## 2017

# Virginia Department of Transportation Daily Traffic Volume Estimates Including Vehicle Classification Estimates

where available

## Special Locality Report 156

Town of Warrenton

Information in this report is included in Report

## 30

(Fauquier County)

Prepared By

Virginia Department of Transportation Traffic Engineering Division

In Cooperation With

**U.S. Department of Transportation Federal Highway Administration** 

## Virginia Department of Transportation Traffic Engineering Division Traffic Monitoring Section

The Virginia Department of Transportation (VDOT) conducts a program where traffic count data are gathered from sensors in or along streets and highways and other sources. From these data, estimates of the average number of vehicles that traveled each segment of road are calculated. VDOT periodically publishes booklets listing these estimates.

One of these booklets, titled "Average Daily Traffic Volumes with Vehicle Classification Data, on Interstate, Arterial and Primary Routes" includes a list of each Interstate and Primary highway segment with the estimated Annual Average Daily Traffic (AADT) for that segment. AADT is the total annual traffic estimate divided by the number of days in the year. This booklet also includes information such as estimates of the percentage of the AADT made up by 6 different vehicle types, ranging from cars to double trailer trucks; estimated Annual Average Weekday Traffic (AAWDT), which is the number of vehicles estimated to have traveled the segment of highway during a 24 hour weekday averaged over the year; as well as Peak Hour and Peak Direction factors used by planners to formulate design criteria.

In addition to the Primary and Interstate publication, one hundred books are published periodically, one for each of 100 areas across the state defined by VDOT for record-keeping purposes. These books include traffic volume estimates for roads within the county, cities, and towns within the area. These books are titled "Daily Traffic Volumes Including Vehicle Classification Estimates, where available; Jurisdiction Report numbers 00 through 99".

Also available are a number of reports summarizing the average Vehicle Miles Traveled (VMT) in selected jurisdictions and other categories of highways. There are many different ways to present traffic volume summary information. Because the user determines the value of each presentation, the reports have been redesigned based on user requests and feedback. The people of the VDOT Traffic Engineering Division Traffic Monitoring Section who produce these books welcome requests for other helpful ways of presenting the summary information.

A compact disc (CD) is available that includes files in the Adobe® Portable Document Format (PDF) that can be displayed, searched, and printed using common desktop computer equipment. The CD includes the publications described above as well as a number of other reports, including specialized VMT summaries and smaller AADT reports for each city and town separately.

## **Publication Notes**

## Parallel Roads

For road inventory and management purposes, some roadways are counted separately by direction and have separately published traffic estimates for each direction of travel. Examples of such roadways are the interstate system and routes with separated facilities and (usually) one-way traffic facilities in urban areas. In these publications, they are referred to as parallel roads. As a convenience for the users of the publication, the listing for segments of roads with parallel segments are published with both the traffic estimates for their own direction of travel (e.g. I-95 Northbound) as well as the estimate of the total of all traffic on the same route including parallel roadways (all directions of I-95). The publication will have a "Combined Traffic Estimates for Parallel Roadways on this Route" or "Combined Traffic" identifiers for the combined direction of travel estimates.

Roadways such as I-395 with a North segment, a South segment and a separate Reversible lane segment will have the estimate for more than two parallel roadways included in the entire combined traffic estimate.

Some routes have very complicated paths through cities and towns. These parallel paths may be too complex to allow a relationship between nearby sections of the opposite direction on the same route. In this case, to indicate that the traffic estimates for such a road segment may not include all directions of traffic on that route, the line that would list the combined values will indicate "NA" for not available.

VDOT's traffic monitoring program includes more than 100,000 segments of roads and highways ranging from several mile sections of Interstate highways to very short sections of city streets. Due to problems experienced obtaining some traffic count data, and the level of quality necessary to maintain confidence in the data, no estimate is currently available for some segments of roadway. These segments are included in the publications indicating "NA" for not available. It is the intention of the VDOT Traffic Engineering Division Traffic Monitoring group to obtain the data necessary and to report traffic volume estimates on all road segments included in these publications.

Many of the road segments in this program are local secondary roads. The amount and detail of data collected on these roads are not as great as the data collected on higher volume roads. The vehicle classification, average weekday traffic volumes, and the theoretical design hour traffic volumes are not calculated for these roads. The publications indicate "NA" for the information that is not available.

