205	0	2	7	21	54	123	88	18	3	1	0	0	44.6	21.1	4.2	0.8	0.2	33.0	52.5	61.9	522	
9:00	166	0	1	11	43	92	132	72	14	3	1	1	0	41.6	17.0	3.5	0.9	0.4	35.8	52.6	60.8	536	
10:00	138	1	4	15	47	81	114	52	6	0	0	0	0	37.6	12.7	1.3	0.0	0.0	35.7	51.5	59.8	458	
11:00	173	1	3	15	43	72	97	30	3	0	0	0	0	29.7	7.6	0.7	0.0	0.0	32.1	48.1	58.4	437	
12:00	181	1	3	13	50	78	97	35	5	0	0	0	0	29.6	8.6	1.1	0.0	0.0	32.3	48.4	58.5	463	
13:00	211	1	4	15	43	92	99	35	6	0	0	0	0	27.7	8.1	1.2	0.0	0.0	31.5	47.6	58.3	506	
14:00	208	1	5	23	45	79	100	32	6	2	0	0	0	27.9	8.0	1.6	0.4	0.0	31.5	48.6	58.3	501	
15:00	217	1	4	17	49	88	113	51	10	2	1	0	0	32.0	11.6	2.4	0.5	0.2	32.4	48.9	59.2	553	
16:00	287	2	4	20	57	121	149	72	13	3	0	0	0	33.5	12.4	2.3	0.4	0.0	33.0	50.2	59.4	708	
17:00	286	0	5	18	85	126	182	91	18	1	0	0	0	36.9	13.9	2.4	0.1	0.0	33.7	50.9	59.8	792	
18:00	308	0	1	21	49	101	205	117	19	1	1	1	0	41.7	16.9	2.7	0.4	0.2	33.5	51.7	60.7	824	
19:00	228	1	4	8	36	78	127	59	11	1	0	0	0	35.8	12.8	2.2	0.2	0.0	32.0	50.0	59.6	553	
20:00	178	0	2	12	31	65	88	34	8	1	0	2	2	31.6	10.7	2.6	0.7	0.5	31.5	48.0	59.0	421	
21:00	168	0	2	11	29	66	59	23	5	1	0	0	0	24.2	8.0	1.6	0.3	0.0	30.2	45.2	57.9	364	
22:00	126	1	1	9	23	48	55	15	3	1	0	0	0	28.2	6.7	1.4	0.4	0.0	30.6	45.9	57.9	282	
23:00	84	0	1	3	15	28	34	16	2	0	1	0	0	28.8	10.3	1.6	0.5	0.5	30.5	48.4	58.8	184	
24:00	58	0	2	4	9	21	24	11	2	0	0	0	0	28.2	9.9	1.5	0.0	0.0	30.8	45.9	56.7	131	
Avg. Daily Total	3610	11	51	234	691	1376	1966	951	190	23	6	2	2	34.5	12.9	2.4	0.4	0.1	32.4	49.8	59.6	9113	
Percent	39.6%	0.1%	0.6%	2.6%	7.6%	15.1%	21.8%	10.4%	2.1%	0.3%	0.1%	0.0%	0.0%										
Cum. Percent	39.6%	39.7%	40.3%	42.9%	50.4%	65.5%	87.1%	97.6%	99.6%	99.9%	100.0%	100.0%	100.0%										
Average hour	150	0	2	10	29	57	82	40	8	1	0	0	0									380	

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	53.1	56.0	62.6
South	32.4	49.8	59.6

Direction	Peak Hour Data			
	Hour	Count	2-way	Hour
North	8	768	A.M.	8
South	18	824	P.M.	18



**2017 Traffic Count Locations:
Station 0040B:
From Mackey Rd to Mackey Rd**



STATION: **860040**

County of Ulster Traffic Count Hourly Report

ROUTE #:	US 9W	ROAD NAME:	FROM: MILTON TURNPIKE	TO: AFTER CHAPEL HILL RD	COUNTY:	Ulster			
DIRECTION:	Southbound	FACTOR GROUP:	30	REC. SERIAL #:	CM37	FUNC. CLASS:	14	TOWN:	
STATE DIR CODE:	7	WK OF YR:	30	PLACEMENT:	1025' N of Macket Rd S Ent	NHS:	no	LION#:	
DATE OF COUNT:	07/25/2017			@ REF MARKER:		JURIS:	City	BIN:	
NOTES LANE 1:	SB travel lane			ADDL DATA:	Class Speed	CC Str:		RR CROSSING:	
				COUNT TYPE:	VEHICLES	BATCH ID:	ULS-860040B	HPMS SAMPLE:	2223756
COUNT TAKEN BY:	ORG CODE:	TST	INITIALS:	BEK	PROCESSED BY:	ORG CODE:	ULS	INITIALS:	DS

DATE	DAY	AM												PM												DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR							
		12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12										
1	S																																		
2	S																																		
3	M																																		
4	T																																		
5	W																																		
6	T																																		
7	F																																		
8	S																																		
9	S																																		
10	M																																		
11	T																																		
12	W																																		
13	T																																		
14	F																																		
15	S																																		
16	S																																		
17	M																																		
18	T																																		
19	W																																		
20	T																																		
21	F																																		
22	S																																		
23	S																																		
24	M																																		
25	T																																		
26	W	59	55	25	36	85	204	379	496	505	440	417	453	507	497	580	709	810	858	582	481	366	282	179	120	9143	858	17							
27	T	54	38	40	39	65	203	387	511	454	495	431	478	522	530	560	739	830	837	585	409	358	309	211	122	9207	837	17							
28	F	67	32	34	40	79	192	354																											
29	S																																		
30	S																																		
31	M																																		

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon) ADT

60 42 33 38 76 200 379 502 483 461 404 454 510 516 573 719 830 849 574 431 348 279 192 124 9077

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY		Axle Adj. Factor	Seasonal/Weekday Adjustment Factor	ESTIMATED
				High Hour	% of day			
4	73	4	73	849	9%	1.000	1.093	AADT 8305

ROUTE #:	US 9W	ROAD NAME:	FROM: MILTON TURNPIKE	TO: AFTER CHAPEL HILL RD	COUNTY:	Ulster	
STATION:	860040	STATE DIR CODE:	7	PLACEMENT:	1025' N of Macket Rd S Ent	DATE OF COUNT:	07/25/2017

County of Ulster Classification Count Average Weekday Data Report

ROUTE # US 9W
 COUNTY NAME Ulster
 REGION CODE B
 FROM MILTON TURNPIKE
 TO AFTER CHAPEL HILL RD
 REF-MARKER 0790 NO OF LANES: 2
 END MILEPOINT 0040 HPMS NO: 2223796
 FUNC-CLASS: LION#:
 STATION NO: 0040
 COUNT TAKEN BY: ORG CODE: 1ST INITIALS: BEK
 PROCESSED BY: ORG CODE: ULS INITIALS: DS BATCH ID: ULS-960040B

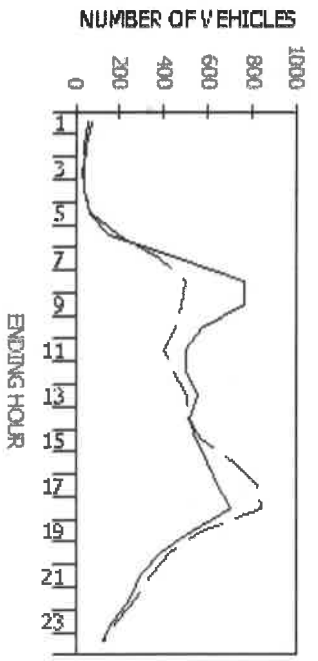
YEAR 2017
 MONTH July

STATION: 860040

DIRECTION	NUMBER OF VEHICLES	North	South	TOTAL
	NUMBER OF AXLES	9316	9071	18386
	% HEAVY VEHICLES (F4-F13)	19046	18377	37624
	% TRUCKS AND BUSES (F3-F13)	5.60%	5.85%	5.73%
	AXLE CORRECTION FACTOR	18.39%	19.98%	19.17%
		0.98	0.98	0.98

VEHICLE CLASS	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	TOTAL
ENDING HOUR	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	1:00	71
	0	59	7	1	2	0	0	1	1	0	0	0	0	46
	0	41	3	0	0	0	0	0	1	0	0	0	0	46
	3:00	0	30	4	1	0	0	0	1	0	0	0	0	36
	4:00	0	33	5	1	0	0	0	1	0	0	0	0	42
	5:00	0	43	8	2	1	0	0	4	2	0	0	0	61
	6:00-	2	109	24	5	1	0	2	4	1	0	0	0	156
	7:00	1	350	74	9	7	0	6	4	0	0	0	0	466
	8:00	2	629	98	7	3	4	4	4	1	0	0	0	769
	9:00	2	633	87	8	5	2	2	5	1	0	0	0	771
	10:00	1	437	80	7	3	1	4	5	1	0	0	1	570
	11:00	1	397	69	5	5	1	3	7	1	0	0	0	502
	12:00	2	391	74	7	3	0	4	6	1	0	0	0	502
	13:00	1	449	73	6	4	0	3	3	0	0	0	0	560
	14:00	2	415	68	5	4	0	5	4	2	0	0	0	522
	15:00	4	435	70	5	4	0	2	4	0	0	0	0	546
	16:00	2	475	92	4	4	0	2	4	0	0	0	0	597
	17:00	3	533	83	7	1	0	2	4	0	0	0	0	643
	18:00	2	597	85	2	2	0	2	2	0	0	0	2	704
	19:00	3	454	63	2	0	0	1	1	0	0	0	0	534
	20:00	3	336	44	2	0	0	3	1	0	0	0	0	390
	21:00	2	247	31	2	0	0	1	1	0	0	0	0	291
	22:00	1	217	26	1	0	0	0	1	0	0	0	0	248
	23:00	1	154	12	1	0	0	0	1	0	0	0	0	170
	24:00	1	104	11	0	0	0	0	1	0	0	0	0	118
TOTAL VEHICLES	34	7568	1191	92	288	46	8	47	66	8	0	0	3	9315
TOTAL AXLES	68	15136	2382	230	516	138	2	164	330	48	0	0	26	19045
ENDING HOUR	1:00	0	51	7	0	0	0	0	1	0	0	0	0	59
	2:00	0	34	4	1	0	0	0	1	0	0	0	0	41
	3:00	0	26	5	0	0	0	0	1	0	0	0	0	34
	4:00	1	28	4	0	0	0	0	1	0	0	0	0	37
	5:00	1	54	13	2	0	0	2	3	0	0	0	0	77
	6:00	2	142	39	4	0	0	1	2	0	0	0	0	200
	7:00	0	275	74	6	1	0	3	2	0	0	0	0	379
	8:00	1	403	74	5	1	1	2	3	0	0	0	0	503
	9:00	1	388	72	7	2	2	3	3	0	0	0	0	483
	10:00	3	335	78	10	3	4	4	7	0	0	0	0	459
	11:00	3	303	62	6	2	2	3	6	0	0	0	0	403
	12:00	3	331	76	7	1	1	5	7	1	0	0	1	453
	13:00	5	396	71	6	1	3	4	6	1	0	0	0	510
	14:00	2	410	70	8	1	4	3	3	0	0	0	0	516
	15:00	3	442	84	8	1	5	4	4	0	0	0	1	573
	16:00	2	567	111	7	2	2	4	4	1	0	0	0	720
	17:00	3	679	92	6	2	3	3	3	0	0	0	0	828
	18:00	2	732	92	4	1	0	4	2	0	0	0	0	849
	19:00	2	473	74	6	1	1	1	2	0	0	0	0	573
	20:00	3	359	55	3	0	0	1	2	0	0	0	0	430
	21:00	2	300	39	1	0	0	1	2	0	0	0	0	349
	22:00	1	240	32	1	0	0	1	1	0	0	0	0	279
	23:00	1	163	22	1	0	0	1	2	0	0	0	0	192
	24:00	0	108	12	1	0	0	0	1	0	0	0	0	124
TOTAL VEHICLES	39	7220	1281	100	354	22	19	47	69	7	0	0	3	9071
TOTAL AXLES	78	14440	2562	250	526	66	76	164	345	42	0	0	26	18877
GRAND TOTAL VEHICLES	73	14788	2472	192	522	68	21	94	136	18	0	0	6	18386
GRAND TOTAL AXLES	148	29376	4944	480	1044	204	84	329	675	90	0	0	52	37623

TRAFFIC FLOW BY DIRECTION



- VEHICLE CLASSIFICATION CODES:**
- F1. Motorcycles
 - F2. Autos*
 - F3. 2-Axle, 4-Tire Pickups, Vans, Motorhomes*
 - F4. Buses
 - F5. 2-Axle, 6-Tire Single Unit Trucks
 - F6. 3-Axle Single Unit Trucks
 - F7. 4 or More Axle Single Unit Trucks
 - F8. 4 or Less Axle Vehicles, One Unit is a Truck
 - F9. 5-Axle Double Unit Vehicles, One Unit is a Truck
 - F10. 6 or More Double Unit Vehicles, One Unit is a Truck
 - F11. 5 or Less Axle Multi-Unit Trucks
 - F12. 6-Axle Multi-Unit Trucks
 - F13. 7 or More Axle Multi-Unit Trucks
- * INCLUDING THOSE HAULING TRAILERS
- FUNCTIONAL CLASS CODES:**
- RURAL URBAN SYSTEM
 - 01 11 PRINCIPAL ARTERIAL-INTERSTATE
 - 02 12 PRINCIPAL ARTERIAL-EXPRESSWAY
 - 03 14 PRINCIPAL ARTERIAL-OTHER
 - 06 16 MINOR ARTERIAL
 - 07 17 MAJOR COLLECTOR
 - 08 17 MINOR COLLECTOR
 - 09 19 LOCAL SYSTEM

PEAK HOUR DATA

DIRECTION	2-WAY HOUR	COUNT	2-WAY HOUR	COUNT
North	9 A.M.	771	8 P.M.	1272
South	18	849	18	1653

**County of Ulster
Speed Count Average Weekday Report**

Station: 860040
Route #: US 9W Road name:
From: MILTON TURNPIKE
To: AFTER CHAPEL HILL RD
Direction: North

Start date: Tue 07/25/2017 06:00
End date: Fri 07/28/2017 07:45
County: Ulster
Town:
Speed limit: 55
LION#:

Count duration: 74 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860040B
Count taken by: Org: TST Init: BEK
Processed by: Org: ULS Init: DS

