Simplified HIghway Forecasting Tool (SHIFT)
Design Designation

Ver 3.4, 10-26-2018 Modeling & Forecasting 10/8/2019 1:36:58 PM alatimer

CMS DB Version June 2019 xxx

PID 23449 - Replace the 20' concrete culvert along Brecksville Rd (SR-21) over Hemlock Creek located just north of Selig Dr in Independence.

Opening Year: 2023 Design Year: 2043

Route ID	Log From	Log To	Length	Opening ADT	Design ADT	DHV	K	D	T24	TD
SCUY00021R	6.43	7.16	0.73	14,500	16,000	2,100	0.13	0.67	0.06	0.02
SCUY00021R	7.16	8.06	0.90	14,500	15,500	2,000	0.13	0.6	0.07	0.03

DEFINITIONS:

ADT: Average Daily Traffic, K: Design Hour Factor, DHV: Design Hour Traffic
DHV: K*ADT, D: Peak Direction Factor T24: Daily Trucks Fraction
TD: Design Hour Truck Fraction

* This symbol (*) is shown next to TD if a daily count override was used, ** if hourly count override was used.

LIMITATIONS

Users of this data need to be aware that there are limitations to the forecasts generated by this product that make it suitable only for roadway design projects which are low risk meaning the design is relatively insensitive to forecasted traffic such as with resurfacing projects. Please take time to read this carefully.

1. There is no attempt to provide any consistency between the forecasts on one segment and another or between a forecast produced previously by others and one produced by this program. Each segment is analyzed independently based on the data for that segment. It is left up to the user to apply professional judgment and common sense to the applicability and usability of the forecasts. If in doubt, contact Modeling & Forecasting 614-752-5747.
2. There is no attempt to provide consistency with recently planned developments or projects occurring in the vicinity of the segment. If the forecast needs must account for such things, send Modeling Forecasting a request accompanied by the usual required information so the requisite model runs can be conducted for the project.
3. This tool only provides forecasts on state mainline road segments (anything contained in the state traffic survey report which is a primary data source). For local roads and ramps, submit a request accompanied by some counts to Modeling & Forecasting.
4. This is unsuitable for intersection design since turning movements are not included.

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TRAFFIC FORECAST DETAILS

	ROUTE	MILE PT	LENGTH
ID	5420	SCUY00021R	6.43	0.73

FORECAST

YEAR	ADT	CAR	TRUCK
2040	15,990	15,000	990
GROWTH RATE		0.0048	0.017
METHOD TYPE		AVG	MODEL
CAP CODE		0	0

COUNT

	YEAR	VOLUME	PA COML	BC COML
1	0	0	0	0
2	2008	15,580	15,020	560
3	2010	16,950	16,390	560
4	2013	15,160	14,567	593
5	2015	14,939	14,355	584
6	2018	14,250	13,533	717

REGRESSION METHODS

SELECTED METHOD NUMBER: 2

FORECAST: PA VOL. 10,435 | BC VOL. 1,076 | Total 11,511

	GROWTH RATES PA COML	GROWTH RATES BC COML	DROPPED COUNT PA	DROPPED COUNT BC	2040 PA COML	2040 BC COML	COUNT vs REGRESS. ADJUSTMT VOLUMES PA COML	COUNT vs REGRESS. ADJUSTMT VOLUMES BC COML
I	-0.0154	0.0195			9,089	982	8,937	1,024
II	-0.0104	0.0228	3	5	10,637	1,061	10,435	1,076
III	-0.0253	0.0254			5,810	1,086	6,000	1,117
IV	-0.0268	0.0281	4	5	5,462	1,154	5,563	1,159
V	-0.0157	0.0367			8,919	1,281	8,866	1,295
VI	-9999	-9999	0	0	0	0	0	0
95% CONFIDENCE MIN					1,956	621	2,577	
MAX					14,281	1,955	16,236	

Process Flag: A — Adjusted model to counts with process per ODOT 255 spreadsheet.

NCHRP 255 ADJUSTMENT INFORMATION

M = Model, C = Count

	ADJUSTMENT METHOD	M vs C TOTAL	2040 TOTAL	M vs C TRUCK	2040 TRUCK		CAR GRTH RT	TRUCK GRTH RT
1)	C-M VOLUME DIFFERENCE	-1,945	20,772	226	949		0.0211	0.0147
2)	C/M RATIO	0.88	19,989	1.46	1,055		0.0181	0.0214
3)	RAF		20,493		985		0.0201	0.017
4)	MDL VOL. FORC. YR/BASE YR	1.4	20,214	1.47	1,021		0.019	0.0193
	SELECTED ADJ METHOD		RAF		RAF	SELECTED	0.0201	0.017