This publication is based on a traffic monitoring program initiated in 1997. Because the data collection techniques and statistical evaluation processes are different than those used in previous years, comparison with previous publications may be misleading.

Glossary of Terms:

Route: The Route Number assigned to this segment of roadway with the master inventory route number if this is an overlapping route, with official street or highway name if available.

Length: Length of the traffic segment in miles.

AADT: Annual Average Daily Traffic. The estimate of typical daily traffic on a road segment for all days of the week, Sunday through Saturday, over the period of one year.

**QA:** Quality of AADT:

- A Average of Complete Continuous Count Data
- B Average of Selected Continuous Count Data
- **F** Factored Short Term Traffic Count Data
- G Factored Short Term Traffic Count Data with Growth Element
- H Historical Estimate
- M Manual Uncounted Estimate
- N AADT of Similar Neighboring Traffic Link
- O Provided By External Source
- R Raw Traffic Count, Unfactored

4Tire: Percentage of the traffic volume made up of motorcycles, passenger cars, vans and pickup trucks.

Bus: Percentage of the traffic volume made up of busses.

**2Axle Truck:** Percentage of the traffic volume made up of 2 axle single unit trucks (not including pickups and vans).

**3+Axle Truck**: Percentage of the traffic volume made up of single unit trucks with three or more axles.

1Trail Truck: Percentage of the traffic volume made up of units with a single trailer.

2Trail Truck: Percentage of the traffic volume made up of units with more than one trailer.

QC: Quality of Classification Data:

- A Average of Complete Continuous Count Data
- B Average of Selected Continuous Count Data
- C Short Term Classified Traffic Count Data
- F Factored Short Term Traffic Count Data
- H Historical Estimate
- M Mass Collective Average
- N Classification Estimates of Similar Neighboring Traffic Link

K Factor: The estimate of the portion of the traffic volume traveling during the peak hour or design hour.

QK: Quality of the K Factor estimate:

- A Factor based on 30th Highest Hour Observed During at least 250 days of Continuous Traffic Data
- B Factor based on other Hour Observed During Less than 250 days of Continuous Traffic Data
- **F** Factor based on Highest Hour Collected at in a 48 Hour Weekday Period
- M Factor based on Manual Estimate of design hour
- N Design Hour Factor (K Factor) of Similar Neighboring Traffic Link
- O Provided by External Source

Dir Factor: The estimate of the portion of the traffic volume traveling in the peak direction during the peak hour..

AAWDT: Average Annual Weekday Traffic. The estimate of typical traffic over the period of one year for the days between Monday through Thursday inclusive.

QW: Quality of AAWDT:

- A Average of Complete Continuous Count Data
- B Average of Selected Continuous Count Data
- F Factored Short Term Traffic Count Data
- G Factored Short Term Traffic Count Data with Growth Element
- M Manual Uncounted Estimate
- N AAWDT of Similar Neighboring Traffic Link
- O Provided by External Source

Year: Year for which the published values are appropriate. If the Quality of AADT (QA) is "R", the year is the year that the raw traffic count was collected, and if available,

## Route Shield Legend

## Route Systems

North	Interstate Route	Traffic volume data for Interstate Routes and some other routes are reported separately by direction, as well as combined.												
29	US Route													
7	Virginia State Rou	te												
(F241)	Frontage Road (F	precedes frontage route number)												
600	Secondary Route													
		Special Routes												
Bus 29 ALT 220	Bus - Business Ro Bvpas - Bvpass R Truck - Truck Rou ALT - Alternate Ro Wve - Wve Route	oute te oute												
		Southbound or Westbound direction lanes of a numbered route a different road facility than the other direction.												
600		inenance Jurisdiction number is displayed below the Secondary Rount ntenance Jurisdiction is different than the jurisdiction in the title of the												

The VDOT Maintainenance Jurisdiction number is displayed below the Secondary Route Number if the Maintenance Jurisdiction is different than the jurisdiction in the title of the report.

						Tru	ck			К		ir		
Route	Jurisdiction	Length AADT (	QA 4Tir	e Bus		-			QC	Factor	QK Fa	A	AWDT	QW
	From:	SCI Warranton			ZAXIE	3+Axie	IIIali	211411		I actor	Id	2101		
15 29 Eastern Bypass	Town of Warrenton (Maint: 30)		<b>G</b> 91%	1%	1%	1%	6%	0%	F	0.076	0.6	07 4	49000	G
Eastern Bypass				5 170	170	170	070	070	•	0.070	0.0		10000	u
Bus Bus Bus			N 000	10/	10/	00/	10/	00/	N	0.101	0.5	.07	10000	Ν
15 17 29 James Madison Hwy	ZAxle 3+Axle 1Trail 21r           Town of Warrenton (Maint: 30)         0.26 49000 G         91% 1% 1% 1% 6% 0%           Town of Warrenton         0.26 49000 R         91% 1% 1% 1% 6% 0%         0%           Town of Warrenton         0.34 11000 N         98% 1% 1% 1% 0% 1% 0%         0%           Town of Warrenton         0.34 11000 N         98% 1% 1% 1% 0% 1%         0%           Town of Warrenton         0.32 6100 G         99% 0% 0% 0% 0% 0%         0%           Town of Warrenton         0.32 6100 N         99% 0% 0% 0% 0% 0%         0%           Town of Warrenton         0.24 6400 N         99% 0% 0% 0% 0%         0%           Town of Warrenton         0.21 6900 C         99% 0% 0% 0%         0%           Town of Warrenton         0.24 6400 G         99% 0% 0% 0%         0%           Town of Warrenton         0.24 6400 G         99% 0% 0% 0%         0%           Town of Warrenton         0.24 6400 G         99% 0% 0% 0% <td>0%</td> <td>IN</td> <td>0.101</td> <td>0.5</td> <td>021</td> <td>12000</td> <td>IN</td>			0%	IN	0.101	0.5	021	12000	IN				
Bus	To: From:	US 17 Bus; Shirley A	Ave											
$f_{15}$ Falmouth St	Town of Warrenton	0.89 <b>4500</b>	<b>G</b> 99%	6 0%	1%	0%	0%	0%	С	0.101	0.6	609	4900	G
	To				1									
Bus	From:	Mockingbird Lane	e											
Bus 15 Main St	Town of Warrenton	0.32 <b>6100</b>	<b>G</b> 99%	5 0%	0%	0%	0%	0%	С	0.086	0.5	88	6500	G
$\bigcirc$	Ta	Culpeper St												
Bus 15 Main St	From:		N. 000	00/	00/	00/	00/	00/		0.000	0.0		0500	
(15) Main St	I own of warrenton	0.05 6100	N 99%	s 0%	0%	0%	0%	0%	IN	0.086	0.5	88	6500	Ν
Bus Bus	To: From:	US 211 Bus												
15 $211$ Main St	Town of Warrenton	0.01 6100	N 99%	0%	0%	0%	0%	0%	N	0.086	0.5	88	6500	Ν
	To:			0/0		0,0	0 /0	070		0.000	0.0		0000	
Bus Bus	From:													
15) (211) Alexandria Pike	Town of Warrenton	0.24 6400	<b>G</b> 99%	5 0%	0%	0%	0%	0%	С	0.1	0.5	25	6800	G
	To	Vine St												
Bus Bus	From:													
(15) (211) Alexandria St	Town of Warrenton		<b>G</b> 99%	5 0%	0%	0%	0%	0%	F	0.100	0.5	641	7400	G
	To:													
Bus Bus				00/		00/	00/	00/	~	0.000	0.0	0.4	7000	~
15 211 Blackwell Rd				5 U%	0%	0%	0%	0%	C	0.098	0.5	034	7600	G
Bus Bus	From:		2											
15 29 Lee Highway	Town of Warrenton			5 0%	0%	0%	0%	0%	F	0.083	0.8	34 3	33000	G
(15) (29) 200 mg/may	To:			0,0		0,0	0,0	0,0	•	0.000	0.0			0.
	From:													
	Town of Warrenton (Maint: 30)			1%	1%	1%	10%	0%	F	0.085	0.5	47 -	14000	G
(17)				99%       0%       0%       0%       0%       0%       0%       0.588         99%       0%       0%       0%       0%       0%       0       0.525         99%       0%       0%       0%       0%       C       0.1       0.525         99%       0%       0%       0%       0%       F       0.100       0.541         99%       0%       0%       0%       0%       C       0.098       0.534         99%       0%       0%       0%       0%       F       0.083       0.834         99%       0%       0%       0%       F       0.085       0.547         99%       1%       1%       1%       0%       N       0.101       0.527         98%       1%       1%       0%       0%       0%       C       0.09       0.579					14000	u				
	Enve													
Bus Bus Bus				10/	10/	00/	10/	00/	NI	0 1 0 1	0.5	.07	10000	NI
17 15 29 James Madison Hwy			N 98%	o I%o	1%	0%	1%	0%	IN	0.101	0.5	27	12000	Ν
Bus Bus	From:	Bus US 15 Bus US 15 Falmouth	h St											
17 29 East Shirley Ave	Town of Warrenton			5 0%	1%	0%	0%	0%	С	0.09	0.5	79 1	13000	G
				0,0	. / 5	0,0	0,0	0,0	•	0.00	0.0			
Bus Bus	To: From:	Culpeper St												
17 29 West Shirley Ave	Town of Warrenton	0.80 <b>18000</b>	<b>G</b> 98%	5 0%	1%	0%	0%	0%	С	0.085	0.5	609 2	20000	G
$\bigcirc \bigcirc$	To	Bus US 211 Waterloo	o St											
Bus Bus	From													
(17) (29) (211) Broadview Ave	Town of Warrenton			5 0%	1%	0%	0%	0%	С	0.081	0.5	576 3	35000	G
	To	Bus US 29 Lee Hw	vy											

							Tru			К	Dir	r		
Route	Jurisdiction	Length AADT	QA ·	4Tire	Bus		3+Axle			QC	Factor	QK Factor	AAWDT	QW
Bus	From:	Bus US 29 Lee Hv	-							-				_
(17) Broadview Ave	Town of Warrenton	0.57 <b>10000</b>		98%	0%	1%	0%	1%	0%	С	0.090	0.554	11000	G
⇒	To:	NCL Warrenton	1											
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	From:	SCL Warrenton												
29 (15) Eastern Bypass	Town of Warrenton (Maint: 30)	0.26 <b>49000</b>	G	91%	1%	1%	1%	6%	0%	F	0.076	0.607	49000	G
$\sim$	To:	NCL Warrenton	l											
Bus Bus Bus	From:	SCL Warrenton												
29 15 17 James Madison Hwy	Town of Warrenton	0.34 <b>11000</b>	Ν	98%	1%	1%	0%	1%	0%	Ν	0.101	0.527	12000	Ν
$\bigcirc \bigcirc \bigcirc \bigcirc$	To:	BUS US 17 Shirley	Ave											
Bus Bus	From:	BUS US 15								~				~
(29) (17) East Shirley Ave	Town of Warrenton	0.96 <b>12000</b>	G	98%	0%	1%	0%	0%	0%	С	0.09	0.579	13000	G
	To: From:	Culpeper St												
Bus Bus (29) (17) West Shirley Ave	Town of Warrenton	0.80 <b>18000</b>	G	98%	0%	1%	0%	0%	0%	С	0.085	0.509	20000	G
		0.00 10000	G	30 /8	0 /8	1 /0	0 /8	0 /8	0 /8	0	0.005	0.503	20000	u
Bus Bus	To: From:	US 17, US 211												
29) (17) (211) Broadview Ave	Town of Warrenton	0.86 <b>33000</b>	G	98%	0%	1%	0%	0%	0%	С	0.081	0.576	35000	G
	T													
Bus	From:	Bus US 17 Broadview	v Ave											
29) (211) Lee Highway	Town of Warrenton	0.55 <b>28000</b>	G	98%	0%	1%	0%	1%	0%	С	0.076	0.553	30000	G
$\bigcirc \bigcirc$	To:	Bus US 15 Blackwel	ll Rd											
Bus Bus	From:	BUS US 15								_				_
(29) (15) Lee Highway	Town of Warrenton	0.59 <b>31000</b>		99%	0%	0%	0%	0%	0%	F	0.083	0.834	33000	G
$\diamond$ $\diamond$	To:	NCL Warrenton	l											
~~~~	From:	WCL Warrenton												
211 Frost Ave	Town of Warrenton	0.48 <b>22000</b>		98%	0%	1%	0%	0%	0%	С	0.085	0.673	23000	G
$\sim$	To:	Bus US 17; Bus US												
Bus Bus	From:	Shirley Ave; Bus US			<b></b>					~				~
211) (17) (29) Broadview Ave	Town of Warrenton	0.86 <b>33000</b>	G	98%	0%	1%	0%	0%	0%	С	0.081	0.576	35000	G
Bus	To: From:	Bus US 17 Broadview	v Ave											
$\sim$	Town of Warrenton	0.55 <b>28000</b>	G	98%	0%	1%	0%	1%	0%	С	0.076	0.553	30000	G
211 (29) Lee Highway		Bus US 15 Blackwel		30 /8	0 /8	1 /0	0 /8	1 /0	0 /8	0	0.070	0.000	30000	u
_	Enne													
Bus		Broadview Ave		000/	00/		00/	00/	00/	~	0.000	0.000	0000	~
211 Waterloo St	Town of Warrenton	0.62 <b>6500</b>	G	99%	0%	0%	0%	0%	0%	С	0.090	0.629	6900	G
Bus	To: From:	Diagonal St												
211 Waterloo St	Town of Warrenton	0.10 <b>5700</b>	G	99%	0%	0%	0%	0%	0%	F	0.094	0.503	6100	G
	To:	US 15 Bus	~	0070	0 /0	0,0	0 /0	070	070	•	0.00-	0.000	0100	G
Bus Bus	From:	Bus US 15												
211 (15) Main St	Town of Warrenton	0.01 6100	Ν	99%	0%	0%	0%	0%	0%	Ν	0.086	0.588	6500	Ν
	To:	Alexandria Pike									-		-	
Bus Bus	From:	Main St												
211 15 Alexandria Pike	Town of Warrenton	0.24 6400	G	99%	0%	0%	0%	0%	0%	С	0.1	0.525	6800	G
	To:	King St												

Route	Jurisdiction	Length AADT	QA	4Tire	Bus		Trı 3+Axle		2Trail	QC	K Factor	QK Dir Factor	AAWDT	QW
Bus Bus	From:	King St												
(211) (15) Alexandria St	Town of Warrenton	0.21 6900	G	99%	0%	0%	0%	0%	0%	F	0.100	0.541	7400	G
$\bigcirc \bigcirc$	To:	Blackwell F	d											
Bus Bus	From:	Alexandria P	ike											
211 (15) Blackwell Rd	Town of Warrenton	0.58 <b>7200</b>	G	99%	0%	0%	0%	0%	0%	С	0.098	0.534	7600	G
$\bigcirc \bigcirc$	To:	US 29 BUS US 211	Lee Hw	у										

Route	Length	AADT	QA	4Tire	Bus		warreni Truc 3+Axle	ck		QC	K Factor	QK	Dir Factor	AAWDT	QW	Year
Town of Warrenton		From	1				Varrenton									
(1541) 30 Silver Cup Dr	0.04	380	R			CL W	arrenton				NA			NA		09/17/2015
	0.17	From	Ē			30	-1542							NIA		00/17/0015
(1541) 30 Silver Cup Dr	0.17	100 To	R			Cul	-de-Sac				NA			NA		09/17/2015
		From				Cul	-de-Sac									
Iron Bit Dr	0.28	120	R								NA			NA		09/17/2015
(1542) Iron Bit Dr	0.14	From 90	R			30	-1541				NA			NA		07/27/2015
(1542) Iron Bit Dr		To				Cul	-de-Sac									
	0.04	From				Warr	enton CL							NIA		10/00/0015
(1543) Black Sweep Rd	0.04	180 <sup>Τα</sup>	R			30	-1542				NA			NA		10/23/2015
		From				Blac	kwell Rd									
2 Alexandria Pike	0.58	<b>320</b>	G	97%	1%	2%	0%	0%	0%	С	0.119		0.5	340	G	2017
<u> </u>		From	1				ad End									
3 Oak Springs Dr	0.26	3200	G	99%	0%	1%	view Ave 0%	0%	0%	С	0.114		0.545	3400	G	2017
		To				Bra	nch Dr									
Branch Dr	0.19	From: 4200	G	99%	0%	Lee 1	Highway 0%	0%	0%	С	0.106		0.594	4500	G	2017
4 Branch Dr	0.19	<b>4200</b>	G	99%	0%		prings Dr	0%	0%	U	0.100		0.594	4500	G	2017
		From					Warrenton									
(880) Bear Wallow Rd	0.49	<b>4200</b>	G	99%	0%	0%	0%	0%	0%	С	0.083		0.667	4500	G	2017
		From	1				view Ave									
(886) Waterloo Rd	0.58	2500	G	99%	0%	1%	Warrenton 0%	0%	0%	С	0.101		0.759	2600	G	2017
		To					hannock St				7					
(886) Rappahannock St	0.03	1600	G	99%	0%	1%	erloo Rd 0%	0%	0%	F	0.099		0.934	1800	G	2017
		To					Frost Ave	;								
	0.07	From		000/	00/		nouth St	00/	00/	0	0.007		0.005	510	0	0017
(893) Old Meetze Rd	0.37	480 To	G	98%	0%	0% De	1% ad End	0%	0%	С	0.097		0.635	510	G	2017
		From					andria St									
(1893) Winchester St	0.42	3200	G	99%	0%	0%	0%	0%	0%	F	0.095		0.536	3400	G	2017
		To					ing St			-	<u> </u>					
(1893) Winchester St	0.69	<b>4500</b> <sup>Τα</sup>	G	99%	0%	0%	0% Highway	0%	0%	С	0.098		0.598	4800	G	2017
		From					ley Ave									
(1894) Culpeper St	0.38	2600	G	99%	0%	1%	0%	0%	0%	С	0.106		0.601	2800	G	2017
$\bigcirc$		To					otel St				⊐—					
(1894) Culpeper St	0.04	<b>1800</b> та	G	99%	0%	1%	0%	0%	0%	F	0.096			1900	G	2017
		From					ain St JS 15									
(1895) Old Broadview Ave	0.17	5000	G	100%	0%	0%	0%	0%	0%	С	0.084		0.618	5300	G	2017
$\bigcirc$		To				Ľ	JS 17									
Culpoper St		From:		000/	10/		Warrenton	0%	0%	6	0.000		0 5 9 0	E400	G	2017
Culpeper St		5400 To	G	98%	1%	1% Fis	0% her Ln	0%	0%	С	0.090		0.589	5400	G	2017
		From					nouth St									
East St		140 <sub>Ta</sub>	G								0.158		0.708	150	G	2017
		To	1				etze Rd									
Fletcher Dr		2100	G	98%	1%	Bus 1%	US 29 0%	0%	0%	С	0.093		0.509	2100	G	2017
		To	-		-		prings Dr	-	-							

Longth		04	4Tiro	Buc		Tru	ick		00	К	OK	Dir		∩W/	Year	
Length	AADT	QA	41110	Dus	2Axle	3+Axle	1Trail	2Trail	QU	Factor	QR	Factor	AAVUDI	QW	rear	
Town of Warrenton From Bear Wallow Dr																
	1600	G	99%	1%	1%	0%	0%	0%	С	0.138		0.652	1600	G	2017	
	To		Fauquier Rd													
	From		3rd St													
	4100	G	97%	1%	1%	0%	1%	0%	С	0.101		0.576	4100	G	2017	
	To			4th St												
From Falmouth St																
	10000	G	98%	1%	1%	0%	0%	0%	С	0.100		0.533	10000	G	2017	
	To		East St													
	Length	1600 To From 4100 To From	From 1600 G Tα From 4100 G Tα From	From From Tro From 4100 G 97% Tro From From	From 1600 G 99% 1% τα From 4100 G 97% 1% τα From From	Length AADT QA 4Tire Bus 	Length AADT QA 4Tire Bus Tru 2Axle 3+Axle Tru 2Axle 3+Axle Bear Wallow Dr Bear Wallow Dr Bear Wallow Dr Bear Wallow Dr 1600 G 99% 1% 1% 0% To Tru 2Axle 3+Axle Bear Wallow Dr 	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	