Speeds, mph

Hour	0,0- 30,0	30,1- 35,0	35,1- 40,0	40,1- 45,0	45,1- 50,0	50,1- 55,0	55,1- 60,0	60,1- 65,0	65,1- 70,0	70,1- 75,0	75,1- 80,0	80,1- 85,0	85,1- 115,0	% Exc 55,0	% Exc 60,0	% Exc 65,0	% Exc 70,0	% Exc 75,0	Avg	50th%	65th%	Total
1:00	0	0	4	9	25	22	9	1	0	0	0	0	0	14.3	1.4	0.0	0.0	0.0	48.7	49.4	54.9	70
2:00	0	0	2	8	17	15	4	0	0	0	0	0	0	8.7	0.0	0.0	0.0	0.0	48.2	48.9	54.1	46
3:00	0	0	1	6	11	11	4	1	0	1	0	0	0	17.1	5.7	2.9	2.9	0.0	49.4	49.8	56.0	35
4:00	0	0	3	5	13	14	5	1	1	0	0	0	0	16.7	4.8	2.4	0.0	0.0	49.1	50.0	55.8	42
5:00	0	1	2	9	17	19	12	1	0	0	0	0	0	21.3	1.6	0.0	0.0	0.0	49.2	50.4	56.7	61
6:00	0	1	4	11	38	60	34	5	1	0	0	0	0	28.0	3.9	0.6	0.0	0.0	50.9	52.0	57.5	154
7:00	2	1	7	34	156	184	71	10	0	0	0	0	0	17.4	2.2	0.0	0.0	0.0	50.0	50.9	55.8	485
8:00	3	9	31	119	309	232	63	5	0	0	0	0	0	8.8	0.6	0.0	0.0	0.0	47.7	48.7	54.0	771
9:00	1	7	43	131	320	227	38	5	0	0	0	0	0	5.6	0.6	0.0	0.0	0.0	47.4	48.2	53.4	772
10:00	9	12	31	98	203	170	42	-4	1	0	0	0	0	8.2	0.9	0.2	0.0	0.0	46.4	48.4	53.9	570
11:00	0	5	22	103	183	148	35	5	0	0	0	0	0	8.0	1.0	0.0	0.0	0.0	47.6	48.3	53.9	501
12:00	0	1	12	83	207	155	38	4	1	0	0	0	0	8.6	1.0	0.2	0.0	0.0	48.4	48.8	54.0	501
13:00	1	4	35	120	212	160	26	2	0	0	0	0	0	5.0	0.4	0.0	0.0	0.0	47.0	47.9	53.3	560
14:00	5	6	32	112	214	127	24	2	0	0	0	0	0	5.0	0.4	0.0	0.0	0.0	48.2	47.5	53.0	522
15:00	5	8	20	122	210	148	32	2	0	0	0	0	0	6.2	0.4	0.0	0.0	0.0	46.6	47.9	53.4	547
16:00	0	1	21	128	259	158	29	3	0	0	0	0	0	5.3	0.5	0.0	0.0	0.0	47.5	47.9	53.2	599
17:00	3	10	35	110	237	201	44	5	0	0	0	0	0	7.6	0.8	0.0	0.0	0.0	47.3	48.5	53.9	645
18:00	3	8	26	150	268	209	37	4	0	0	0	0	0	5.8	0.6	0.0	0.0	0.0	47.2	48.1	53.5	705
19:00	2	6	15	65	212	176	55	3	0	0	0	0	0	10.9	0.6	0.0	0.0	0.0	48.4	49.3	54.4	534
20:00	0	0	7	63	140	139	37	5	0	1	0	0	0	11.0	1.5	0.3	0.3	0.0	49.0	49.6	54.5	392
21:00	1	1	7	61	120	75	21	4	0	0	0	0	0	8.6	1.4	0.0	0.0	0.0	47.6	48.2	53.8	290
22:00	1	6	12	59	95	57	19	2	0	0	0	0	0	8.4	0.8	0.0	0.0	0.0	46.6	47.6	53.6	251
23:00	0	1	8	34	58	48	16	4	1	0	0	0	0	12.4	2.9	0.6	0.0	0.0	48.1	48.7	54.6	170
24:00	0	1	9	16	39	37	11	5	1	0	0	0	0	14.3	5.0	0.8	0.0	0.0	48.4	49.3	54.9	119
Avg. Daily Total	36	89	389	1666	3563	2792	706	83	6	2	0	0	0	8.5	1.0	0.1	0.0	0.0	47.6	48.5	54.0	9322
Percent	0.4%	1.0%	4.2%	17.8%	38.2%	30.0%	7.6%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%									
Cum. Percent	0.4%	1.3%	5.5%	23.3%	61.5%	91.5%	99.0%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%									
Average hour	2	4	16	69	148	116	29	3	0	0	0	0	0									388

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	47.6	48.5	54.0
South	52.2	52.7	58.1

Direction	Peak Hour Data				
	Hour	Count	2-way	Hour	Count
North	9	772	A.M.	8	1273
South	18	848	P.M.	18	1553



**County of Ulster
Speed Count Average Weekday Report**

Station: 860040
Route #: US 9W Road name:
From: MILTON TURNPIKE
To: AFTER CHAPEL HILL RD
Direction: South

Start date: Tue 07/25/2017 06:00
End date: Fri 07/28/2017 07:45
County: Ulster
Town:
Speed limit: 55
LION#:

Count duration: 74 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860040B
Count taken by: Org: TST Init: BEK
Processed by: Org: ULS Init: DS

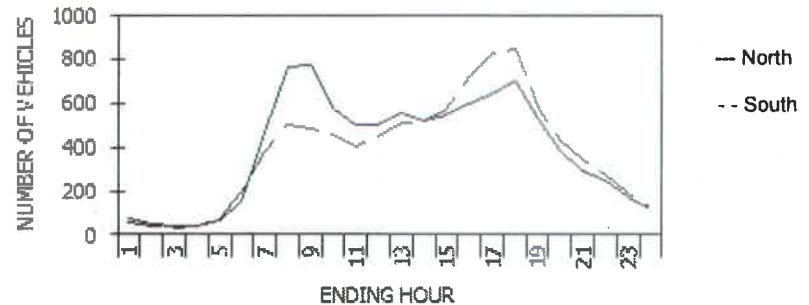
Speeds, mph

Hour	0.0-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-80.0	80.1-85.0	85.1-115.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	% Exc 70.0	% Exc 75.0	Avg	50th%	85th%	Total
1:00	0	0	0	2	12	18	19	6	1	0	0	0	0	44.8	12.1	1.7	0.0	0.0	53.5	54.2	59.6	58
2:00	0	0	0	2	8	17	12	3	0	0	0	0	0	35.7	7.1	0.0	0.0	0.0	52.8	53.3	58.7	42
3:00	0	0	0	0	3	10	15	3	1	0	0	0	0	59.4	12.5	3.1	0.0	0.0	55.4	56.0	59.8	32
4:00	0	0	0	1	6	11	15	5	1	0	0	0	0	53.8	15.4	2.6	0.0	0.0	54.5	55.6	60.2	39
5:00	0	0	0	1	8	19	32	12	3	0	0	0	0	62.7	20.0	4.0	0.0	0.0	55.7	56.5	61.6	75
6:00	0	0	1	3	11	51	81	44	6	3	0	0	0	67.0	26.5	4.5	1.5	0.0	56.4	57.1	62.7	200
7:00	0	0	0	2	33	142	155	43	4	1	0	0	0	53.4	12.6	1.3	0.3	0.0	55.0	55.5	59.8	380
8:00	0	0	1	8	92	202	155	40	4	0	0	0	0	39.6	8.8	0.8	0.0	0.0	53.4	53.8	59.0	502
9:00	1	0	1	16	116	191	130	24	4	0	0	0	0	32.7	5.8	0.8	0.0	0.0	52.3	52.9	58.3	483
10:00	0	2	4	20	128	192	97	18	1	0	0	0	0	25.2	4.1	0.2	0.0	0.0	51.5	52.1	57.5	480
11:00	0	0	2	19	111	177	75	18	1	0	0	0	0	23.3	4.7	0.2	0.0	0.0	51.6	52.0	57.3	403
12:00	0	0	2	19	130	190	98	14	1	0	0	0	0	24.9	3.3	0.2	0.0	0.0	51.6	52.0	57.3	454
13:00	0	1	7	30	128	233	95	15	3	0	0	0	0	22.2	3.5	0.6	0.0	0.0	51.3	52.0	57.0	510
14:00	2	3	15	38	169	194	83	11	2	0	0	0	0	18.6	2.5	0.4	0.0	0.0	49.8	50.9	56.2	517
15:00	0	0	3	18	140	273	118	18	2	0	0	0	0	24.1	3.5	0.3	0.0	0.0	51.9	52.3	57.3	572
16:00	1	0	4	37	210	318	128	20	2	0	0	0	0	20.8	3.1	0.3	0.0	0.0	51.1	51.7	56.7	720
17:00	0	0	1	35	202	408	160	21	3	0	0	0	0	22.2	2.9	0.4	0.0	0.0	51.8	52.2	56.9	830
18:00	0	1	1	24	227	399	177	18	1	0	0	0	0	23.1	2.2	0.1	0.0	0.0	51.8	52.2	57.0	848
19:00	0	0	0	13	106	256	162	34	3	0	0	0	0	34.7	6.4	0.5	0.0	0.0	53.1	53.3	58.5	574
20:00	0	3	2	10	71	201	117	25	2	0	0	0	0	33.4	6.3	0.5	0.0	0.0	52.8	53.3	58.4	431
21:00	0	0	1	14	73	152	90	17	1	0	0	0	0	31.0	5.2	0.3	0.0	0.0	52.4	52.9	58.2	348
22:00	0	0	0	11	71	110	66	19	2	0	0	0	0	31.2	7.5	0.7	0.0	0.0	52.3	52.7	58.5	279
23:00	0	0	0	10	40	75	48	14	3	1	0	1	0	34.9	9.9	2.6	1.0	0.5	52.8	53.1	59.0	192
24:00	0	0	0	6	21	47	39	10	1	0	0	0	0	40.3	8.9	0.8	0.0	0.0	53.2	53.8	59.1	124
Avg. Daily Total	4	10	45	339	2112	3886	2167	452	52	5	0	1	0	29.5	5.6	0.6	0.1	0.0	52.2	52.7	58.1	9073
Percent	0.0%	0.1%	0.5%	3.7%	23.3%	42.8%	23.9%	5.0%	0.6%	0.1%	0.0%	0.0%	0.0%									
Cum. Percent	0.0%	0.2%	0.7%	4.4%	27.7%	70.5%	94.4%	99.4%	99.9%	100.0%	100.0%	100.0%	100.0%									
Average hour	0	0	2	14	88	162	90	19	2	0	0	0	0									378

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	47.6	48.5	54.0
South	52.2	52.7	58.1

Direction	Peak Hour Data				
	Hour	Count	2-way	Hour	Count
North	9	772	A.M.	8	1273
South	18	848	P.M.	18	1553



**2017 Traffic Count Locations:
Station 0036B:
From Riverview Dr to Stuart Dr**



**County of Ulster
Speed Count Average Weekday Report**

Station: 860036
Route #: US 9W Road name:
From: Orange/Ulster Co Line
To: MILTON TURNPIKE
Direction: North
Lanes: 1, 2

Start date: Tue 07/25/2017 09:00
End date: Fri 07/28/2017 09:45
County: Ulster
Town:
Speed limit: 55
LION#:

Count duration: 73 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860036B
Count taken by: Org: TST Init: BEK
Processed by: Org: ULS Init: DS

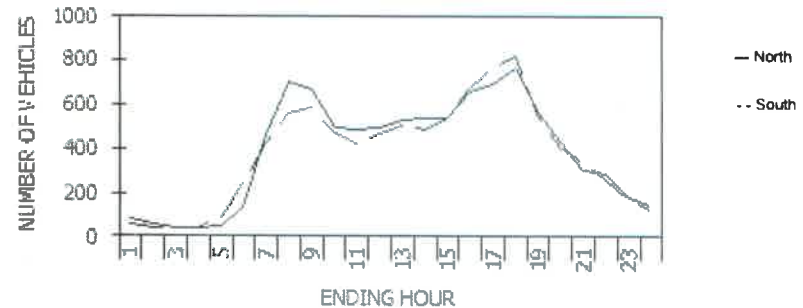
Speeds, mph

Hour	0.0-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-80.0	80.1-85.0	85.1-115.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	% Exc 70.0	% Exc 75.0	Avg	50th%	85th%	Total
1:00	1	1	3	21	25	16	5	5	3	1	0	0	0	17.3	11.1	4.9	1.2	0.0	47.3	48.0	58.9	81
2:00	1	1	4	15	17	10	5	1	1	1	0	0	0	14.3	5.4	3.6	1.8	0.0	45.9	47.1	54.8	56
3:00	1	2	1	6	10	9	4	2	0	0	0	0	0	17.1	5.7	0.0	0.0	0.0	45.9	48.8	58.0	35
4:00	1	2	5	7	13	7	6	1	0	0	0	0	0	16.7	2.4	0.0	0.0	0.0	44.8	47.4	55.8	42
5:00	1	1	4	13	12	10	4	1	0	1	0	0	0	12.8	4.3	2.1	2.1	0.0	45.4	46.9	54.5	47
6:00	1	1	4	15	46	39	21	9	2	1	0	0	0	23.7	8.6	2.2	0.7	0.0	49.8	50.4	57.9	139
7:00	0	2	10	43	111	144	65	53	21	6	1	1	0	32.2	17.9	6.3	1.8	0.4	51.8	52.2	61.3	457
8:00	1	3	18	80	211	185	99	64	30	6	3	1	0	29.0	14.8	5.7	1.4	0.8	50.8	51.1	60.0	701
9:00	1	4	16	84	212	169	91	63	23	3	1	1	0	27.2	13.6	4.2	0.7	0.3	50.4	50.8	59.5	668
10:00	1	6	28	86	172	118	50	25	8	3	1	0	0	17.5	7.4	2.4	0.8	0.2	48.3	48.8	58.3	498
11:00	1	4	21	101	178	102	44	24	8	2	1	0	0	18.3	7.2	2.3	0.6	0.2	48.1	48.3	55.7	486
12:00	1	5	26	111	172	93	50	28	7	3	1	0	0	17.9	7.8	2.2	0.8	0.2	47.9	48.1	56.5	497
13:00	5	5	24	111	189	105	51	26	8	4	1	0	0	17.0	7.4	2.5	0.9	0.2	47.8	48.2	56.1	528
14:00	3	5	27	114	187	110	56	20	11	5	1	0	0	17.3	6.9	3.2	1.1	0.2	47.8	48.3	56.1	539
15:00	3	5	25	113	181	117	51	28	12	3	1	0	0	17.6	8.2	3.0	0.7	0.2	48.0	48.5	58.4	539
16:00	1	7	29	109	226	158	72	36	16	4	1	0	1	19.7	8.8	3.3	0.9	0.3	48.8	49.1	57.2	660
17:00	5	14	48	122	212	172	73	31	15	3	1	0	0	17.7	7.2	2.7	0.6	0.1	47.8	48.8	58.3	696
18:00	4	8	37	112	235	207	88	46	21	5	2	1	0	21.3	9.8	3.8	1.0	0.4	49.0	49.8	57.8	766
19:00	1	2	17	81	179	158	63	42	15	5	1	1	0	22.5	11.3	3.9	1.2	0.4	49.9	50.1	58.4	565
20:00	1	2	16	85	152	114	47	27	8	3	1	0	0	19.7	8.9	2.8	0.9	0.2	49.2	49.5	57.2	436
21:00	2	3	14	70	109	83	30	9	5	0	0	0	1	14.7	4.9	2.0	0.3	0.3	47.4	48.0	55.0	306
22:00	1	3	14	64	97	63	22	13	4	1	0	0	0	14.2	6.4	1.8	0.4	0.0	47.6	48.1	54.9	282
23:00	0	1	8	37	68	38	16	6	3	1	0	0	0	14.6	5.6	2.2	0.6	0.0	48.1	48.2	55.0	178
24:00	1	2	9	33	47	26	15	4	4	1	0	0	0	16.9	6.3	3.5	0.7	0.0	47.2	47.8	56.0	142
Avg. Daily Total	38	89	408	1613	3060	2233	1028	564	225	62	17	5	2	20.4	9.4	3.3	0.9	0.3	48.7	49.2	57.5	9344
Percent	0.4%	1.0%	4.4%	17.3%	32.7%	23.9%	11.0%	6.0%	2.4%	0.7%	0.2%	0.1%	0.0%									
Cum. Percent	0.4%	1.4%	5.7%	23.0%	55.7%	79.6%	90.6%	96.7%	99.1%	99.7%	99.9%	100.0%	100.0%									
Average hour	2	4	17	67	128	93	43	24	9	3	1	0	0									389

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	48.7	49.2	57.5
South	50.4	51.5	57.6

Peak Hour Data					
Direction	Hour	Count	2-way	Hour	Count
North	18	766	A.M.	8	1256
South	18	818	P.M.	18	1584



**County of Ulster
Speed Count Average Weekday Report**

Station: 860036
Route #: US 9W Road name:
From: Orange/Ulster Co Line
To: MILTON TURNPIKE
Direction: South

Start date: Tue 07/25/2017 09:00
End date: Fri 07/28/2017 09:45
County: Ulster
Town:
Speed limit: 55
LION#:

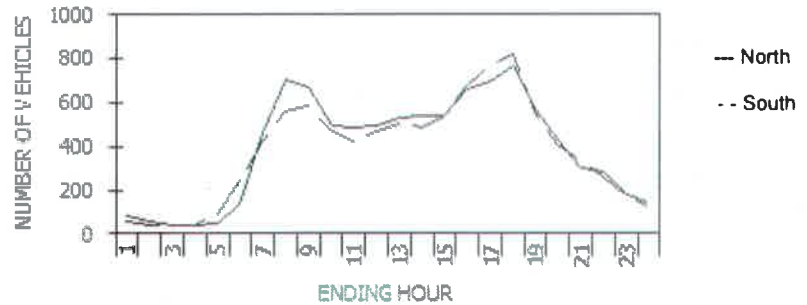
Count duration: 73 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-860036B
Count taken by: Org: TST Init: BEK
Processed by: Org: ULS Init: DS

Speeds, mph																						
Hour	0.0-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-80.0	80.1-85.0	85.1-115.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	% Exc 70.0	% Exc 75.0	Avg	50th%	85th%	Total
1:00	0	0	1	7	15	19	11	4	1	0	0	0	0	27.6	8.6	1.7	0.0	0.0	50.9	51.6	58.4	58
2:00	0	0	1	3	11	11	7	2	0	0	0	0	0	25.7	5.7	0.0	0.0	0.0	50.6	51.2	57.7	35
3:00	0	0	0	4	8	8	8	6	1	0	0	0	0	42.9	20.0	2.9	0.0	0.0	52.6	53.5	61.5	35
4:00	0	0	0	4	7	10	8	6	1	0	0	0	0	41.7	19.4	2.8	0.0	0.0	52.8	53.6	61.4	36
5:00	0	0	1	2	19	30	26	9	2	0	0	0	0	41.6	12.4	2.2	0.0	0.0	53.3	53.8	59.6	89
6:00	0	0	1	8	34	89	76	26	5	1	0	0	0	45.0	13.3	2.5	0.4	0.0	53.9	54.4	59.8	240
7:00	0	1	3	10	63	153	138	48	7	1	0	0	0	45.8	13.2	1.9	0.2	0.0	53.9	54.5	59.8	424
8:00	0	0	10	30	101	227	146	37	4	0	0	0	0	33.7	7.4	0.7	0.0	0.0	52.3	53.1	58.6	555
9:00	1	1	6	55	163	202	117	34	3	0	0	0	0	26.5	6.4	0.5	0.0	0.0	50.9	51.7	57.9	582
10:00	1	1	9	50	120	168	99	19	2	1	0	0	0	25.7	4.7	0.6	0.2	0.0	50.6	51.7	57.6	470
11:00	1	1	14	48	123	151	72	15	3	0	0	0	0	21.1	4.2	0.7	0.0	0.0	49.9	51.0	56.9	426
12:00	2	4	10	53	140	154	82	18	2	0	0	0	0	21.9	4.3	0.4	0.0	0.0	49.7	50.8	57.0	465
13:00	0	0	12	60	140	171	98	18	1	0	0	0	0	23.4	3.8	0.2	0.0	0.0	50.3	51.2	57.2	500
14:00	0	1	10	39	146	181	88	19	2	0	0	0	0	22.4	4.3	0.4	0.0	0.0	50.6	51.3	57.1	496
15:00	2	8	20	58	155	173	99	19	3	0	0	0	0	22.5	4.1	0.6	0.0	0.0	49.4	50.6	57.1	537
16:00	0	6	20	78	218	227	106	18	2	1	0	0	0	18.8	3.1	0.4	0.1	0.0	49.6	50.4	56.3	676
17:00	15	10	39	123	240	227	97	14	1	0	0	0	0	14.6	2.0	0.1	0.0	0.0	47.0	49.1	55.0	766
18:00	0	2	21	93	259	298	122	21	1	0	1	0	0	17.7	2.8	0.2	0.1	0.1	49.8	50.6	56.0	818
19:00	0	1	10	53	144	199	106	23	2	1	0	0	0	24.5	4.8	0.6	0.2	0.0	50.7	51.6	57.5	539
20:00	0	0	5	37	95	156	92	19	2	0	0	0	0	27.8	5.2	0.5	0.0	0.0	51.3	52.2	57.9	406
21:00	0	1	2	20	88	133	74	21	1	0	0	0	0	28.2	6.5	0.3	0.0	0.0	51.7	52.3	58.1	340
22:00	0	0	6	24	78	91	48	13	1	0	0	0	0	23.9	5.4	0.4	0.0	0.0	50.6	51.3	57.5	259
23:00	0	1	2	10	49	57	37	11	1	0	0	0	0	29.2	7.1	0.6	0.0	0.0	51.4	52.0	58.3	168
24:00	0	0	2	15	26	37	28	12	2	1	0	0	0	35.0	12.2	2.4	0.8	0.0	51.7	52.6	59.4	123
Avg. Daily Total	22	38	205	882	2440	3172	1785	432	50	6	1	0	0	25.2	5.4	0.6	0.1	0.0	50.4	51.5	57.6	9033
Percent	0.2%	0.4%	2.3%	9.8%	27.0%	35.1%	19.8%	4.8%	0.6%	0.1%	0.0%	0.0%	0.0%									
Cum. Percent	0.2%	0.7%	2.9%	12.7%	39.7%	74.8%	94.6%	99.4%	99.9%	100.0%	100.0%	100.0%	100.0%									
Average hour	1	2	9	37	102	132	74	18	2	0	0	0	0									376

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	48.7	49.2	57.5
South	50.4	51.5	57.6

Peak Hour Data					
Direction	Hour	Count	2-way	Hour	Count
North	18	766	A.M.	8	1256
South	18	818	P.M.	18	1584



**2017 Traffic Count Locations:
Station 0036A:
From Young Ave to Hudson Bank Ln**



County of Ulster Classification Count Average Weekday Data Report

ROUTE # US 9W
COUNTY NAME Ulster
REGION CODE 5
FROM Milton Turnpike
TO Milton Turnpike

ROAD NAME

YEAR 2017
MONTH July

STATION

860036

REF-MARKER
END-MILEPOINT
FUNC-CLASS
STATION NO
COUNT TAKEN BY
PROCESSED BY

14 0532
0036
0036
0036

NO OF LANES
HPMS NO
LION#

1002967 2

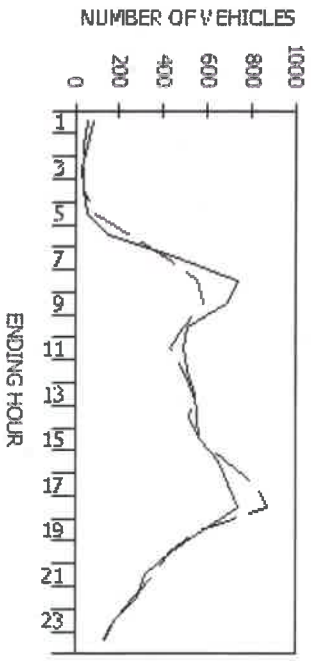
BATCH ID ULS-processed

DIRECTION	NUMBER OF VEHICLES		% TRUCKS AND BUSES (F3-F13)		AXLE CORRECTION FACTOR	
	North	South	North	South	North	South
TOTAL	18932	9413	9.519	9.413	0.97	0.97
	39120	19412	19.708	19.412	1.00	1.00
	18932	9413	6.83%	6.82%	19.47%	19.83%
			0.97	0.97		0.97

VEHICLE CLASS	DIRECTION													TOTAL
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	
NO OF AXLES	2	2	2	2.5	2	3	4	3.5	5	6	5	6	8.75	
ENDING HOUR	0	67	8	1	2	0	0	1	1	0	0	0	0	
1:00	0	44	5	0	0	0	0	0	0	0	0	0	0	
2:00	0	28	3	0	0	0	0	0	0	0	0	0	0	
3:00	0	31	4	0	0	0	0	0	0	0	0	0	0	
4:00	0	33	9	4	2	1	0	0	0	0	0	0	0	
5:00	2	109	23	3	5	1	0	0	0	0	0	0	0	
6:00	2	348	72	9	20	6	0	0	0	0	0	0	0	
7:00	2	598	103	10	30	21	0	0	0	0	0	0	0	
8:00	2	589	62	11	26	5	0	0	0	0	0	0	0	
9:00	2	395	73	6	26	3	0	0	0	0	0	0	0	
10:00	2	372	77	5	25	4	0	0	0	0	0	0	0	
11:00	3	382	71	8	17	4	0	0	0	0	0	0	0	
12:00	3	429	67	8	20	4	0	0	0	0	0	0	0	
13:00	2	420	83	7	24	6	0	0	0	0	0	0	0	
14:00	4	437	68	7	25	4	0	0	0	0	0	0	0	
15:00	6	524	91	5	22	2	0	0	0	0	0	0	0	
16:00	4	568	91	8	16	2	0	0	0	0	0	0	0	
17:00	2	625	86	2	16	1	0	0	0	0	0	0	0	
18:00	3	497	66	2	7	0	0	0	0	0	0	0	0	
19:00	3	270	54	3	6	0	0	0	0	0	0	0	0	
20:00	3	270	33	1	7	0	0	0	0	0	0	0	0	
21:00	1	246	26	1	4	0	0	0	0	0	0	0	0	
22:00	1	156	14	1	4	0	0	0	0	0	0	0	0	
23:00	1	122	12	0	2	0	0	0	0	0	0	0	0	
24:00	1	122	12	0	0	0	0	0	0	0	0	0	0	
TOTAL VEHICLES	48	7618	1201	105	293	49	2	65	112	16	0	0	10	
TOTAL AXLES	96	15236	2402	262	586	147	8	228	560	96	0	0	88	
TOTAL VEHICLES	54	7488	1289	110	310	37	13	49	109	10	0	0	4	
TOTAL AXLES	108	14916	2518	275	620	111	52	172	545	60	0	0	35	
GRAND TOTAL VEHICLES	102	148076	2460	215	603	86	15	114	221	26	0	0	35	
GRAND TOTAL AXLES	204	30152	4920	538	1206	238	60	359	1105	156	0	0	14	
													122	
													39120	

VEHICLE CLASSIFICATION CODES:

- F1. Motorcycles
 - F2. Autos*
 - F3. 2-Axle, 4-Tire Pickups, Vans, Motorhomes*
 - F4. Buses
 - F5. 2-Axle, 6-Tire Single Unit Trucks
 - F6. 3-Axle Single Unit Trucks
 - F7. 4 or More Axle Single Unit Trucks
 - F8. 4 or Less Axle Vehicles, One Unit is a Truck
 - F9. 5-Axle Double Unit Vehicles, One Unit is a Truck
 - F10. 6 or More Double Unit Vehicles, One Unit is a Truck
 - F11. 5 or Less Axle Multi-Unit Trucks
 - F12. 6-Axle Multi-Unit Trucks
 - F13. 7 or More Axle Multi-Unit Trucks
- * INCLUDING THOSE HAULING TRAILERS
- FUNCTIONAL CLASS CODES:
- | | | |
|-------|-------|-------------------------------|
| RURAL | URBAN | SYSTEM |
| 01 | 11 | PRINCIPAL ARTERIAL-INTERSTATE |
| 02 | 12 | PRINCIPAL ARTERIAL-EXPRESSWAY |
| 06 | 16 | MINOR ARTERIAL |
| 07 | 17 | MAJOR COLLECTOR |
| 08 | 17 | MINOR COLLECTOR |
| 09 | 19 | LOCAL SYSTEM |



PEAK HOUR DATA

DIRECTION	HOUR	COUNT	2-WAY	HOUR	COUNT
North	8	740	A.M.	8	1293
South	18	868	P.M.	18	1606

**County of Ulster
Speed Count Average Weekday Report**

Station: 860036
Route #: US 9W Road name:
From: Orange/Ulster Co Line
To: MILTON TURNPIKE
Direction: North

Start date: Tue 07/25/2017 09:00
End date: Fri 07/28/2017 09:45
County: Ulster
Town:
Speed limit: 40
LION#:

Count duration: 73 hours
Functional class: 14
Factor group: 30
Batch ID:
Count taken by:
Processed by: ULS Init: BEK
Org: ULS Init: DS

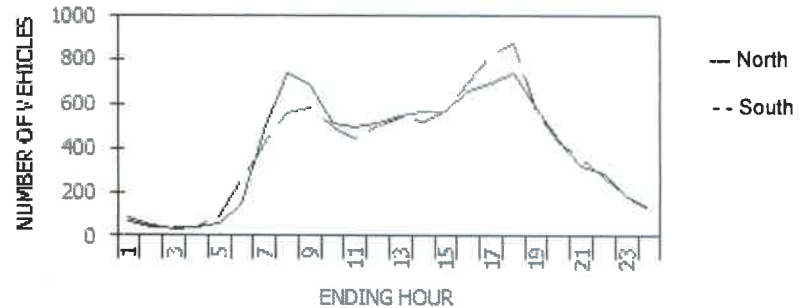
Speeds, mph

Hour	0.0-20.0	20.1-25.0	25.1-30.0	30.1-35.0	35.1-40.0	40.1-45.0	45.1-50.0	50.1-55.0	55.1-60.0	60.1-65.0	65.1-70.0	70.1-75.0	75.1-95.0	% Exc 45.0	% Exc 50.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	Avg	50th%	85th%	Total
1:00	1	0	0	3	21	36	14	3	0	1	1	0	0	23.8	6.3	2.5	2.5	1.3	40.9	42.1	47.6	80
2:00	0	0	0	3	18	20	7	3	0	0	0	0	0	19.6	5.9	0.0	0.0	0.0	40.9	41.2	46.7	51
3:00	0	0	0	2	7	12	10	1	0	0	0	0	0	34.4	3.1	0.0	0.0	0.0	42.1	43.0	48.2	32
4:00	0	0	0	2	12	14	10	2	1	0	0	0	0	31.7	7.3	2.4	0.0	0.0	42.0	42.4	48.5	41
5:00	1	0	1	3	10	18	14	5	0	0	0	0	0	36.5	9.6	0.0	0.0	0.0	40.5	43.1	49.0	52
6:00	0	1	0	3	26	56	47	12	2	1	0	0	0	41.9	10.1	2.0	0.7	0.0	43.3	44.0	49.3	148
7:00	0	0	0	14	98	196	139	24	2	0	0	0	0	34.9	5.5	0.4	0.0	0.0	42.7	43.2	48.4	473
8:00	2	1	2	28	184	340	160	24	2	0	0	0	0	25.0	3.5	0.3	0.0	0.0	41.5	42.3	47.4	743
9:00	4	4	7	42	171	311	130	15	1	0	0	0	0	21.3	2.3	0.1	0.0	0.0	40.4	41.9	46.7	685
10:00	1	1	7	36	144	228	83	13	1	0	0	0	0	18.9	2.7	0.2	0.0	0.0	40.5	41.5	46.2	514
11:00	2	2	10	28	143	209	89	11	0	0	0	0	0	20.2	2.2	0.0	0.0	0.0	40.2	41.5	46.5	494
12:00	3	3	6	48	150	224	66	11	2	0	0	0	0	15.4	2.5	0.4	0.0	0.0	39.6	41.1	45.2	513
13:00	1	1	9	39	166	243	74	11	1	0	0	0	0	15.8	2.2	0.2	0.0	0.0	40.1	41.2	45.3	545
14:00	1	2	7	42	170	247	81	9	2	0	0	0	0	16.4	2.0	0.4	0.0	0.0	40.2	41.2	45.5	561
15:00	2	3	7	40	166	229	100	14	1	0	0	0	0	20.5	2.7	0.2	0.0	0.0	40.2	41.4	46.6	562
16:00	2	3	6	56	189	291	98	13	0	0	0	0	0	18.9	2.0	0.0	0.0	0.0	40.1	41.3	45.7	658
17:00	3	1	9	34	185	311	138	19	0	0	0	0	0	22.4	2.7	0.0	0.0	0.0	40.8	41.9	46.9	700
18:00	3	3	10	53	194	322	137	16	1	0	0	0	0	20.8	2.3	0.1	0.0	0.0	40.4	41.7	46.6	739
19:00	2	2	9	28	119	253	146	22	1	0	0	0	0	29.0	4.0	0.2	0.0	0.0	41.4	42.6	47.8	582
20:00	1	3	3	8	78	210	121	16	1	0	0	0	0	31.3	3.9	0.2	0.0	0.0	42.2	43.1	48.0	441
21:00	1	0	1	15	89	148	55	7	0	0	0	0	0	19.6	2.2	0.0	0.0	0.0	40.9	41.8	46.4	316
22:00	1	1	2	12	66	141	51	5	1	0	0	0	0	20.4	2.1	0.4	0.0	0.0	41.0	42.1	46.5	280
23:00	1	1	0	6	43	85	34	8	1	0	0	0	0	24.0	5.0	0.6	0.0	0.0	41.3	42.3	47.4	179
24:00	0	0	1	2	37	60	31	6	0	0	0	0	0	27.0	4.4	0.0	0.0	0.0	42.0	42.4	47.7	137
Avg. Daily Total	32	32	97	547	2486	4204	1835	270	20	2	1	0	0	22.3	3.1	0.2	0.0	0.0	40.8	41.9	47.0	9526
Percent	0.3%	0.3%	1.0%	5.7%	26.1%	44.1%	19.3%	2.8%	0.2%	0.0%	0.0%	0.0%	0.0%									
Cum. Percent	0.3%	0.7%	1.7%	7.4%	33.5%	77.7%	96.9%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%									
Average hour	1	1	4	23	104	175	78	11	1	0	0	0	0									397

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	40.8	41.9	47.0
South	36.3	37.9	43.4

Peak Hour Data					
Direction	Hour	Count	2-way	Hour	Count
North	8	743	A.M.	8	1297
South	18	871	P.M.	18	1610



**County of Ulster
Speed Count Average Weekday Report**

Station: 860036
Route #: US 9W Road name:
From: Orange/Ulster Co Line
To: MILTON TURNPIKE
Direction: South

Start date: Tue 07/25/2017 09:00
End date: Fri 07/28/2017 09:45
County: Ulster
Town:
Speed limit: 40
LION#:

Count duration: 73 hours
Functional class: 14
Factor group: 30
Batch ID: ULS-processed
Count taken by: Org: TST Init: BEK
Processed by: Org: ULS Init: DS

Speeds, mph																						
Hour	0,0- 20.0	20.1- 25.0	25.1- 30.0	30.1- 35.0	35.1- 40.0	40.1- 45.0	45.1- 50.0	50.1- 55.0	55.1- 60.0	60.1- 65.0	65.1- 70.0	70.1- 75.0	75.1- 95.0	% Exc 45.0	% Exc 50.0	% Exc 55.0	% Exc 60.0	% Exc 65.0	Avg	50th%	85th%	Total
1:00	1	0	2	9	28	15	4	1	1	0	0	0	0	9.8	3.3	1.8	0.0	0.0	37.1	38.4	44.0	61
2:00	0	0	1	10	13	6	4	2	0	0	0	0	0	16.7	5.8	0.0	0.0	0.0	37.7	37.7	45.8	38
3:00	0	0	1	6	12	11	5	1	0	0	0	0	0	16.7	2.8	0.0	0.0	0.0	39.0	39.8	45.8	38
4:00	0	0	1	5	12	14	5	2	1	0	0	0	0	20.0	7.5	2.5	0.0	0.0	40.0	40.8	47.0	40
5:00	1	0	1	10	32	29	11	4	1	0	0	0	0	18.0	5.8	1.1	0.0	0.0	39.0	40.1	46.3	89
6:00	0	0	3	27	74	103	33	6	1	0	0	0	0	16.2	2.8	0.4	0.0	0.0	40.1	41.0	45.5	247
7:00	3	0	2	32	153	166	54	5	1	0	0	0	0	14.4	1.4	0.2	0.0	0.0	39.8	40.6	45.0	416
8:00	8	7	21	82	228	163	39	6	0	0	0	0	0	8.1	1.1	0.0	0.0	0.0	36.8	38.5	43.9	554
9:00	9	9	35	126	242	127	28	4	0	0	0	0	0	5.5	0.7	0.0	0.0	0.0	35.5	37.3	42.9	580
10:00	5	6	22	103	212	117	26	2	1	0	0	0	0	5.9	0.6	0.2	0.0	0.0	36.3	37.7	43.1	494
11:00	6	1	21	91	180	110	28	2	0	0	0	0	0	6.8	0.5	0.0	0.0	0.0	36.4	37.8	43.4	439
12:00	9	12	31	94	194	131	26	2	0	0	0	0	0	5.6	0.4	0.0	0.0	0.0	35.5	37.7	43.3	499
13:00	10	8	22	132	228	112	23	2	0	0	0	0	0	4.7	0.4	0.0	0.0	0.0	35.3	37.2	42.6	537
14:00	10	9	26	92	214	132	32	3	0	0	0	0	0	6.6	0.6	0.0	0.0	0.0	35.8	37.9	43.4	518
15:00	6	10	21	132	223	141	29	2	1	0	0	0	0	5.6	0.5	0.2	0.0	0.0	35.9	37.6	43.2	567
16:00	10	11	63	185	263	134	25	2	0	0	0	0	0	3.9	0.3	0.0	0.0	0.0	34.7	36.5	42.2	693
17:00	3	4	41	208	384	158	21	3	0	0	0	0	0	2.9	0.4	0.0	0.0	0.0	38.1	37.1	41.9	822
18:00	21	24	46	186	401	162	26	2	0	1	0	0	0	3.3	0.3	0.1	0.1	0.0	34.6	37.0	41.9	871
19:00	11	4	20	87	240	166	34	4	1	1	0	0	0	7.0	1.1	0.4	0.2	0.0	36.8	38.4	43.7	568
20:00	4	4	16	61	175	135	34	4	0	0	0	0	0	8.8	0.9	0.0	0.0	0.0	37.4	38.8	44.1	433
21:00	2	2	5	71	144	106	23	5	0	0	0	0	0	7.8	1.4	0.0	0.0	0.0	37.6	38.5	43.8	358
22:00	1	0	9	48	119	74	16	3	1	0	0	0	0	7.4	1.5	0.4	0.0	0.0	37.8	38.3	43.7	271
23:00	1	1	6	24	82	49	17	2	0	0	0	0	0	10.4	1.1	0.0	0.0	0.0	37.8	38.6	44.2	182
24:00	0	0	2	22	46	35	13	4	1	0	0	0	0	14.6	4.1	0.8	0.0	0.0	38.8	39.1	45.0	123
Avg. Daily Total	123	112	418	1845	3899	2396	556	73	10	2	0	0	0	6.8	0.9	0.1	0.0	0.0	36.3	37.9	43.4	9434
Percent	1.3%	1.2%	4.4%	19.6%	41.3%	25.4%	5.9%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%									
Cum. Percent	1.3%	2.5%	6.9%	26.5%	67.8%	93.2%	99.1%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%									
Average hour	5	5	17	77	162	100	23	3	0	0	0	0	0									393

TRAFFIC FLOW BY DIRECTION

	Avg. Speed	50th% Speed	85th% Speed
North	40.8	41.9	47.0
South	36.3	37.9	43.4

Peak Hour Data					
Direction	Hour	Count	2-way	Hour	Count
North	8	743	A.M.	8	1297
South	18	871	P.M.	18	1610



2. HCM Intersection Analysis Route 9W & Milton Turnpike

HCM Signalized Intersection Capacity Analysis

24: Route 9W & Milton Turnpike

09/26/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	45	26	29	59	27	14	46	621	51	29	754	31
Future Volume (vph)	45	26	29	59	27	14	46	621	51	29	754	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	11	11	11
Total Lost time (s)		5.0			5.0		6.0	7.0		6.0	7.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	0.95	
Frt		0.96			0.98		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1653			1677		1616	1681		1616	3212	
Flt Permitted		0.82			0.77		0.29	1.00		0.20	1.00	
Satd. Flow (perm)		1381			1334		494	1681		333	3212	
Peak-hour factor, PHF	0.83	0.83	0.83	0.77	0.77	0.77	0.82	0.82	0.82	0.89	0.89	0.89
Adj. Flow (vph)	54	31	35	77	35	18	56	757	62	33	847	35
RTOR Reduction (vph)	0	17	0	0	7	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	103	0	0	123	0	56	817	0	33	880	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			7		2	5		6	1	
Permitted Phases	3			7			5	5		1	1	
Actuated Green, G (s)		9.9			9.9		46.0	41.9		41.8	39.8	
Effective Green, g (s)		9.9			9.9		46.0	41.9		41.8	39.8	
Actuated g/C Ratio		0.14			0.14		0.64	0.58		0.58	0.55	
Clearance Time (s)		5.0			5.0		6.0	7.0		6.0	7.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		190			183		380	980		229	1780	
v/s Ratio Prot							c0.01	c0.49		0.00	0.27	
v/s Ratio Perm		0.07			c0.09		0.09			0.08		
v/c Ratio		0.54			0.67		0.15	0.83		0.14	0.49	
Uniform Delay, d1		28.8			29.4		6.9	12.1		16.9	9.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.1			9.4		0.2	8.3		0.3	1.0	
Delay (s)		32.0			38.8		7.1	20.4		17.2	10.8	
Level of Service		C			D		A	C		B	B	
Approach Delay (s)		32.0			38.8			19.6			11.0	
Approach LOS		C			D			B			B	

Intersection Summary

HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

24: Route 9W & Milton Turnpike

09/26/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	48	27	30	60	28	15	47	661	52	32	819	34
Future Volume (vph)	48	27	30	60	28	15	47	661	52	32	819	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	11	11	11
Total Lost time (s)		5.0			5.0		6.0	7.0		6.0	7.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	0.95	
Frt		0.96			0.98		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1654			1676		1616	1682		1616	3212	
Flt Permitted		0.81			0.77		0.26	1.00		0.16	1.00	
Satd. Flow (perm)		1377			1325		446	1682		267	3212	
Peak-hour factor, PHF	0.83	0.83	0.83	0.77	0.77	0.77	0.82	0.82	0.82	0.89	0.89	0.89
Adj. Flow (vph)	58	33	36	78	36	19	57	806	63	36	920	38
RTOR Reduction (vph)	0	20	0	0	9	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	107	0	0	124	0	57	866	0	36	955	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			7		2	5		6	1	
Permitted Phases	3			7			5	5		1	1	
Actuated Green, G (s)		9.8			9.8		42.3	39.7		42.3	39.7	
Effective Green, g (s)		9.8			9.8		42.3	39.7		42.3	39.7	
Actuated g/C Ratio		0.14			0.14		0.60	0.57		0.60	0.57	
Clearance Time (s)		5.0			5.0		6.0	7.0		6.0	7.0	
Vehicle Extension (s)		3.0			3.0		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)		192			185		312	952		211	1819	
v/s Ratio Prot							c0.01	c0.52		0.01	0.30	
v/s Ratio Perm		0.08			c0.09		0.10			0.10		
v/c Ratio		0.56			0.67		0.18	0.91		0.17	0.52	
Uniform Delay, d1		28.1			28.6		8.6	13.6		18.4	9.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.5			9.2		0.1	14.2		0.1	1.1	
Delay (s)		31.6			37.9		8.7	27.8		18.5	10.5	
Level of Service		C			D		A	C		B	B	
Approach Delay (s)		31.6			37.9			26.6			10.8	
Approach LOS		C			D			C			B	

Intersection Summary

HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

24: Route 9W & Milton Turnpike

09/26/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	60	29	33	67	31	19	52	829	58	42	1091	64
Future Volume (vph)	60	29	33	67	31	19	52	829	58	42	1091	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	12	11	11	11
Total Lost time (s)		5.0			5.0		6.0	7.0		6.0	7.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	0.95	
Frt		0.96			0.98		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1654			1672		1616	1684		1616	3204	
Flt Permitted		0.78			0.75		0.15	1.00		0.10	1.00	
Satd. Flow (perm)		1326			1282		247	1684		170	3204	
Peak-hour factor, PHF	0.83	0.83	0.83	0.77	0.77	0.77	0.82	0.82	0.82	0.89	0.89	0.89
Adj. Flow (vph)	72	35	40	87	40	25	63	1011	71	47	1226	72
RTOR Reduction (vph)	0	19	0	0	9	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	128	0	0	143	0	63	1079	0	47	1294	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			7		2	5		6	1	
Permitted Phases	3			7			5	5		1	1	
Actuated Green, G (s)		11.0			11.0		43.0	39.9		43.0	39.9	
Effective Green, g (s)		11.0			11.0		43.0	39.9		43.0	39.9	
Actuated g/C Ratio		0.15			0.15		0.60	0.55		0.60	0.55	
Clearance Time (s)		5.0			5.0		6.0	7.0		6.0	7.0	
Vehicle Extension (s)		3.0			3.0		2.0	1.0		2.0	1.0	
Lane Grp Cap (vph)		202			195		206	933		163	1775	
v/s Ratio Prot							c0.01	c0.64		0.01	0.40	
v/s Ratio Perm		0.10			c0.11		0.17			0.16		
v/c Ratio		0.64			0.73		0.31	1.16		0.29	0.73	
Uniform Delay, d1		28.6			29.1		14.6	16.1		30.1	12.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.4			13.2		0.3	82.7		0.4	2.7	
Delay (s)		35.0			42.3		14.9	98.8		30.4	14.7	
Level of Service		D			D		B	F		C	B	
Approach Delay (s)		35.0			42.3			94.2			15.2	
Approach LOS		D			D			F			B	

Intersection Summary

HCM 2000 Control Delay	50.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

3. HCS Arterial LOS Calculations for Proposed Lane Reconfiguration

**Without Proposed Lane Reconfiguration
With Proposed Lane Reconfiguration**

Without Proposed Lane Reconfiguration

Segment 1: Hudson Bluff to Chestnut

Segment 2: Chestnut Road to St. James Road

Segment 3: New Road to Perkinsville Road

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2017
Description Northbound Direction

-----Input Data-----

Highway class	Class 1	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	22	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	0.9 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	40	/mi

Analysis direction volume, Vd 740 veh/h
Opposing direction volume, Vo 812 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.899	0.917
Grade adj. factor,(note-1) fg	0.98	0.99
Directional flow rate,(note-2) vi	840 pc/h	894 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
Observed total demand,(note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 54.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATfSd 40.1 mi/h
Percent Free Flow Speed, PFfS 73.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	0.99	1.00	
Directional flow rate,(note-2) vi	747 pc/h	812 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	67.2	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	79.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	166	veh-mi
Peak-hour vehicle-miles of travel, VMT60	666	veh-mi
Peak 15-min total travel time, TT15	4.1	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.5	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	40.1	mi/h
Percent time-spent-following, PTSFD (from above)	79.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	42.0	
Percent free flow speed including passing lane, PFFSp1	76.5	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.37	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.37	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	66.1	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	4.0	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	740.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.34
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Existing Conditions PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2017
 Description Northbound Direction

----- Input Data -----

Highway class	Class 3	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	22	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	0.9 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	40	/mi

Analysis direction volume, Vd 740 veh/h
 Opposing direction volume, Vo 812 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor, (note-5) fHV	0.899	0.917
Grade adj. factor, (note-1) fg	0.98	0.99
Directional flow rate, (note-2) vi	840 pc/h	894 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 49 mi/h
 Observed total demand, (note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFfS - mi/h
 Adj. for lane and shoulder width, (note-3) fLS - mi/h
 Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFfSd 54.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
 Average travel speed, ATfSd 40.1 mi/h
 Percent Free Flow Speed, PFFfS 73.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	0.99	1.00	
Directional flow rate,(note-2) vi	747 pc/h	812 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	67.2	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	79.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	166	veh-mi
Peak-hour vehicle-miles of travel, VMT60	666	veh-mi
Peak 15-min total travel time, TT15	4.1	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.5	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	40.1	mi/h
Percent time-spent-following, PTSFD (from above)	79.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	42.0	
Percent free flow speed including passing lane, PFFSp1	76.5	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.37	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.37	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	66.1	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.0	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	740.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.34
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2017
Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	17	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 812 veh/h
Opposing direction volume, Vo 740 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.935	0.920
Grade adj. factor,(note-1) fg	0.99	0.98
Directional flow rate,(note-2) vi	877 pc/h	821 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.4 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATfSd 41.9 mi/h
Percent Free Flow Speed, PFfS 74.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	0.99	
Directional flow rate,(note-2) vi	812 pc/h	747 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	69.6	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	83.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	183	veh-mi
Peak-hour vehicle-miles of travel, VMT60	731	veh-mi
Peak 15-min total travel time, TT15	4.4	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	41.9	mi/h
Percent time-spent-following, PTSFD (from above)	83.0	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.90	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	45.5	
Percent free flow speed including passing lane, PFFSp1	80.7	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.92	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.12	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	53.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.0	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	812.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.38
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2017
Description Southbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	17 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.9 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	40 /mi

Analysis direction volume, Vd 812 veh/h
Opposing direction volume, Vo 740 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.935	0.920
Grade adj. factor,(note-1) fg	0.99	0.98
Directional flow rate,(note-2) vi	877 pc/h	821 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.4 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
Average travel speed, ATfSd 41.9 mi/h
Percent Free Flow Speed, PFfS 74.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	0.99	
Directional flow rate,(note-2) vi	812 pc/h	747 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	69.6	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	83.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	183	veh-mi
Peak-hour vehicle-miles of travel, VMT60	731	veh-mi
Peak 15-min total travel time, TT15	4.4	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	41.9	mi/h
Percent time-spent-following, PTSFD (from above)	83.0	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.90	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	45.5	
Percent free flow speed including passing lane, PFFSp1	80.7	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.92	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.12	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	53.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.0	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	812.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.38
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2022
Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	22	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 783 veh/h
Opposing direction volume, Vo 878 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.917	0.936
Grade adj. factor,(note-1) fg	0.99	1.00
Directional flow rate,(note-2) vi	862 pc/h	938 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
Observed total demand,(note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 54.7 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATfSd 39.5 mi/h
Percent Free Flow Speed, PFfS 72.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	783	878	pc/h
Base percent time-spent-following,(note-4) BPTSFD	69.7	%	
Adjustment for no-passing zones, fnp	23.9		
Percent time-spent-following, PTSFD	81.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	176	veh-mi
Peak-hour vehicle-miles of travel, VMT60	705	veh-mi
Peak 15-min total travel time, TT15	4.5	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.5	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	39.5	mi/h
Percent time-spent-following, PTSFD (from above)	81.0	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	41.4	
Percent free flow speed including passing lane, PFFSp1	75.6	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.12	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.12	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	67.3	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	4.3	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	783.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.37
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2022
 Description Northbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	22 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.9 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	40 /mi

Analysis direction volume, Vd 783 veh/h
 Opposing direction volume, Vo 878 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.917	0.936
Grade adj. factor,(note-1) fg	0.99	1.00
Directional flow rate,(note-2) vi	862 pc/h	938 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
 Observed total demand,(note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 54.7 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
 Average travel speed, ATfSd 39.5 mi/h
 Percent Free Flow Speed, PFFfS 72.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	783	878	pc/h
Base percent time-spent-following,(note-4) BPTSFD	69.7	%	
Adjustment for no-passing zones, fnp	23.9		
Percent time-spent-following, PTSFD	81.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	176	veh-mi
Peak-hour vehicle-miles of travel, VMT60	705	veh-mi
Peak 15-min total travel time, TT15	4.5	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.5	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	39.5	mi/h
Percent time-spent-following, PTSFD (from above)	81.0	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	41.4	
Percent free flow speed including passing lane, PFFSp1	75.6	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.12	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.12	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	67.3	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.3	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	783.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.37
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2022
Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	17	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 878 veh/h
Opposing direction volume, Vo 783 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.950	0.935
Grade adj. factor,(note-1) fg	1.00	0.99
Directional flow rate,(note-2) vi	924 pc/h	846 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.3 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATfSd 41.2 mi/h
Percent Free Flow Speed, PFfS 73.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	878	783	pc/h
Base percent time-spent-following,(note-4) BPTSFD	72.0	%	
Adjustment for no-passing zones, fnp	23.9		
Percent time-spent-following, PTSFD	84.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.54	
Peak 15-min vehicle-miles of travel, VMT15	198	veh-mi
Peak-hour vehicle-miles of travel, VMT60	790	veh-mi
Peak 15-min total travel time, TT15	4.8	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	41.2	mi/h
Percent time-spent-following, PTSFD (from above)	84.6	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.90	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	44.8	
Percent free flow speed including passing lane, PFFSp1	79.6	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.45	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.65	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	55.0	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	4.4	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	878.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.42
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2022
Description Southbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	17	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	0.9 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	40	/mi

Analysis direction volume, Vd 878 veh/h
Opposing direction volume, Vo 783 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.950	0.935
Grade adj. factor,(note-1) fg	1.00	0.99
Directional flow rate,(note-2) vi	924 pc/h	846 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 56.3 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 41.2 mi/h
Percent Free Flow Speed, PFFS 73.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	878	783	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	72.0	%		
Adjustment for no-passing zones, fnp	23.9			
Percent time-spent-following, PTSFD	84.6	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D		
Volume to capacity ratio, v/c	0.54		
Peak 15-min vehicle-miles of travel, VMT15	198	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	790	veh-mi	
Peak 15-min total travel time, TT15	4.8	veh-h	
Capacity from ATS, CdATS	1615	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1615	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	41.2	mi/h
Percent time-spent-following, PTSFD (from above)	84.6	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.90	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	44.8	
Percent free flow speed including passing lane, PFFSp1	79.6	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.45	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.65	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	55.0	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.4	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	878.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.42
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2042
 Description Northbound Direction

----- Input Data -----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	22	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 963 veh/h
 Opposing direction volume, Vo 1152 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor, (note-5) fHV	0.936	0.936
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	1029 pc/h	1231 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 49 mi/h
 Observed total demand, (note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFfS - mi/h
 Adj. for lane and shoulder width, (note-3) fLS - mi/h
 Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFfSd 54.6 mi/h

Adjustment for no-passing zones, fnp 1.0 mi/h
 Average travel speed, ATfSd 36.1 mi/h
 Percent Free Flow Speed, PFFfS 66.1 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	963	1152	pc/h
Base percent time-spent-following,(note-4) BPTSFD	78.7	%	
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	86.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.61	
Peak 15-min vehicle-miles of travel, VMT15	217	veh-mi
Peak-hour vehicle-miles of travel, VMT60	867	veh-mi
Peak 15-min total travel time, TT15	6.0	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.5	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	36.1	mi/h
Percent time-spent-following, PTSFD (from above)	86.3	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	37.7	
Percent free flow speed including passing lane, PFFSp1	69.1	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.86	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.86	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	71.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	5.8	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	963.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.48
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 25-Year PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2042
Description Northbound Direction

----- Input Data -----

Highway class	Class 3	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	22	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	0.9 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	40	/mi

Analysis direction volume, Vd 963 veh/h
Opposing direction volume, Vo 1152 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor, (note-5) fHV	0.936	0.936
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	1029 pc/h	1231 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 49 mi/h
Observed total demand, (note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFfs - mi/h
Adj. for lane and shoulder width, (note-3) fLS - mi/h
Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFsd 54.6 mi/h

Adjustment for no-passing zones, fnp 1.0 mi/h
Average travel speed, ATsd 36.1 mi/h
Percent Free Flow Speed, PFFS 66.1 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	963	1152	pc/h
Base percent time-spent-following,(note-4) BPTSFD	78.7	%	
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	86.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.61	
Peak 15-min vehicle-miles of travel, VMT15	217	veh-mi
Peak-hour vehicle-miles of travel, VMT60	867	veh-mi
Peak 15-min total travel time, TT15	6.0	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.5	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	36.1	mi/h
Percent time-spent-following, PTSFD (from above)	86.3	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	37.7	
Percent free flow speed including passing lane, PFFSp1	69.1	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.86	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.86	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	71.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	5.8	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	963.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.48
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2042
 Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	17	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 1152 veh/h
 Opposing direction volume, Vo 963 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.950	0.950
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1213 pc/h	1014 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
 Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.3 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
 Average travel speed, ATfSd 37.9 mi/h
 Percent Free Flow Speed, PFFfS 67.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1152 pc/h	963 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	81.1 %		
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	90.1 %		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.71	
Peak 15-min vehicle-miles of travel, VMT15	259	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1037	veh-mi
Peak 15-min total travel time, TT15	6.8	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	37.9	mi/h
Percent time-spent-following, PTSFD (from above)	90.1	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.90	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	41.2	
Percent free flow speed including passing lane, PFFSp1	73.2	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-2.80	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	59.2	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	6.3	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1152.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.56
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2042
 Description Southbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	17 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.9 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	40 /mi

Analysis direction volume, Vd 1152 veh/h
 Opposing direction volume, Vo 963 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.950	0.950
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1213 pc/h	1014 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
 Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.3 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
 Average travel speed, ATfSd 37.9 mi/h
 Percent Free Flow Speed, PFfS 67.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1152 pc/h	963 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	81.1 %		
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	90.1 %		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.71	
Peak 15-min vehicle-miles of travel, VMT15	259	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1037	veh-mi
Peak 15-min total travel time, TT15	6.8	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	37.9	mi/h
Percent time-spent-following, PTSFD (from above)	90.1	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.90	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	41.2	
Percent free flow speed including passing lane, PFFSp1	73.2	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-2.80	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	59.2	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	6.3	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1152.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.56
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multilane Highway Report

Project Information

Analyst	BFJ Planning	Date	
Agency		Analysis Year	2017
Jurisdiction	NYS	Time Period Analyzed	
Project Description	Existing Conditions PM Peak Hour		

Direction 1 Geometric Data

Direction 1	Northbound		
Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	53.7	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Access Point Density, pts/mi	-	Free-Flow Speed (FFS), mi/h	53.7

Direction 1 Adjustment Factors

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 Capacity

Volume(V) veh/h	721	Heavy Vehicle Adjustment Factor (fHV)	0.658
Peak Hour Factor	1.00	Flow Rate (Vp), pc/h/ln	548
Total Trucks, %	26.00	Capacity (c), pc/h/ln	2048
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1982
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	52.4
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	10.5
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	360	Effective Speed Factor (St)	4.79
Effective Width of Volume (Wv), ft	12	Bicycle LOS Score (BLOS)	16.57
Average Effective Width (We), ft	12	Bicycle Level of Service (LOS)	F

HCS7 Multilane Highway Report

Project Information

Analyst	BFJ Planning	Date	
Agency		Analysis Year	2017
Jurisdiction	NYS	Time Period Analyzed	
Project Description	Existing Conditions PM Peak Hour		

Direction 2 Geometric Data

Direction 2	Southbound		
Number of Lanes (N), ln	2	Terrain Type	Rolling
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	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	6.00
Access Point Density, pts/mi	18.0	Free-Flow Speed (FFS), mi/h	47.6

Direction 2 Adjustment Factors

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 Capacity

Volume(V) veh/h	828	Heavy Vehicle Adjustment Factor (fHV)	0.704
Peak Hour Factor	1.00	Flow Rate (V _p), pc/h/ln	588
Total Trucks, %	21.00	Capacity (c), pc/h/ln	1928
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	1866
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	46.4
Total Lateral Clearance Adj. (fLLC)	1.3	Density (D), pc/mi/ln	12.7
Median Type Adjustment (fM)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	4.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	414	Effective Speed Factor (St)	4.79
Effective Width of Volume (W _v), ft	12	Bicycle LOS Score (BLOS)	13.22
Average Effective Width (W _e), ft	12	Bicycle Level of Service (LOS)	F

HCS7 Multilane Highway Report

Project Information

Analyst	BFJ Planning	Date	
Agency		Analysis Year	2017
Jurisdiction	NYS	Time Period Analyzed	
Project Description	Existing Conditions PM Peak Hour		

Direction 1 Geometric Data

Direction 1	Northbound		
Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	53.7	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Access Point Density, pts/mi	-	Free-Flow Speed (FFS), mi/h	53.7

Direction 1 Adjustment Factors

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 Capacity

Volume(V) veh/h	764	Heavy Vehicle Adjustment Factor (fHV)	0.658
Peak Hour Factor	1.00	Flow Rate (Vp), pc/h/ln	580
Total Trucks, %	26.00	Capacity (c), pc/h/ln	2048
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1982
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	52.4
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	11.1
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	382	Effective Speed Factor (St)	4.79
Effective Width of Volume (Wv), ft	12	Bicycle LOS Score (BLOS)	16.60
Average Effective Width (We), ft	12	Bicycle Level of Service (LOS)	F

HCS7 Multilane Highway Report

Project Information

Analyst	BFJ Planning	Date	
Agency		Analysis Year	2017
Jurisdiction	NYS	Time Period Analyzed	
Project Description	Existing Conditions PM Peak Hour		

Direction 2 Geometric Data

Direction 2	Southbound		
Number of Lanes (N), ln	2	Terrain Type	Rolling
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	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	6.00
Access Point Density, pts/mi	18.0	Free-Flow Speed (FFS), mi/h	47.6

Direction 2 Adjustment Factors

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 Capacity

Volume(V) veh/h	894	Heavy Vehicle Adjustment Factor (fHV)	0.704
Peak Hour Factor	1.00	Flow Rate (Vp), pc/h/ln	635
Total Trucks, %	21.00	Capacity (c), pc/h/ln	1928
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1866
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	46.4
Total Lateral Clearance Adj. (fLLC)	1.3	Density (D), pc/mi/ln	13.7
Median Type Adjustment (fM)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	4.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	447	Effective Speed Factor (St)	4.79
Effective Width of Volume (Wv), ft	12	Bicycle LOS Score (BLOS)	13.26
Average Effective Width (We), ft	12	Bicycle Level of Service (LOS)	F

HCS7 Multilane Highway Report

Project Information

Analyst	BFJ Planning	Date	
Agency		Analysis Year	2017
Jurisdiction	NYS	Time Period Analyzed	
Project Description	Existing Conditions PM Peak Hour		

Direction 1 Geometric Data

Direction 1	Northbound		
Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	53.7	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Access Point Density, pts/mi	-	Free-Flow Speed (FFS), mi/h	53.7

Direction 1 Adjustment Factors

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 Capacity

Volume(V) veh/h	942	Heavy Vehicle Adjustment Factor (fHV)	0.658
Peak Hour Factor	1.00	Flow Rate (V _p), pc/h/ln	716
Total Trucks, %	26.00	Capacity (c), pc/h/ln	2048
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	1982
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	52.4
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	13.7
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	471	Effective Speed Factor (St)	4.79
Effective Width of Volume (W _v), ft	12	Bicycle LOS Score (BLOS)	16.70
Average Effective Width (W _e), ft	12	Bicycle Level of Service (LOS)	F

HCS7 Multilane Highway Report

Project Information

Analyst	BFJ Planning	Date	
Agency		Analysis Year	2017
Jurisdiction	NYS	Time Period Analyzed	
Project Description	Existing Conditions PM Peak Hour		

Direction 2 Geometric Data

Direction 2	Southbound		
Number of Lanes (N), ln	2	Terrain Type	Rolling
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	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Left-Side Lateral Clearance (LCR), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	6.00
Access Point Density, pts/mi	18.0	Free-Flow Speed (FFS), mi/h	47.6

Direction 2 Adjustment Factors

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 Capacity

Volume(V) veh/h	1170	Heavy Vehicle Adjustment Factor (fHV)	0.704
Peak Hour Factor	1.00	Flow Rate (Vp), pc/h/ln	831
Total Trucks, %	21.00	Capacity (c), pc/h/ln	1928
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	1866
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	46.4
Total Lateral Clearance Adj. (fLLC)	1.3	Density (D), pc/mi/ln	17.9
Median Type Adjustment (fM)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	4.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	585	Effective Speed Factor (St)	4.79
Effective Width of Volume (Wv), ft	12	Bicycle LOS Score (BLOS)	13.39
Average Effective Width (We), ft	12	Bicycle Level of Service (LOS)	F

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Existing Conditions PM Peak Hr
 Highway Route 9W
 From/To New Road to Perkinsville Road
 Jurisdiction NYS
 Analysis Year 2017
 Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	18	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	10	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 688 veh/h
 Opposing direction volume, Vo 860 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	701 pc/h	860 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
 Observed total demand,(note-3) V 634 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 54.0 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
 Average travel speed, ATSD 41.4 mi/h
 Percent Free Flow Speed, PFFS 76.7 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	688	860	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	65.2	%		
Adjustment for no-passing zones, fnp	14.8			
Percent time-spent-following, PTSFD	71.8	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D		
Volume to capacity ratio, v/c	0.40		
Peak 15-min vehicle-miles of travel, VMT15	155	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	619	veh-mi	
Peak 15-min total travel time, TT15	3.7	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1700	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.4	mi/h
Percent time-spent-following, PTSFD (from above)	71.8	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	688.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.86
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To New Road to Perkinsville Road
Jurisdiction NYS
Analysis Year 2017
Description Northbound Direction

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	18	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	10	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 688 veh/h
Opposing direction volume, Vo 860 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	701 pc/h	860 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 49 mi/h
Observed total demand, (note-3) V 634 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFFS - mi/h
Adj. for lane and shoulder width, (note-3) fLS - mi/h
Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFSd 54.0 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
Average travel speed, ATSD 41.4 mi/h
Percent Free Flow Speed, PFFS 76.7 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	688	860	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	65.2	%		
Adjustment for no-passing zones, fnp	14.8			
Percent time-spent-following, PTSFD	71.8	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C		
Volume to capacity ratio, v/c	0.40		
Peak 15-min vehicle-miles of travel, VMT15	155	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	619	veh-mi	
Peak 15-min total travel time, TT15	3.7	veh-h	
Capacity from ATS, CdATS	1700	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1700	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	41.4	mi/h
Percent time-spent-following, PTSFD (from above)	71.8	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	688.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.86
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To New Road to Perkinsville Road
Jurisdiction NYS
Analysis Year 2017
Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	16	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 860 veh/h
Opposing direction volume, Vo 688 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.984
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	860 pc/h	699 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 47 mi/h
Observed total demand,(note-3) V 821 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 53.4 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATSD 40.6 mi/h
Percent Free Flow Speed, PFFS 76.1 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	860	688	pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.4	%	
Adjustment for no-passing zones, fnp	17.9		
Percent time-spent-following, PTSFd	80.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	193	veh-mi
Peak-hour vehicle-miles of travel, VMT60	774	veh-mi
Peak 15-min total travel time, TT15	4.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.6	mi/h
Percent time-spent-following, PTSFd (from above)	80.3	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	860.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	8.87
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To New Road to Perkinsville Road
Jurisdiction NYS
Analysis Year 2017
Description Southbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	16	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	0.9 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	20	%
Up/down	- %	Access point density	38	/mi

Analysis direction volume, Vd 860 veh/h
Opposing direction volume, Vo 688 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.984
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	860 pc/h	699 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 47 mi/h
Observed total demand,(note-3) V 821 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 53.4 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
Average travel speed, ATfSd 40.6 mi/h
Percent Free Flow Speed, PFfS 76.1 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	860	688	pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.4	%	
Adjustment for no-passing zones, fnp	17.9		
Percent time-spent-following, PTSFd	80.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	193	veh-mi
Peak-hour vehicle-miles of travel, VMT60	774	veh-mi
Peak 15-min total travel time, TT15	4.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.6	mi/h
Percent time-spent-following, PTSFd (from above)	80.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	860.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	8.87
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To New Road to Perkinsville Road
Jurisdiction NYS
Analysis Year 2022
Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	18	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	10	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 737 veh/h
Opposing direction volume, Vo 941 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.982	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	751 pc/h	941 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
Observed total demand,(note-3) V 634 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 54.0 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
Average travel speed, ATSD 40.4 mi/h
Percent Free Flow Speed, PFFS 74.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	737	941	pc/h
Base percent time-spent-following,(note-4) BPTSFD	68.4	%	
Adjustment for no-passing zones, fnp	13.8		
Percent time-spent-following, PTSFD	74.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	166	veh-mi
Peak-hour vehicle-miles of travel, VMT60	663	veh-mi
Peak 15-min total travel time, TT15	4.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.4	mi/h
Percent time-spent-following, PTSFD (from above)	74.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	737.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.89
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To New Road to Perkinsville Road
 Jurisdiction NYS
 Analysis Year 2022
 Description Northbound Direction

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	18	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	10	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 737 veh/h
 Opposing direction volume, Vo 941 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.982	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	751 pc/h	941 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 49 mi/h
 Observed total demand, (note-3) V 634 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFfs - mi/h
 Adj. for lane and shoulder width, (note-3) fLS - mi/h
 Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFsd 54.0 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
 Average travel speed, ATsd 40.4 mi/h
 Percent Free Flow Speed, PFFS 74.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	737	941	pc/h
Base percent time-spent-following,(note-4) BPTSFD	68.4	%	
Adjustment for no-passing zones, fnp	13.8		
Percent time-spent-following, PTSFD	74.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	166	veh-mi
Peak-hour vehicle-miles of travel, VMT60	663	veh-mi
Peak 15-min total travel time, TT15	4.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.4	mi/h
Percent time-spent-following, PTSFD (from above)	74.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	737.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.89
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To New Road to Perkinsville Road
 Jurisdiction NYS
 Analysis Year 2022
 Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	16	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 941 veh/h
 Opposing direction volume, Vo 737 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.984
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	941 pc/h	749 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 47 mi/h
 Observed total demand,(note-3) V 821 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 53.4 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
 Average travel speed, ATfSd 39.7 mi/h
 Percent Free Flow Speed, PFFfS 74.4 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	941 pc/h	737 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	73.7	%	
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	83.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.55	
Peak 15-min vehicle-miles of travel, VMT15	212	veh-mi
Peak-hour vehicle-miles of travel, VMT60	847	veh-mi
Peak 15-min total travel time, TT15	5.3	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	39.7	mi/h
Percent time-spent-following, PTSFD (from above)	83.0	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	941.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	8.92
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To New Road to Perkinsville Road
 Jurisdiction NYS
 Analysis Year 2022
 Description Southbound Direction

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	16	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 941 veh/h
 Opposing direction volume, Vo 737 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	0.984
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	941 pc/h	749 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 47 mi/h
 Observed total demand,(note-3) V 821 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 53.4 mi/h

Adjustment for no-passing zones, fnp 0.6 mi/h
 Average travel speed, ATfSd 39.7 mi/h
 Percent Free Flow Speed, PFfS 74.4 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	941 pc/h	737 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	73.7 %		
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	83.0 %		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.55	
Peak 15-min vehicle-miles of travel, VMT15	212	veh-mi
Peak-hour vehicle-miles of travel, VMT60	847	veh-mi
Peak 15-min total travel time, TT15	5.3	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	39.7	mi/h
Percent time-spent-following, PTSFD (from above)	83.0	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	941.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	8.92
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 25-Year PM Peak Hr
Highway Route 9W
From/To New Road to Perkinsville Road
Jurisdiction NYS
Analysis Year 2042
Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	18	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	10	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 942 veh/h
Opposing direction volume, Vo 1275 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	942 pc/h	1275 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
Observed total demand,(note-3) V 634 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 53.9 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
Average travel speed, ATSD 36.2 mi/h
Percent Free Flow Speed, PFFS 67.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	942	1275	pc/h
Base percent time-spent-following,(note-4) BPTSFd	78.6	%	
Adjustment for no-passing zones, fnp	9.7		
Percent time-spent-following, PTSFd	82.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.55	
Peak 15-min vehicle-miles of travel, VMT15	212	veh-mi
Peak-hour vehicle-miles of travel, VMT60	848	veh-mi
Peak 15-min total travel time, TT15	5.9	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	36.2	mi/h
Percent time-spent-following, PTSFd (from above)	82.7	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	942.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	10.02
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To New Road to Perkinsville Road
 Jurisdiction NYS
 Analysis Year 2042
 Description Northbound Direction

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	18	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	10	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 942 veh/h
 Opposing direction volume, Vo 1275 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	942 pc/h	1275 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
 Observed total demand,(note-3) V 634 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 53.9 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
 Average travel speed, ATSD 36.2 mi/h
 Percent Free Flow Speed, PFFS 67.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	942	1275	pc/h
Base percent time-spent-following,(note-4) BPTSFD	78.6	%	
Adjustment for no-passing zones, fnp	9.7		
Percent time-spent-following, PTSFD	82.7	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.55	
Peak 15-min vehicle-miles of travel, VMT15	212	veh-mi
Peak-hour vehicle-miles of travel, VMT60	848	veh-mi
Peak 15-min total travel time, TT15	5.9	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	36.2	mi/h
Percent time-spent-following, PTSFD (from above)	82.7	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	942.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	10.02
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To New Road to Perkinsville Road
 Jurisdiction NYS
 Analysis Year 2042
 Description Southbound Direction

----- Input Data -----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	16	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 1275 veh/h
 Opposing direction volume, Vo 942 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	1.000	1.000
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	1275 pc/h	942 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 47 mi/h
 Observed total demand, (note-3) V 821 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFFS - mi/h
 Adj. for lane and shoulder width, (note-3) fLS - mi/h
 Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFSd 53.4 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
 Average travel speed, ATSD 35.7 mi/h
 Percent Free Flow Speed, PFFS 66.9 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1275 pc/h	942 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	83.7	%	
Adjustment for no-passing zones, fnp	11.4		
Percent time-spent-following, PTSFD	90.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.75	
Peak 15-min vehicle-miles of travel, VMT15	287	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1147	veh-mi
Peak 15-min total travel time, TT15	8.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	35.7	mi/h
Percent time-spent-following, PTSFD (from above)	90.3	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1275.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.07
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To New Road to Perkinsville Road
 Jurisdiction NYS
 Analysis Year 2042
 Description Southbound Direction

----- Input Data -----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	16	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	38	/mi

Analysis direction volume, Vd 1275 veh/h
 Opposing direction volume, Vo 942 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	1.000	1.000
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1275 pc/h	942 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 47 mi/h
 Observed total demand,(note-3) V 821 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 53.4 mi/h

Adjustment for no-passing zones, fnp 0.5 mi/h
 Average travel speed, ATfSd 35.7 mi/h
 Percent Free Flow Speed, PFFfS 66.9 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1275 pc/h	942 pc/h	
Base percent time-spent-following,(note-4) BPTSFd	83.7	%	
Adjustment for no-passing zones, fnp	11.4		
Percent time-spent-following, PTSFd	90.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.75	
Peak 15-min vehicle-miles of travel, VMT15	287	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1147	veh-mi
Peak 15-min total travel time, TT15	8.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	35.7	mi/h
Percent time-spent-following, PTSFd (from above)	90.3	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1275.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.07
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

With Proposed Lane Reconfiguration

Segment 1: Hudson Bluff to Chestnut

Segment 2: Chestnut Road to St. James Road

Phone: Fax:
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2017
Description Northbound Direction

----- Input Data -----

Highway class	Class 1	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	22	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	0.9 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	40	/mi

Analysis direction volume, Vd 740 veh/h
Opposing direction volume, Vo 812 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor, (note-5) fHV	0.899	0.917
Grade adj. factor, (note-1) fg	0.98	0.99
Directional flow rate, (note-2) vi	840 pc/h	894 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 49 mi/h
Observed total demand, (note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFFS - mi/h
Adj. for lane and shoulder width, (note-3) fLS - mi/h
Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFSd 54.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 40.1 mi/h
Percent Free Flow Speed, PFFS 73.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	0.99	1.00	
Directional flow rate,(note-2) vi	747 pc/h	812 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	67.2	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	79.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	166	veh-mi
Peak-hour vehicle-miles of travel, VMT60	666	veh-mi
Peak 15-min total travel time, TT15	4.1	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	40.1	mi/h
Percent time-spent-following, PTSFD (from above)	79.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.60	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	42.4	
Percent free flow speed including passing lane, PFFSp1	77.4	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.37	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.27	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	62.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	3.9	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	740.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.34
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Existing Conditions PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2017
 Description Northbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	22 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.9 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	40 /mi

Analysis direction volume, Vd 740 veh/h
 Opposing direction volume, Vo 812 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.899	0.917
Grade adj. factor,(note-1) fg	0.98	0.99
Directional flow rate,(note-2) vi	840 pc/h	894 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
 Observed total demand,(note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 54.8 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
 Average travel speed, ATfSd 40.1 mi/h
 Percent Free Flow Speed, PFfS 73.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	0.99	1.00	
Directional flow rate,(note-2) vi	747 pc/h	812 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	67.2	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	79.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	166	veh-mi
Peak-hour vehicle-miles of travel, VMT60	666	veh-mi
Peak 15-min total travel time, TT15	4.1	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	40.1	mi/h
Percent time-spent-following, PTSFD (from above)	79.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.60	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	42.4	
Percent free flow speed including passing lane, PFFSp1	77.4	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.37	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.27	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	62.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	3.9	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	740.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.34
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Existing Conditions PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2017
 Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	17	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 812 veh/h
 Opposing direction volume, Vo 740 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.935	0.920
Grade adj. factor,(note-1) fg	0.99	0.98
Directional flow rate,(note-2) vi	877 pc/h	821 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
 Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.4 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
 Average travel speed, ATfSd 41.9 mi/h
 Percent Free Flow Speed, PFfS 74.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	0.99	
Directional flow rate,(note-2) vi	812 pc/h	747 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	69.6	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	83.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	183	veh-mi
Peak-hour vehicle-miles of travel, VMT60	731	veh-mi
Peak 15-min total travel time, TT15	4.4	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.1	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	41.9	mi/h
Percent time-spent-following, PTSFD (from above)	83.0	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.00	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	45.2	
Percent free flow speed including passing lane, PFFSp1	80.1	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.92	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.22	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	56.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.1	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	812.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.38
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Existing Conditions PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2017
 Description Southbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	17 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.9 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	40 /mi

Analysis direction volume, Vd 812 veh/h
 Opposing direction volume, Vo 740 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.935	0.920
Grade adj. factor,(note-1) fg	0.99	0.98
Directional flow rate,(note-2) vi	877 pc/h	821 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
 Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.4 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h
 Average travel speed, ATfSd 41.9 mi/h
 Percent Free Flow Speed, PFfS 74.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	0.99	
Directional flow rate,(note-2) vi	812 pc/h	747 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	69.6	%	
Adjustment for no-passing zones, fnp	25.7		
Percent time-spent-following, PTSFD	83.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	183	veh-mi
Peak-hour vehicle-miles of travel, VMT60	731	veh-mi
Peak 15-min total travel time, TT15	4.4	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.1	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	41.9	mi/h
Percent time-spent-following, PTSFD (from above)	83.0	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.00	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	45.2	
Percent free flow speed including passing lane, PFFSp1	80.1	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.92	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.22	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	56.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.1	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	812.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.38
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2022
 Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	22	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 783 veh/h
 Opposing direction volume, Vo veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.917	0.917
Grade adj. factor,(note-1) fg	0.99	0.99
Directional flow rate,(note-2) vi	862 pc/h	922 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
 Observed total demand,(note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 54.7 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
 Average travel speed, ATfSd 39.6 mi/h
 Percent Free Flow Speed, PFfS 72.5 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	783 pc/h	837 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	69.1	%	
Adjustment for no-passing zones, fnp	24.8		
Percent time-spent-following, PTSFD	81.1	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	176	veh-mi
Peak-hour vehicle-miles of travel, VMT60	705	veh-mi
Peak 15-min total travel time, TT15	4.4	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	39.6	mi/h
Percent time-spent-following, PTSFD (from above)	81.1	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.60	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	41.9	
Percent free flow speed including passing lane, PFFSp1	76.7	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.12	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.02	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	64.0	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	4.2	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	783.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.37
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2022
 Description Northbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	22	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	0.9 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	40	/mi

Analysis direction volume, Vd 783 veh/h
 Opposing direction volume, Vo 878 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.917	0.936
Grade adj. factor,(note-1) fg	0.99	1.00
Directional flow rate,(note-2) vi	862 pc/h	938 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
 Observed total demand,(note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
 Adj. for lane and shoulder width,(note-3) fLS - mi/h
 Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 54.7 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
 Average travel speed, ATfSd 39.5 mi/h
 Percent Free Flow Speed, PFFfS 72.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	783	878	pc/h
Base percent time-spent-following,(note-4) BPTSFD	69.7	%	
Adjustment for no-passing zones, fnp	23.9		
Percent time-spent-following, PTSFD	81.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	176	veh-mi
Peak-hour vehicle-miles of travel, VMT60	705	veh-mi
Peak 15-min total travel time, TT15	4.5	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	39.5	mi/h
Percent time-spent-following, PTSFD (from above)	81.0	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.60	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	41.8	
Percent free flow speed including passing lane, PFFSp1	76.5	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	5.12	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.02	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	63.9	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	4.2	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	783.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.37
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2022
Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 894 veh/h
Opposing direction volume, Vo 764 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.939	0.903
Grade adj. factor,(note-1) fg	1.00	0.99
Directional flow rate,(note-2) vi	952 pc/h	855 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 55.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 35.2 mi/h
Percent Free Flow Speed, PFFS 69.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	1.00		
Directional flow rate,(note-2) vi	894	764	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	72.6	%		
Adjustment for no-passing zones, fnp	23.8			
Percent time-spent-following, PTSFD	85.4	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E		
Volume to capacity ratio, v/c	0.56		
Peak 15-min vehicle-miles of travel, VMT15	291	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	1162	veh-mi	
Peak 15-min total travel time, TT15	8.3	veh-h	
Capacity from ATS, CdATS	1596	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1596	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi	
Length of two-lane highway upstream of the passing lane, Lu	0.9	mi	
Length of passing lane including tapers, Lpl	0.4	mi	
Average travel speed, ATSD (from above)	35.2	mi/h	
Percent time-spent-following, PTSFD (from above)	85.4		
Level of service, LOSd (from above)	E		

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi	
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi	
Adj. factor for the effect of passing lane on average speed, fpl	1.11		
Average travel speed including passing lane, ATSp1	36.3		
Percent free flow speed including passing lane, PFFSp1	71.9	%	

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.34	mi	
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.34	mi	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62		
Percent time-spent-following including passing lane, PTSFpl	75.4	%	

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E		
Peak 15-min total travel time, TT15	8.0	veh-h	

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	894.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.80
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To Chestnut Road to St James Pl
 Jurisdiction NYS
 Analysis Year 2022
 Description Southbound Direction

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 894 veh/h
 Opposing direction volume, Vo 764 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.939	0.903
Grade adj. factor,(note-1) fg	1.00	0.99
Directional flow rate,(note-2) vi	952 pc/h	855 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
 Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 55.0 mi/h
 Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
 Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
 Average travel speed, ATSD 35.2 mi/h
 Percent Free Flow Speed, PFFS 69.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	894	764	pc/h
Base percent time-spent-following,(note-4) BPTSFD	72.6	%	
Adjustment for no-passing zones, fnp	23.8		
Percent time-spent-following, PTSFD	85.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.56	
Peak 15-min vehicle-miles of travel, VMT15	291	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1162	veh-mi
Peak 15-min total travel time, TT15	8.3	veh-h
Capacity from ATS, CdATS	1596	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1596	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	0.9	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	35.2	mi/h
Percent time-spent-following, PTSFD (from above)	85.4	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	36.3	
Percent free flow speed including passing lane, PFFSp1	71.9	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.34	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.34	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	75.4	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	8.0	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	894.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.80
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 25-Year PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2042
Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	22	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 963 veh/h
Opposing direction volume, Vo 1152 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.936	0.936
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1029 pc/h	1231 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 49 mi/h
Observed total demand,(note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 54.6 mi/h

Adjustment for no-passing zones, fnp 1.0 mi/h
Average travel speed, ATfSd 36.1 mi/h
Percent Free Flow Speed, PFfS 66.1 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	963	1152	pc/h
Base percent time-spent-following,(note-4) BPTSFD	78.7	%	
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	86.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.61	
Peak 15-min vehicle-miles of travel, VMT15	217	veh-mi
Peak-hour vehicle-miles of travel, VMT60	867	veh-mi
Peak 15-min total travel time, TT15	6.0	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	36.1	mi/h
Percent time-spent-following, PTSFD (from above)	86.3	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.60	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	38.2	
Percent free flow speed including passing lane, PFFSp1	69.9	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.86	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.76	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	68.1	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	5.7	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	963.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.48
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
 E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To Hudson Bluff to Chestnut Road
 Jurisdiction NYS
 Analysis Year 2042
 Description Northbound Direction

----- Input Data -----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	22 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	0.9 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	40 /mi

Analysis direction volume, Vd 963 veh/h
 Opposing direction volume, Vo 1152 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor, (note-5) fHV	0.936	0.936
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	1029 pc/h	1231 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM 49 mi/h
 Observed total demand, (note-3) V 674 veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFfs - mi/h
 Adj. for lane and shoulder width, (note-3) fLS - mi/h
 Adj. for access point density, (note-3) fA - mi/h

Free-flow speed, FFsd 54.6 mi/h

Adjustment for no-passing zones, fnp 1.0 mi/h
 Average travel speed, ATsd 36.1 mi/h
 Percent Free Flow Speed, PFFS 66.1 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	963	1152	pc/h
Base percent time-spent-following,(note-4) BPTSFD	78.7	%	
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	86.3	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.61	
Peak 15-min vehicle-miles of travel, VMT15	217	veh-mi
Peak-hour vehicle-miles of travel, VMT60	867	veh-mi
Peak 15-min total travel time, TT15	6.0	veh-h
Capacity from ATS, CdATS	1591	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1591	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	36.1	mi/h
Percent time-spent-following, PTSFD (from above)	86.3	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.60	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	38.2	
Percent free flow speed including passing lane, PFFSp1	69.9	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.86	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.76	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	68.1	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	5.7	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	963.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.48
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 25-Year PM Peak Hr
Highway Route 9W
From/To Hudson Bluff to Chestnut Road
Jurisdiction NYS
Analysis Year 2042
Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	17	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	40	/mi

Analysis direction volume, Vd 1152 veh/h
Opposing direction volume, Vo 963 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.950	0.950
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1213 pc/h	1014 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 50 mi/h
Observed total demand,(note-3) V 772 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 56.3 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
Average travel speed, ATfSd 37.9 mi/h
Percent Free Flow Speed, PFfS 67.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1152 pc/h	963 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	81.1 %		
Adjustment for no-passing zones, fnp	16.6		
Percent time-spent-following, PTSFD	90.1 %		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.71	
Peak 15-min vehicle-miles of travel, VMT15	259	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1037	veh-mi
Peak 15-min total travel time, TT15	6.8	veh-h
Capacity from ATS, CdATS	1615	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1615	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	0.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.1	mi
Length of passing lane including tapers, Lpl	0.1	mi
Average travel speed, ATSD (from above)	37.9	mi/h
Percent time-spent-following, PTSFD (from above)	90.1	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.00	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	40.9	
Percent free flow speed including passing lane, PFFSp1	72.7	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-2.90	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	62.3	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	6.3	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1152.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	9.56
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To Chestnut Road to St James Pl
 Jurisdiction NYS
 Analysis Year 2042
 Description Southbound Direction

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 1170 veh/h
 Opposing direction volume, Vo 942 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.939	0.939
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1246 pc/h	1003 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
 Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 55.0 mi/h
 Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
 Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
 Average travel speed, ATSD 31.9 mi/h
 Percent Free Flow Speed, PFFS 63.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1170 pc/h	942 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	81.5	%	
Adjustment for no-passing zones, fnp	16.5		
Percent time-spent-following, PTSFD	90.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.73	
Peak 15-min vehicle-miles of travel, VMT15	380	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1521	veh-mi
Peak 15-min total travel time, TT15	11.9	veh-h
Capacity from ATS, CdATS	1596	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1596	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	0.9	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	31.9	mi/h
Percent time-spent-following, PTSFD (from above)	90.6	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	33.0	
Percent free flow speed including passing lane, PFFSp1	65.3	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.60	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	80.0	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	11.5	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1170.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.93
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2017
Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	26	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 721 veh/h
Opposing direction volume, Vo 828 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.864	0.904
Grade adj. factor,(note-1) fg	0.98	0.99
Directional flow rate,(note-2) vi	852 pc/h	925 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 54 mi/h
Observed total demand,(note-3) V 664 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFfSd 60.0 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATfSd 44.9 mi/h
Percent Free Flow Speed, PFfS 74.9 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	0.99	1.00	
Directional flow rate,(note-2) vi	728	828	pc/h
Base percent time-spent-following,(note-4) BPTSFD	66.9	%	
Adjustment for no-passing zones, fnp	25.6		
Percent time-spent-following, PTSFD	78.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	234	veh-mi
Peak-hour vehicle-miles of travel, VMT60	937	veh-mi
Peak 15-min total travel time, TT15	5.2	veh-h
Capacity from ATS, CdATS	1574	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1574	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.9	mi/h
Percent time-spent-following, PTSFD (from above)	78.9	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	721.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	15.11
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2017
Description Northbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	26	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	1.3 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	18	/mi

Analysis direction volume, Vd 721 veh/h
Opposing direction volume, Vo 828 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.4
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.864	0.904
Grade adj. factor,(note-1) fg	0.98	0.99
Directional flow rate,(note-2) vi	852 pc/h	925 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 54 mi/h
Observed total demand,(note-3) V 664 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 60.0 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 44.9 mi/h
Percent Free Flow Speed, PFFS 74.9 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	0.99	1.00	
Directional flow rate,(note-2) vi	728	828	pc/h
Base percent time-spent-following,(note-4) BPTSFD	66.9	%	
Adjustment for no-passing zones, fnp	25.6		
Percent time-spent-following, PTSFD	78.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	234	veh-mi
Peak-hour vehicle-miles of travel, VMT60	937	veh-mi
Peak 15-min total travel time, TT15	5.2	veh-h
Capacity from ATS, CdATS	1574	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1574	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.9	mi/h
Percent time-spent-following, PTSFD (from above)	78.9	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	721.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	15.11
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Existing Conditions PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2017
Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 828 veh/h
Opposing direction volume, Vo 721 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.921	0.887
Grade adj. factor,(note-1) fg	0.99	0.98
Directional flow rate,(note-2) vi	908 pc/h	829 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 55.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATSD 35.7 mi/h
Percent Free Flow Speed, PFFS 70.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	0.99		
Directional flow rate,(note-2) vi	828	728	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	70.1	%		
Adjustment for no-passing zones, fnp	25.6			
Percent time-spent-following, PTSFD	83.7	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E		
Volume to capacity ratio, v/c	0.52		
Peak 15-min vehicle-miles of travel, VMT15	269	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	1076	veh-mi	
Peak 15-min total travel time, TT15	7.5	veh-h	
Capacity from ATS, CdATS	1596	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1596	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	0.9	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	35.7	mi/h
Percent time-spent-following, PTSFD (from above)	83.7	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	36.9	
Percent free flow speed including passing lane, PFFSp1	73.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.80	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.80	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	73.9	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	7.3	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	828.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.76
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Existing Conditions PM Peak Hr
 Highway Route 9W
 From/To Chestnut Road to St James Pl
 Jurisdiction NYS
 Analysis Year 2017
 Description Southbound Direction

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 828 veh/h
 Opposing direction volume, Vo 721 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.4	1.6
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.921	0.887
Grade adj. factor,(note-1) fg	0.99	0.98
Directional flow rate,(note-2) vi	908 pc/h	829 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
 Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 55.0 mi/h
 Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
 Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
 Average travel speed, ATSD 35.7 mi/h
 Percent Free Flow Speed, PFFS 70.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)		
PCE for trucks, ET	1.0	1.0		
PCE for RVs, ER	1.0	1.0		
Heavy-vehicle adjustment factor, fHV	1.000	1.000		
Grade adjustment factor,(note-1) fg	1.00	0.99		
Directional flow rate,(note-2) vi	828	728	pc/h	pc/h
Base percent time-spent-following,(note-4) BPTSFD	70.1	%		
Adjustment for no-passing zones, fnp	25.6			
Percent time-spent-following, PTSFD	83.7	%		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D		
Volume to capacity ratio, v/c	0.52		
Peak 15-min vehicle-miles of travel, VMT15	269	veh-mi	
Peak-hour vehicle-miles of travel, VMT60	1076	veh-mi	
Peak 15-min total travel time, TT15	7.5	veh-h	
Capacity from ATS, CdATS	1596	veh/h	
Capacity from PTSF, CdPTSF	1700	veh/h	
Directional Capacity	1596	veh/h	

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi	
Length of two-lane highway upstream of the passing lane, Lu	0.9	mi	
Length of passing lane including tapers, Lpl	0.4	mi	
Average travel speed, ATSD (from above)	35.7	mi/h	
Percent time-spent-following, PTSFD (from above)	83.7		
Level of service, LOSd (from above)	D		

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi	
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi	
Adj. factor for the effect of passing lane on average speed, fpl	1.11		
Average travel speed including passing lane, ATSp1	36.9		
Percent free flow speed including passing lane, PFFSp1	73.0	%	

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.80	mi	
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.80	mi	
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62		
Percent time-spent-following including passing lane, PTSFpl	73.9	%	

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D		
Peak 15-min total travel time, TT15	7.3	veh-h	

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	828.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.76
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2022
Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	26	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 764 veh/h
Opposing direction volume, Vo 894 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.883	0.926
Grade adj. factor,(note-1) fg	0.99	1.00
Directional flow rate,(note-2) vi	874 pc/h	965 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 54 mi/h
Observed total demand,(note-3) V 664 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSd 59.8 mi/h

Adjustment for no-passing zones, fnp 1.2 mi/h
Average travel speed, ATSD 44.3 mi/h
Percent Free Flow Speed, PFFS 74.1 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	764	894	pc/h
Base percent time-spent-following,(note-4) BPTSFD	68.9	%	
Adjustment for no-passing zones, fnp	23.8		
Percent time-spent-following, PTSFD	79.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	248	veh-mi
Peak-hour vehicle-miles of travel, VMT60	993	veh-mi
Peak 15-min total travel time, TT15	5.6	veh-h
Capacity from ATS, CdATS	1574	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1574	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.3	mi/h
Percent time-spent-following, PTSFD (from above)	79.9	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	764.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	15.14
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 5-Year PM Peak Hr
 Highway Route 9W
 From/To Chestnut Road to St James Pl
 Jurisdiction NYS
 Analysis Year 2022
 Description Northbound Direction

----- Input Data -----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	26 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	1.3 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	18 /mi

Analysis direction volume, Vd 764 veh/h
 Opposing direction volume, Vo 894 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.5	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor, (note-5) fHV	0.883	0.926
Grade adj. factor, (note-1) fg	0.99	1.00
Directional flow rate, (note-2) vi	874 pc/h	965 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	54	mi/h
Observed total demand, (note-3) V	664	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	-	mi/h
Adj. for lane and shoulder width, (note-3) fLS	-	mi/h
Adj. for access point density, (note-3) fA	-	mi/h
Free-flow speed, FFSd	59.8	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSD	44.3	mi/h
Percent Free Flow Speed, PFFS	74.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	764	894	pc/h
Base percent time-spent-following,(note-4) BPTSFD	68.9	%	
Adjustment for no-passing zones, fnp	23.8		
Percent time-spent-following, PTSFD	79.9	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	248	veh-mi
Peak-hour vehicle-miles of travel, VMT60	993	veh-mi
Peak 15-min total travel time, TT15	5.6	veh-h
Capacity from ATS, CdATS	1574	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1574	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	44.3	mi/h
Percent time-spent-following, PTSFD (from above)	79.9	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	764.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	15.14
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2022
Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 894 veh/h
Opposing direction volume, Vo 764 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.939	0.903
Grade adj. factor,(note-1) fg	1.00	0.99
Directional flow rate,(note-2) vi	952 pc/h	855 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS 55.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFfSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATfSd 35.2 mi/h
Percent Free Flow Speed, PFFfS 69.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	894	764	pc/h
Base percent time-spent-following,(note-4) BPTSFD	72.6	%	
Adjustment for no-passing zones, fnp	23.8		
Percent time-spent-following, PTSFD	85.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.56	
Peak 15-min vehicle-miles of travel, VMT15	291	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1162	veh-mi
Peak 15-min total travel time, TT15	8.3	veh-h
Capacity from ATS, CdATS	1596	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1596	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	35.2	mi/h
Percent time-spent-following, PTSFD (from above)	85.4	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.20	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	37.6	
Percent free flow speed including passing lane, PFFSp1	74.5	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.34	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.84	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	63.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	7.7	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	894.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.80
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 5-Year PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2022
Description Southbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00
Shoulder width	6.0 ft	% Trucks and buses	21 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	1.3 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Rolling	% Recreational vehicles	2 %
Grade: Length	- mi	% No-passing zones	100 %
Up/down	- %	Access point density	18 /mi

Analysis direction volume, Vd 894 veh/h
Opposing direction volume, Vo 764 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.5
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.939	0.903
Grade adj. factor,(note-1) fg	1.00	0.99
Directional flow rate,(note-2) vi	952 pc/h	855 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS 55.0 mi/h
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFfSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.3 mi/h
Average travel speed, ATfSd 35.2 mi/h
Percent Free Flow Speed, PFfS 69.8 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	894	764	pc/h
Base percent time-spent-following,(note-4) BPTSFD	72.6	%	
Adjustment for no-passing zones, fnp	23.8		
Percent time-spent-following, PTSFD	85.4	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.56	
Peak 15-min vehicle-miles of travel, VMT15	291	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1162	veh-mi
Peak 15-min total travel time, TT15	8.3	veh-h
Capacity from ATS, CdATS	1596	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1596	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	35.2	mi/h
Percent time-spent-following, PTSFD (from above)	85.4	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.20	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	37.6	
Percent free flow speed including passing lane, PFFSp1	74.5	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.34	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.84	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	63.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	7.7	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	894.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.80
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 25-Year PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2042
Description Northbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	26	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 942 veh/h
Opposing direction volume, Vo 1170 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.926	0.926
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1017 pc/h	1263 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 54 mi/h
Observed total demand,(note-3) V 664 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFSD 59.6 mi/h

Adjustment for no-passing zones, fnp 1.0 mi/h
Average travel speed, ATSD 40.8 mi/h
Percent Free Flow Speed, PFFS 68.6 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	942	1170	pc/h
Base percent time-spent-following,(note-4) BPTSFD	78.1	%	
Adjustment for no-passing zones, fnp	16.5		
Percent time-spent-following, PTSFD	85.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.60	
Peak 15-min vehicle-miles of travel, VMT15	306	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1225	veh-mi
Peak 15-min total travel time, TT15	7.5	veh-h
Capacity from ATS, CdATS	1574	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1574	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.8	mi/h
Percent time-spent-following, PTSFD (from above)	85.5	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	942.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	15.24
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
Agency/Co. BFJ Planning
Date Performed
Analysis Time Period Future 25-Year PM Peak Hr
Highway Route 9W
From/To Chestnut Road to St James Pl
Jurisdiction NYS
Analysis Year 2042
Description Northbound Direction

-----Input Data-----

Highway class	Class 3	Peak hour factor, PHF	1.00	
Shoulder width	6.0 ft	% Trucks and buses	26	%
Lane width	12.0 ft	% Trucks crawling	0.0	%
Segment length	1.3 mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling	% Recreational vehicles	2	%
Grade: Length	- mi	% No-passing zones	100	%
Up/down	- %	Access point density	18	/mi

Analysis direction volume, Vd 942 veh/h
Opposing direction volume, Vo 1170 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.926	0.926
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1017 pc/h	1263 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM 54 mi/h
Observed total demand,(note-3) V 664 veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfs - mi/h
Adj. for lane and shoulder width,(note-3) fLS - mi/h
Adj. for access point density,(note-3) fA - mi/h

Free-flow speed, FFsd 59.6 mi/h

Adjustment for no-passing zones, fnp 1.0 mi/h
Average travel speed, ATsd 40.8 mi/h
Percent Free Flow Speed, PFFS 68.6 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	942	1170	pc/h
Base percent time-spent-following,(note-4) BPTSFd	78.1	%	
Adjustment for no-passing zones, fnp	16.5		
Percent time-spent-following, PTSFd	85.5	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.60	
Peak 15-min vehicle-miles of travel, VMT15	306	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1225	veh-mi
Peak 15-min total travel time, TT15	7.5	veh-h
Capacity from ATS, CdATS	1574	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1574	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	40.8	mi/h
Percent time-spent-following, PTSFd (from above)	85.5	
Level of service, LOSd (from above)	D	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	942.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	15.24
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To Chestnut Road to St James Pl
 Jurisdiction NYS
 Analysis Year 2042
 Description Southbound Direction

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 1170 veh/h
 Opposing direction volume, Vo 942 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.939	0.939
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1246 pc/h	1003 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
 Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 55.0 mi/h
 Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
 Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
 Average travel speed, ATSD 31.9 mi/h
 Percent Free Flow Speed, PFFS 63.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1170 pc/h	942 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	81.5	%	
Adjustment for no-passing zones, fnp	16.5		
Percent time-spent-following, PTSFD	90.6	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.73	
Peak 15-min vehicle-miles of travel, VMT15	380	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1521	veh-mi
Peak 15-min total travel time, TT15	11.9	veh-h
Capacity from ATS, CdATS	1596	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1596	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	0.9	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	31.9	mi/h
Percent time-spent-following, PTSFD (from above)	90.6	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	33.0	
Percent free flow speed including passing lane, PFFSp1	65.3	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.60	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	80.0	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	11.5	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1170.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.93
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: _____ Fax: _____
 E-Mail: _____

-----Directional Two-Lane Highway Segment Analysis-----

Analyst BFJ Planning
 Agency/Co. BFJ Planning
 Date Performed _____
 Analysis Time Period Future 25-Year PM Peak Hr
 Highway Route 9W
 From/To Chestnut Road to St James Pl
 Jurisdiction NYS
 Analysis Year 2042
 Description Southbound Direction

-----Input Data-----

Highway class	Class 3		Peak hour factor, PHF	1.00	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.3	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Rolling		% Recreational vehicles	2	%
Grade: Length	-	mi	% No-passing zones	100	%
Up/down	-	%	Access point density	18	/mi

Analysis direction volume, Vd 1170 veh/h
 Opposing direction volume, Vo 942 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.3	1.3
PCE for RVs, ER	1.1	1.1
Heavy-vehicle adj. factor,(note-5) fHV	0.939	0.939
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1246 pc/h	1003 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h
 Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFfS 55.0 mi/h
 Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h
 Adj. for access point density,(note-3) fA 4.5 mi/h

Free-flow speed, FFfSd 50.5 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h
 Average travel speed, ATfSd 31.9 mi/h
 Percent Free Flow Speed, PFfS 63.3 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.0	1.0	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	1.000	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	1170 pc/h	942 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	81.5 %		
Adjustment for no-passing zones, fnp	16.5		
Percent time-spent-following, PTSFD	90.6 %		

-----Level of Service and Other Performance Measures-----

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.73	
Peak 15-min vehicle-miles of travel, VMT15	380	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1521	veh-mi
Peak 15-min total travel time, TT15	11.9	veh-h
Capacity from ATS, CdATS	1596	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1596	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	1.3	mi
Length of two-lane highway upstream of the passing lane, Lu	0.4	mi
Length of passing lane including tapers, Lpl	0.4	mi
Average travel speed, ATSD (from above)	31.9	mi/h
Percent time-spent-following, PTSFD (from above)	90.6	
Level of service, LOSd (from above)	E	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.20	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane, ATSp1	34.1	
Percent free flow speed including passing lane, PFFSp1	67.6	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.10	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane, PTSFpl	67.7	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	11.1	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1170.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.93
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i (v_d or v_o) $\geq 1,700$ pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for $v > 200$ veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.