	CAR MIN / MAX	TRUCK MIN / MAX	CAR+TRUCK MIN / MAX
METHOD 1-4 VOLUME	18,934 / 19,823	949 / 1,055	19,883 / 20,878

2040 DESIGNATION	
ADT	15,990
K	0.13
D	0.67
T24	0.06
TD/T24	0.39
TD	0.02

Process Flag
A: Adjusted model to counts with process per ODOT 255 spreadsheet,
N: No model volumes were joined to TSR segment,
R: No counts available use raw model. Note:all sections should have counts.
0: Neither model nor counts

Note: 95% Confidence level was computed by adding and subtracting 2X Standard Error from each of 12 regression estimates

Cap Code
-1 means calculated rate was less than 0, so growth rate used = 0.
1 means calculated rate was > 3% for cars or 4% for Trucks

Regression Method
I - Uses all counts available (up to 6)
II - Method 1 without the count with the highest residual error from the regression line. it is only calculated if there were originally at least 4 counts.
III - Oldest count is dropped from the calculation. it is only calculated if there were originally at least 4 counts.
IV- Method 3 without the count with the highest residual error from the regression line. Only calculated if there were at least 5 counts.
V - Oldest 2 counts are dropped from the calculation. It is only calculated if there were originally at least 5 counts.
VI - Method 5 without the count with the highest residual error from the regression line. Only calculated if all 6 counts are were originally available.

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TRAFFIC FORECAST DETAILS

ID	ROUTE	MILE PT	LENGTH
	5421	SCUY00021R	7.16	0.9

FORECAST

YEAR	ADT	CAR	TRUCK
2040	15,000	14,000	1,000
GROWTH RATE		0.0028	0.0178
METHOD TYPE		AVG	AVG
CAP CODE		0	0

COUNT

	YEAR	VOLUME	PA COML	BC COML
1	0	0	0	0
2	2008	15,580	15,020	560
3	2010	16,950	16,390	560
4	2013	15,160	14,567	593
5	2015	14,939	14,355	584
6	2018	14,250	13,533	717

REGRESSION METHODS

SELECTED METHOD NUMBER	FORECAST PA VOL.	FORECAST BC VOL.	FORECAST Total
2	10,435	1,076	11,511

	GROWTH RATES PA COML	GROWTH RATES BC COML	DROPPED COUNT PA	DROPPED COUNT BC	2040 PA COML	2040 BC COML	COUNT vs REGRESS. ADJUSTMT VOLUMES PA COML	COUNT vs REGRESS. ADJUSTMT VOLUMES BC COML
I	-0.0154	0.0195			9,089	982	8,937	1,024
II	-0.0104	0.0228	3	5	10,637	1,061	10,435	1,076
III	-0.0253	0.0254			5,810	1,086	6,000	1,117
IV	-0.0268	0.0281	4	5	5,462	1,154	5,563	1,159
V	-0.0157	0.0367			8,919	1,281	8,866	1,295
VI	-9999	-9999	0	0	0	0	0	0
95% CONFIDENCE MIN					1,956	621	2,577	
MAX					14,281	1,955	16,236	

Process Flag: A — Adjusted model to counts with process per ODOT 255 spreadsheet.

NCHRP 255 ADJUSTMENT INFORMATION

M = Model, C = Count

	ADJUSTMENT METHOD	M vs C TOTAL	2040 TOTAL	M vs C TRUCK	2040 TRUCK		CAR GRTH RT	TRUCK GRTH RT
1)	C-M VOLUME DIFFERENCE	-10,486	20,255	-65	926		0.0195	0.0132
2)	C/M RATIO	0.58	17,709	0.92	909		0.011	0.0122
3)	RAF		19,230		919		0.016	0.0128
4)	MDL VOL. FORC. YR/BASE YR	1.24	18,206	1.27	912		0.0126	0.0124
	SELECTED ADJ METHOD		RAF		RAF	SELECTED	0.016	0.0128

	CAR MIN / MAX	TRUCK MIN / MAX	CAR+TRUCK MIN / MAX
METHOD 1-4 VOLUME	16,800 / 19,329	909 / 926	17,709 / 20,255

2040 DESIGNATION	
ADT	15,000
K	0.13
D	0.6
T24	0.06
TD/T24	0.43
TD	0.03

Process Flag
A: Adjusted model to counts with process per ODOT 255 spreadsheet,
N: No model volumes were joined to TSR segment,
R: No counts available use raw model. Note:all sections should have counts.
0: Neither model nor counts

Note: 95% Confidence level was computed by adding and subtracting 2X Standard Error from each of 12 regression estimates

Cap Code
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ADT Over-Ride Traffic Counts Used:

Hourly Traffic Count Over-Rides Used: