

June 21, 2007

Office of Highway Policy Information
Federal Highway Administration
400 Seventh Street, S.W.
Washington, D.C. 20590
Attention: HPPI-20, Room 3306

RE: Delaware HPMS 2006

Dear Sir/Madam:

We are submitting herewith the 2006 HPMS Data in accordance with the reporting requirements.

Area and Population

The 2006 HPMS information reflects the 2000-Census Urban Boundaries. The Land area and Population are presented below:

The Land Area was calculated in accordance with HPMS guidelines. This year's calculations correctly match the 2000 Census measurements of Delaware's total land area of 1954 square miles.

Based on the 2000 Census data, the Delaware Population Consortium provided the following population data and forecasts by each county of the State.

County	Area (Square Miles)	Population			
		2000 Census	2004	2005	2006
New Castle	427	500,265	520,239	523,008	527,027
Kent	589	126,697	136,096	143,968	147,675
Sussex	938	156,638	172,085	176,548	180,275
Total State	1954	783,600	828,420	843,524	854,977

Source: DE Population Consortium, 2006

2006 Delaware Certification Public Mileage

On June 1, 2007, Delaware reported 2006 Certified Public Miles to the FHWA. There were six thousand one hundred and seventy eight (6,178) miles of roadways in Delaware.

The following table shows the comparison of 2006 and 2005 mileage by the type of roadway. There was a total increase of 84.72 miles as shown below.

2005 - 2006 Mileage Table			
Type	2005	2006	Change
Road Inventory	3899.84	3900.65	0.81
Suburban	1348.47	1380.30	31.83
Municipal	732.23	741.63	9.40
DOD	43.00	41.00	-2.00
ACE	69.99	69.99	0
Delaware Parks & Recreation	0	33.26	33.26
U.S. Fish and Wildlife Service	0	11.42	11.42
Total	6093.54	6178.25	84.72

Road Inventory Mileage

There was no significant construction of new roadways by the Delaware Department of Transportation in 2006. An increase of 0.81 miles in the road inventory is due to small mileage adjustments and additions while performing Road inventory data review and updating.

Delaware’s Road Inventory data is more than 3 years old. Less than 5% of the roadway network has been updated for the last several years. Most of the data collection that has been accomplished was for the new roadway mileage or significant changes that affect the HPMS data. The reason for limited data collection is due to the unavailability of staffing within the Road Inventory Section. In the past, attempts to use consultant services were marginally successful. To rectify this problem we are in the process of hiring and training two full time DelDOT employees for field Road Inventory data collection. With this new staffing, we will be able to implement a data collection plan that will allow us to establish an update cycle of three to five years for Arterial and Collector routes and about every six years for the local routes.

Suburban Street Mileage

There are three counties in Delaware: New Castle, Kent & Sussex. In New Castle and Kent Counties, suburban streets must be built to meet State regulations and, therefore, are usually submitted to DelDOT and accepted into the state maintenance program. In Sussex County, suburban streets may be built to meet County regulations, which require less pavement thickness than under State regulations. Therefore, while some suburban streets in Sussex County are built to meet State regulations, submitted to DelDOT and accepted into the state maintenance program, most are built to meet County regulations and are privately maintained.

There was an increase of 31.83 miles in the Suburban Street Mileage. In the HPMS Universe, county, rural and urban areas group the Suburban street mileage by number of lanes as well as by Direction (1-way, 2-way). All of this mileage is local, and traffic counts are made every five years on limited sections for review.

Suburban street mileage funds for road improvements are distributed based on electoral districts.

Realty Transfer Tax Gross State Collections

Delaware has a Realty Transfer Tax, which is 3% of the sale price. The buyer and the seller pay 1.5% each. Depending on the location of property, the Realty Transfer Tax is split between the state and municipality, or county.

The following table shows realty tax collected by the state.

**Realty Transfer Tax
Gross State Collections**

Fiscal Year	Total (000)	% Change Over Previous Year
*2007	111,500	-18.54%
2006	136,875	10.78%
2005	123,558	25.37%
2004	98,555	29.71%
2003	75,980	26.23%
2002	60,192	22.32%
2001	49,208	

Source: David Gregor, Office of the Secretary of Finance, Department of Revenue.

NOTES

*The state fiscal year ends on June 30, 2007. The data for the fiscal year 2007 was estimated at \$111.500 million.

Municipal Street Mileage

There are 57 municipalities in Delaware. The increasing population, and annexations of the adjoining lands by municipalities accounted for the trend in growth. The Municipal-Aid Fund is used for cash distribution to municipalities based on street mileage and population. As reported herein, there was an increase of 9.40 miles of municipal street mileage in 2006.

In the HPMS Universe, county, rural and urban areas group the Municipal street mileage by number of lanes as well as by Direction (1-way, 2-way). More than 99% of this mileage is local, and traffic counts are made every five years on limited sections for review.

DelDOT maintains and updates the road inventory mileage of all municipalities. Other relevant information on municipalities is presented below.

The State Legislature appropriates a portion of the Delaware Transportation Trust Fund under the Capital Improvement Program to municipalities. Currently, a sum of \$6 million is to be distributed to 57 municipalities. The money is to be used for the maintenance of city maintained streets as stipulated in Title 30, Chapter 51, Subchapter III of the Delaware Code.

The distribution is based on 2 factors:

Population: As certified by the U.S. Bureau of Census, Delaware Population Consortium, or a prescribed enumeration (40% of distribution)

Mileage: As verified by the Data Collection Unit (60% of distribution)

In FY 2006-2007 the amount of funding was \$5 million, which was a reduction from the previous year. Currently \$6 million is proposed for FY 2007-2008.

Annually, correspondence is mailed from my office on April 15th to all municipalities requesting any updates for the next Fiscal Year. Responses are to be returned to my office on or before May 15th.

Verification of new mileage is conducted in performance with the actual road inventory collected by the Data Collection Unit, with my assistance. Upon completion of gathering all required data, the calculation of funding to be distributed to each municipality is completed and forwarded to the State Treasurer's Office for payment.

A "Municipal Officials" database is maintained and continually updated utilizing various resources. It also requires the constant monitoring of Municipal Elections as they occur throughout the year.

Historical data is available on the DelDOT website. The FY 2007-2008 Program will be posted after July 1, 2007. Also a complete guideline for the Municipal Street Aid Funding may be found on the Sate Auditor's web page at www.state.de.us/auditor under (publications).

Contact Information:

Steven (Steve) Smith
MSA Program Compliance Coordinator
Planning/Mapping Section
Ph. (302) 760-2456
Fax: (302) 739-6371
steven.smith@state.de.us

Electronic Red Light Safety Program (ERLSP)

Based on accident history, twenty signalized intersections were selected at various locations throughout the state, including 10 locations in municipal areas, to cite red light running violations. These intersections are equipped with video cameras to detect the offenders. The camera system is maintained and operated by Nestor Traffic Systems, Inc. under a contract agreement with DelDOT.

Thirty seven (37) approach movements are being monitored at present. The fine for a violation is \$75 levied to the registered owner of the vehicle. The revenues after cost, generated from municipal areas,

are paid to the respective municipal authorities, and the net revenue from unincorporated areas goes to DelDOT. Sixty percent of these proceeds are expended on Highway and Public Safety programs.

Over 200,000 red light running violations have been recorded to date. The angle collisions have been reduced at 14 out of 20 intersections as a result of the ERLSP.

For more information on DelDOT's ERLSP, contact Michael Svaby or visit the World Wide Web at http://www.deldot.gov/information/red_light/pdfs/after_analyses_summary.pdf.

The ERLSP Contact Information:

Michael Svaby, ERLSP Manager

900 Public Safety Boulevard,

Dover DE 19901

Mike.Svaby@state.de.us

(302) 760-2304

Department of Defense Mileage (DOD)

During 2006 there was a net decrease of 2 miles under the jurisdiction of DOD mileage. One of the roads leading to the base housing was turned over to a private contractor. In 2006 we are reporting 41 miles instead of 43 miles in the past.

This mileage exists inside the Dover Air Force Base, and conforms to the guidelines of public road mileage. At the entrance of Dover Air Force Base, civilian employees and non-employees are required to pass through security clearance, show identity cards, and explain the purpose of their visit. Under the new Home Land Security guidelines, these procedures are very common in state and federal office buildings.

Every few years, the US Department of Defense consolidates Air Force Base operations; some bases are closed while others are consolidated. The closest international airports from Dover (Capitol of Delaware) are Philadelphia, PA, Baltimore, MD and Dulles, VA. The travel time to each of these airports is approximately two hours from Dover. Thus, Delaware will need a regional airport in the future. The joint use of civilian and Air Force flight operations may be cost-effective.

The person who provided the Dover Air force mileage, lanes, and AADT is:

Mr. Kennard, C. Barry, Acting Chief, Resources Flight

United States Air Force

Dover AFB, DE 19902

Phone: (302) 677-6200

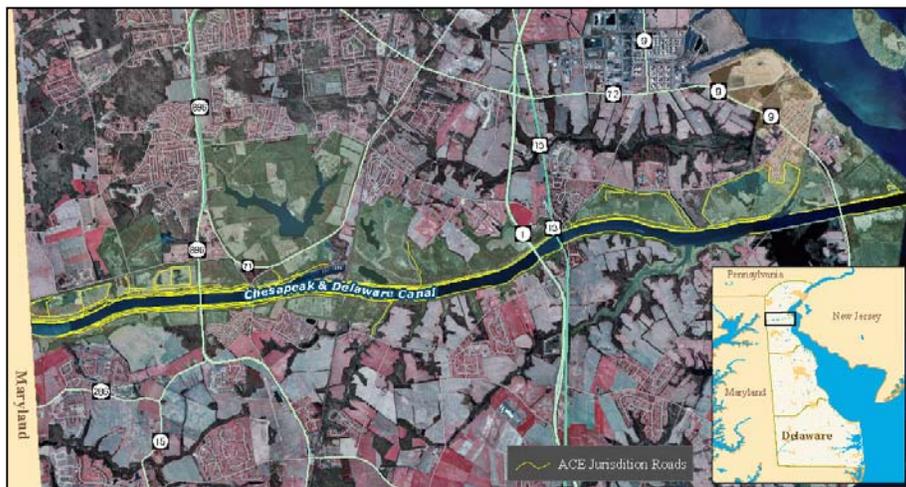
carl.kennard@dover.af.mil

Army Corps Of Engineers Mileage

There was no change in the 2006 ACE mileage.

In 2004, Delaware added 69.99 miles of local dirt roads in the proximity of Chesapeake and Delaware Canal. These roads are presently being used by the public and comply with the guidelines of public road mileage. Delaware Congressman Michael N. Castle, and other state and local officials as well as the public, are interested in converting some of the adjacent lands to a state public park.

The State GIS Analyst, Sarah Burkett, in coordination with the Army Corps of Engineers' Chesapeake City Project Office, has used GIS technology to calculate the mileage of roads along the C&D Canal. The methodology included heads-up digitizing of roads using a 2002 high-resolution (1:2,400 scale) infrared orthophotography base with reference to 2005 satellite imagery, and hard copy maps from the Atlas of Delaware produced by DeIDOT. Total mileage of the roadways was calculated using GIS length calculation tools, resulting in 69.99 miles. The U.S. Army Corps of Engineers (ACE) was given hardcopy maps of the digitized roadway for review. DeIDOT and ACE mutually agreed to use this calculation for state mileage reporting purposes.



Map displaying ACE Jurisdiction Roads identified using GIS technology.

The contact information of the official in the US Army Corps of Engineers, who reviewed the GIS data and mileage calculations, is:

James R. Tomlin, Jr.,
Resident Engineer
Chesapeake City Project Office
U.S. Army Corps of Engineers
P.O. Box 77
Chesapeake City, Maryland 21915
TEL: 410-885-5621
E-mail: James.R.Tomlin@nap02.usace.army.mil

Mr. Tomlin has provided his approval of the calculated mileage.

Chesapeake and Delaware Canal Recreation Trail

The Chesapeake and Delaware Canal Recreation Trail project, led by Congressman Mike Castle, would transform over 26 miles of Army Corps service road—from Delaware City to Chesapeake City—into a multi-purpose recreation trail with associated amenities and added security. The area is already being used by Delawareans and Marylanders alike for a variety of compatible activities. With the completion of the "Trail Concept Plan" in April 2006, efforts to complete the trail design are underway, and project partners hope to break ground soon on construction of Phase I of the trail from DE City to Chesapeake City on the north side of the Canal, contingent on authorization and available funding for fiscal year 2008 and beyond. As communities continue to grow and develop throughout Delaware, this recreation project is becoming increasingly important to all residents who value open spaces and who would like access to recreational areas. The Army Corps, Rep. Wayne Gilchrest (MD-01), DE Dept. of Transportation, DE Dept. of Natural Resources and Environmental Control, MD Dept. of Natural Resources, New Castle Co., Cecil Co., Delaware City, and Chesapeake City, have been extremely supportive of enhancing recreational opportunities along the Canal. While this is a long-term project, all parties are committed to getting the trail construction underway as soon as possible.

For project updates, please visit Rep. Castle's website at www.castle.house.gov. To view the "Trail Concept Plan," please visit www.nap.usace.army.mil/Projects/CD/index.htm.



OLIVIA KURTZ
SENIOR LEGISLATIVE ASSISTANT
CONGRESSMAN MICHAEL N. CASTLE (DE)
1233 LONGWORTH HOUSE OFFICE BUILDING
202/225-4165
202/225-2291 ~ FAX

Chesapeake and Delaware Canal Recreation Trail, DelDOT Partnership

The concept design package was recently completed with input from many agencies and interested public groups. Currently, DelDOT is working on obtaining the necessary funding to initiate the final design, which is scheduled to start by the beginning of June 2007. DelDOT's Transportation Enhancement Program,

Delaware Department of Natural Resources & Environmental Control, Maryland Department of Natural Resources & Environmental Control and New Castle County are providing funding for the project design. The design process is scheduled to take one year to complete. Many public workshops will be scheduled throughout the design development process to allow for public input.

If you are in need of additional information please contact;

Mr. Jeff Niezgoda
Project Manager, Transportation Enhancement Program
Delaware Department of Transportation
Phone: (302) 760-2178
Email: Jeff.Niezgoda@state.de.us

Delaware Parks & Recreation

In today's computer-oriented society, an after-work trip to happy hour for socialization and recreation has become routine. In 2006, Delaware had 4,257 drivers arrested for DUI, so we are encouraging alternative forms of recreation. DelDOT is presently working with various State cabinet members to provide adequate roads for increasing use of our various parks.

During 2006 we added, for the first time, the mileage from the Delaware Parks & Recreation, which is keeping with the ever increasing demand for recreation travel.

The inventory for the State Parks road system lists a total of 33.26 miles. The mileage inventory is now more than 5 years old. The Division of Parks & Recreation plans to update the road inventory, which will be provided when completed.

The contact information of the person in Delaware Parks & Recreation, who provided this information, is:

Phillip R. Gallo
Engineer III
Division of Parks & Recreation
89 Kings Highway
Dover, DE 19901
Phone: 302-739-9231
Fax: 302-739-7026

U.S. Fish and Wildlife Service

In 2006, we also added 11.42 miles under the jurisdiction of U. S. Fish and Wildlife. This includes Bombay Hook and Prime Hook, which become major attractions for bird watchers, especially during bird migration seasons.

Studies conducted by the National Wildlife Federation show, that nearly 400,000 people spent more than \$130 million on hunting, fishing and wildlife viewing in Delaware, which in turn, supported 2,255 jobs in the state.

U. S. Fish and Wildlife information was provided by the following:

Oscar Reed, Jr.
Deputy Refuge Manager
Bombay Hook NWR
(302)653-9345
Oscar_Reed@fws.gov

Bill J. Jones
Visitor Services Manager
Prime Hook National Wildlife Refuge
(302) 684-8419
Bill_J_Jones@fws.gov

ERROR MESSAGES 2006

Our response to Valid Errors Summary Report is as follows:

- Error Messages 1 & 2: Future AADT growth is 4 times or more than AADT
County 1(Kent County) - Section ID: 000160002000
County 1(Kent County) - Section ID: 000160002180

Response: Kent County Rd 16, designated as Delaware Route 8, is an Urban Minor Arterial with an AADT of 1,501 vpd, and its forecast AADT for the year 2030 is 9,045 vpd. The traffic forecast accounts for significant growth due to recently completed ramps between Delaware Route 8 and Delaware Route 1, which are in the vicinity of this sample section.

- Error Messages 3: VSF must be less than or equal to 1.20
County 1(Kent County) - Section ID: 000290001250

Response: Kent County Rd 29, designated as Delaware Route 10, is an Urban Collector with an AADT of 21,967 vpd, and the forecast AADT for the year 2030 is 29,540 vpd.

The intersection at the east end of this segment (US 13/SR 10) is very congested during peak hours. There is no project, even in the planning stage, to improve its capacity. Because of right-of-way constraints, DelDOT is working with the Town of Camden and area developers to explore options for diverting some of the traffic to relieve congestion.

- Error Messages 4: % Peak Combo Trucks > % Avg Daily Combination Trucks
County 3(New Castle County) - Section ID: 000240008480

Response: News Castle County Road 24 is U.S. 13 Business, and is in the vicinity of highly industrial areas, which include refineries, steel fabrication, and manufacturing. This section is

also the main route to the port of Wilmington. Apparently, high volumes of combo trucks are also operating during peak hours on this section.

- Error Messages 5: VSF must be less than or equal to 1.20
County 3(New Castle County) - Section ID: 000560009830

Response: News Castle County Road 56 is Interstate I-95, and is in the vicinity of SR- 1, Delaware Route 7, and Interstate 295. This section has only 8 lanes where the AADT is 182, 853 vpd. I-95 is severely congested particularly during the peak hours. There is a project in the CIP 2007 to add a 5th lane in each direction here.

- Error Messages 6 &7. VSF must be less than or equal to 1.20

County 3(New Castle County) - Section ID: 000590000470
County 3(New Castle County) - Section ID: 000590001820

Response: New Castle County Road 59 is Interstate I-95 and this section is where all three Delaware Interstate routes 95, 295 and 495 converge. This is a recurring traffic congestion problem.

- Error Messages 8. VSF must be less than or equal to 1.20
County 3(New Castle County) - Section ID: 000590012870

Response: New Castle County Road 59 is Interstate I-95, and this section is near the Pennsylvania State line, it is also near the junction of I-95 & I-495. This section is also severely congested.

- Error Messages 9, 10, 11 & 12: Future AADT growth is 4 times or more than AADT

County 3(New Castle County) - Section ID: 000600000120
County 3(New Castle County) - Section ID: 000600000320
County 3(New Castle County) - Section ID: 000600000680
County 3(New Castle County) - Section ID: 000600000820

Response: New Castle County Road 60 is Interstate I-495 where a change occurs from 4 to 6 lanes. These samples have very small sections ranging from 0.12 to 0.36 miles and act more like ramps and transitional lanes. The existing traffic is 29,369 vpd and the future AADT for the year 2030 is 122, 000 vpd. Our adopted Transportation and Land Use Network, at present, reflects major traffic movement in this corridor.

- Error Messages 13: Unusually high number of intersections (> 25 per mile)
County 3(New Castle County) - Section ID: 003360005730

Response: New Castle County Road 336, also called Delaware Route 4, is Maryland Avenue in the city of Wilmington. This sample sections is an Urban Other Principal Arterial, and has a Section Length of only 0.20 miles. The number of intersections is correct.

- Error Messages 14: VSF must be less than or equal to 1.20
County 3(New Castle County) - Section ID: 003560008520

Response: New Castle County Road 356, Delaware Route 72, is Library Avenue in Newark. This section is Urban Minor Arterial, and is close to the University of Delaware stadium. This section, with only two lanes, is carrying 26,774 vpd. Like much of SR 72 south of Newark, this section is highly congested.

- Error Messages 15: VSF must be less than or equal to 1.20
County 5 (Sussex County) - Section ID: 00018002240

Response: Sussex County Road 18, U.S. Route 9, is a 2- lane Rural Principal Arterial, with 16, 445 vpd in Georgetown. Local and beach related traffic cause serious traffic congestion in this section.

This section of US 9 is entering into the Georgetown Town Limits. There are houses and businesses outside the area immediately adjacent to Georgetown as well as several intersections, which restricts the amount of passing on the entire segment. Currently, there are no projects in the works on this segment. Immediately west of this segment, there is an intersection improvement project planned for US 9 and Airport Road to realign the intersection.

- Error Messages 16: Future AADT growth is 4 times or greater than the AADT for
County 5 (Sussex County) - Section ID: 00019A000140

Response: Sussex County road 19A is Ferry Terminal Road with a section length of 0.14 mile. The existing traffic at 867 vpd is expected to grow to 4,186 vpd in the year 2030.

- Error Messages 17 &18: VSF must be less than or equal to 1.20

County 5 (Sussex County) - Section ID: 000240038130

County 5 (Sussex County) - Section ID: 000240040610

Response: Sussex County road 24 is Delaware Route 24, and it is a 2- lane Rural Major Collector with 19,274 vpd. The road is close to the beach, and there are a lot of developments in the vicinity. This section does not allow passing at all. DelDOT is planning the Western Parkway project, which will run parallel to Delaware Route 1 from Nassau to Delaware Route 24 and connect Route 24 west of this section. That project may provide some congestion relief to this section of Route 24.

- Error Messages 19: Unusually high number of intersections (> 25 per mile)
County 5 (Sussex County) - Section ID: 000500004520

Response: Sussex County Road 50 is designated as Delaware Route 1, and this sample is in the town of Bethany Beach; the number of intersections is correct

- Error Messages 20: Unusually high number of intersections (> 25 per mile)
County 5 (Sussex) - Section ID 005360004580

Response: This is a very small sample section with a length of 0.28 mile, and is an Urban Collector in the city of Seaford; the number of intersections is correct.

Small Universe Section: Delaware HPMS universe has several small sections. The HPMS database is used to establish the mileage and vehicle-miles of travel for the municipalities. As of 2006, there were 57 municipalities. For funding allocation to the municipalities, the existing formula prescribed by Delaware Legislature is based on municipal population and street mileage. This is an ongoing process.

Standard Samples and Donut Sample Volume Group

The 2006 Universe comprises 6178 miles of roadway in Delaware. There was a net decrease of 15 Standard samples. Thirty-four samples were deleted, because they were all under 0.40 miles in section length, which did not meet the guideline adequacy. Seven new samples were added where permanent traffic counting stations are located. Seven new samples were added to Delaware Interstate 95. In 2007, a section of I-95 will be under construction to widen from 8 existing lanes to 10 lanes. Besides adding lanes, there are plans to increase tolls. These samples are expected to identify future needs. Some major changes in traffic pattern are taking place in Delaware due to recently completed SR-1, changes in toll charges, and major developments closer to urban boundaries, which are in the vicinity of SR-1 interchanges. Another 5 new samples were added to meet future traffic sampling requirements.

There was no change in the Donut Samples this year.

Annual changes in Standard and Donut Samples are presented below.

Change in Standard & Donut Samples

Year	Samples	Change	Donut Samples	Change
2000	587		89	
2001	621	34	109	20
2002	628	7	118	9
2003	643	15	175	57
2004	733	90	212	37
2005	658	(75)	253	41
2006	643	(15)	255	2

The AADT, as reported, is for the entire universe of the state, including roads and streets classified under the Local category. Field counts are made for all state-maintained roads. For Suburban

Street mileage and municipally maintained roads, which are grouped together, a sampling procedure is used along with engineering judgment to determine the traffic volumes. The function of Donut Samples is to estimate DVMT in Rural and Small Urban Areas, Urban and Rural Minor Arterials, Urban Collectors and Rural Major Collectors. The entire universe data are provided on Summary Sheet A, (Daily Travel Information in Thousands).

2006 Sample Status

Delaware now has more samples than the minimum HPMS sample requirement. Besides the HPMS needs, we also include samples where major growth may occur, and traffic patterns are likely to change.

HPMS Roughness Reporting Requirement

The **Measured Pavement Roughness** is represented by International Roughness Index (IRI).

IRI data was collected in 2004, but was not required for 2005. According to the requirements, it was to be again collected in 2006, but it was not until the contract was ready to be awarded, that our Audit section informed us that the selected vendor was not acceptable because of accounting irregularities. The FHWA Divisional Office was informed of the dilemma, at which time we were told that it was too late to do the IRI and that we should plan on collecting IRI for the 2007 calendar year. The task for collecting IRI has since been transferred to our Materials & Research section. The following is the correspondence that we received from our M&R section:

“Starting in CY 2007, Materials & Research will collect and manage the IRI data. Since we do not currently own the equipment, for 2007 we will use a consultant service agreement. Beyond 2007, we are pursuing the idea of purchasing the equipment and collecting the data with internal resources.”

Present Serviceability Rating (PSR)

The Pavement Management Section collects the PSR data on an annual basis.

1. The Overall Pavement Condition (OPC), as determined by the Pavement Management Section, is the source of the PSR data. A consultant is retained to perform the task.
2. The Pavement Management Section has collected data for all state-maintained roads in 2002, 2003, 2004, and 2006.
3. In 2005, the data was collected for all state-maintained roads, except for suburban streets.
4. The severity and the extent of distress of each roadway segment are evaluated by visual inspection. The consultant collecting the ratings retains an academic expert to provide the QA/QC report reviewed.

The engineer in charge of PSR data is:

Jennifer Pinkerton

Phone: 302 760 2071

FAX: 302 739 5270

E-mail: jennifer.pinkerton@state.de.us

The HPMS Console

GeoDecisions, a consultant, was hired by DelDOT in 2006 to facilitate the gathering of all data required for the HPMS. The HPMS console was developed as a component of the Department's Information Network for the Online Resource Mapping (INFORM) project. It can be used to manage, monitor, report, maintain, and generate various automated reports.

However, the HPMS console could not be used to prepare the HPMS report for 2006 due to initial rollout problems. The problems with the application of the console are being rectified at present. It is expected that the HPMS console will be useful in preparing the HPMS reports for 2007.

Response to HPMS Data in 2006

Last year, DelDOT submitted HPMS data conforming to the reporting requirements. We were asked to improve the quality of traffic and site specific data to meet the rigid guidelines of the TMG. We have taken numerous steps to work toward achieving that goal. Some of the actions that we've taken are reflected in our 2006 submission.

Changes Planned for 2007 HPMS Data

The IRI data were collected in 2004; we plan to collect IRI data again in 2007.

We now have 6.55 miles of Urban Principal Arterial Highways with AADT below 5,000 vpd and we have 2 lane urban locals with AADT in the range of 17,000-23,000 vpd.

There are still some locations which need to be reviewed and evaluated for changes in the functional classification. We will request approval after the data is evaluated.

We will confirm our procedures for developing the seasonal group factors, directional splits and peak hour factors, especially on summer routes.

The SR 1 toll freeway project was completed in its entirety in late 2003. The 15-year construction project connects the Dover area with I-95 in New Castle County and is approximately 50 miles in length. The final 9-mile section from Odessa to north of Smyrna was completed in 2003 and contributed to a shift in traffic from the existing four-lane US 13 to the new, parallel SR 1 four-lane, grade-separated alignment. Although three years of traffic data now exist on both US 13 and SR 1 since the completion of the SR 1 projects, the Department is not able to fully evaluate whether certain existing HPMS samples on US 13 should be deleted due to over sampling and redundancy. Given the recent

increases in traffic on US 13, the amount of projected population growth along US 13, and various proposals to increase tolls (through both increases to the base toll rate and possible elimination or reduction of frequency discount programs) which may cause a shift in traffic from SR 1 back to US 13, we would like to retain the number of samples on US 13 to continue the analysis of historical trends for at least two more years based on the assumption that traffic will increase on that route, for the reasons noted.

At present we are working with GeoDecisions on a new GIS based program called HPMS Console. We will be implementing this new program for our 2007 submittal. The contact information is:

GeoDecisions
Plaza 273, Suite 207
Christiana, DE 19702
Phone: 302-731-7531

LRS FOR GIS PRODUCTS

We have coded the LRS data for this 2006 HPMS submission. The road centerline file is in ESRI shapefile format with associated metadata. The attribute data for the centerline includes the LRS identification field and DelDOT's linear referencing fields including roadway ID, beginning mile point, and ending mile point.

The contact information for the consultant in charge of LRS is as follows:

Kumar Sanjay
GIS Consultant
DelDOT
Phone: 302-760-2648
Sanjay.Kumar@state.de.us

SITE-SPECIFIC TRAVEL ACTIVITY/VEHICLE CLASSIFICATION DATA:

We were unable to count the required one-third (1/3) of the HPMS sample sections in 2006 because of delays in contract approval and equipment failure. Now that we have a multi-year counting contract in place, we do not anticipate having this problem for 2007

As required, we continue to send the monthly ATR counts to the Travel Monitoring and Surveys unit of the FHWA via e-mail: atrdata@fhwa.dot.gov.

During 2006, our consultant worked with the Chaparral Company, using their TRADAS HPMS module to extract traffic related data, which was used to support DelDOT's submission.

There were 520 short-term counts for one-week duration in 2006. This represents approximately 20 % of the 3300 roadway sections in the network.

During 2006 not all of our ATR's were operational. Twenty-three (23) of Delaware's Automatic Vehicle Classifiers (AVC) and Weigh-in-Motion (WIM) stations were operational. During 2006, we calibrated all 23 sites. However, the I-95 site was one of the sites that were not operational, therefore, could not be calibrated. In 2007, major construction began on I-95 and is expected to last for approximately two years. The I-95 ATR site will be operational once construction is completed.

K & D Factors were obtained by actual counts at 133 locations. The Traffic Group data were used for K & D factors in the remaining sample sections.

DelDOT is in the process of implementing a system to monitor real-time traffic data, to include site status, via the ATRs. This system will allow our field technicians to respond immediately to ATR communication problems.

The contact information of the person in charge of traffic monitoring is:

Paul McKenna, TIS, Application Support Project Leader
302-760-2579
Paul.McKenna@state.de.us

Travel and Demographic Data: The 2006 population data were obtained from the April 2006 Population Consortium. The Delaware Land Area remains at 1954 square miles conforming to the 2000 U.S. Census.

Population: The yearly change in population by county is tabulated below:

County	Population by Year		
	2005	2006	% Change
New Castle	523,008	527,027	0.77%
Kent	143,968	147,675	2.57%
Sussex	176,548	180,275	2.11%
Total State	843,524	854,977	1.36%

The growth of population was only 0.77% in New Castle County. There are several reasons for the slight growth, which include major bank mergers, transfer of credit card operations to other states, and outsourcing work assignments to other countries. The City of Wilmington, which is the financial hub of banking operations in Delaware, has a wage tax. There was a general shift of jobs to lower tax area states, which offer other incentive packages. In comparison to the other two counties of Delaware, the property prices are higher in New Castle County. Early-retirement opportunity, buyout offers, and elimination of salaried positions in automobile assembly plants created a migration of some labor force from Delaware. General Motors and Daimler-Chrysler assembly plants are located in New Castle County. Despite these factors, there was still a slight growth of population in New Castle County.

Kent County had the greatest increase in population of 2.57% for the year. The main reason for the increase can be attributed to affordable housing and the ease of travel after the completion of the SR-1 freeway in 2004. The state capitol is located in Kent County.

Sussex County had a 2.11% increase in population. There was a large population migration from other states into Sussex County. The cost of living, affordable housing, open space, environmental benefits and convenient public transportation are some of the major reasons for this increase in population. As the demographic changes in the Census indicate, many of these new comers are retirees and senior citizens. That was one more factor for an unusual booming residential demand in Delaware during the years 2000-2005.

Now in 2006 and after, Delaware is facing a very high foreclosure rate like many other states. With the decline of growth in housing, there is a problem with the new immigrants who were employed in the construction industry and chicken farms, who do not speak good English.

A review of changes in ethnic characteristics indicates that Sussex County’s Hispanic population grew 369 percent between 1990 and 2000. Most of these new migrants are employed by the construction industry, agriculture, hospitality management, and in the chicken processing centers.

Daily Vehicle Miles of Travel:

The following table shows DVMT in Delaware by county:

Daily Vehicle Miles Travel (000)			
County	Year		Annual Change
	2005	2006	
New Castle County	15,286	15,224	-0.40%
Kent County	4,545	4,601	1.23%
Sussex County	6,159	5,947	-3.43%
State of Delaware	25,990	25773	-0.83%

There are several noteworthy events that appear to have had an effect on decreasing the HPMS traffic count samples used to generate the overall HPMS VMT estimate for 2006. One of these is that Delaware's largest retail shopping location, the Christiana Mall at the intersection of I-95 and SR 1 in New Castle County, had two of its four retail anchor stores vacant since late 2005. Based on previous special counts conducted for various studies DelDOT estimates typical traffic to and from the mall at between 25,000 - 35,000 trips per day. The Christiana Mall has had two of its major stores vacant, traffic to and from the mall has been substantially reduced in both holiday and non-holiday shopping seasons for 2006. The Christiana Mall is a major regional retail location due its location next to I-95 in Delaware, and is about 8 miles from the New Jersey state line to the east and about 7 miles to the Maryland state line to the west. It attracts a large portion of its shopping traffic from out of state locations due to its proximity to the regional Interstate system and Delaware's "no sales tax" status. This reduction in mall-oriented traffic appears to partially explain reduced traffic counts and VMT for New Castle County Interstate traffic and is consistent with decreases in daily traffic on the Delaware

Memorial Bridge between 2005 and 2006. Based on newspaper reports, the Christiana Mall is planning to fill one of the vacant anchor stores in 2008.

In addition, Delaware's overall real estate market for 2006 followed and was consistent with regional and national trends, indicating a "slowing down" of retail sales for both new and existing homes. In Delaware, this trend was particularly evident in the eastern part of Sussex County noted for its resort-oriented seashore recreational attractions. Over the past ten years, according to the Delaware Population Consortium, about 40% of the total dwelling units constructed in eastern Sussex County were "second homes" used as vacation homes or partial-year residences. Many of these homes were also used as weekly or monthly rental units for all or part of the summer months when students are not in school. For 2006, the overall "downturn" in the real estate market was demonstrated by the 15-20% reduction in real estate transfer taxes (RTT) as reported in major newspapers. This slowdown, plus the relatively high price of gasoline as compared with 2005, appears to partially explain reductions in AADT and VMT in the eastern part of Sussex County.

(Source: Michael DuRoss, Planning Supervisor, DelDOT)

National Highway System (NHS):

There were no changes to the NHS for 2006. It remains 338.19 miles.

Strategic Highway Network (STRAHNET):

The STRAHNET mileage has not changed for 2006. It remains 146.90 miles, including 40.61 miles in the Interstate Highway System.

Intermodal Connector:

Delaware has 7.00 miles of Intermodal Connector mileage. The 3.77-mile increase is due to a 0.51-mile segment that serves the Port of Wilmington and a 3.26-mile segment serving the Cape May - Lewes Ferry terminal. These segments were first recognized as Intermodal connectors in 2005. This increase was omitted in 2005 reporting and incorrectly reported as 3.23 miles.

The table showing roadway mileage for Delaware, on the web site of FHWA, now seems to be correct. It was last updated in October 2006. Details of the web site are furnished below.

U.S. Department of Transportation
Federal Highway Administration
Official NHS Intermodal Connector Listing
<http://www.fhwa.dot.gov/hep10/nhs/intermodalconnectors/delaware.html>

Toll Routes:

There was no change in the toll road mileage of 48.40 miles in Delaware. However, there was a toll increase in October 2005 at the Newark Toll Plaza on the JFK Memorial Highway (I-95).

Traffic Volatility:

Unusual traffic conditions exist in many roadway sections of lower functional classifications. From field observations, we believe this is due to recreational traffic in the summer as well as peak traffic in

urbanized areas (Dover and Wilmington). There is a tendency by local residents, familiar with area roads, to use short cuts to bypass the congested mainline traffic.

Lane Width:

The lane width is based on road markings. Much of Delaware Road Inventory data are over three years old. As we continue to update our Inventory files, the necessary changes will take place.

Road Inventory

We are implementing electronic inventory data collection software. The consultant services in use the last several years have been discontinued and we are in the process of hiring an in-house data collection crew. These new actions taken will allow us to establish a regular data collection plan and cycle providing updates to the Arterial and Collector routes on a three to five year cycle, and the local routes on a six-year cycle.

The entire DeIDOT Road Inventory unit is overseen by:

Kevin Gustafson
Road Inventory Supervisor
302-760-2142
Kevin.Gustafson@state.de.us

Unpaved Roads

There were 88.19 miles of unpaved roads in 2006. The United States Army Corps of Engineers had 69.99 miles of unpaved roads under their jurisdiction in 2005. Two more agencies: Delaware Parks & Recreation, and U.S. Fish and Wildlife Service are now added to unpaved roads in the Delaware Certified Mileage, 2006.

2006 Unpaved Road Mileage by Jurisdiction		
Jurisdiction	Rural	Urban
Army Corps Of Engineers Mileage	69.99	
Delaware Parks & Recreation	6.56	1.55
U.S. Fish and Wildlife Service	10.09	
Total	86.64	1.55

Total Unpaved Miles in Delaware 88.19 miles

Highway Surveillance Systems (item's 38 – 46):

All of the information provided to us for the 2006 HPMS submittal came from data collected by the Transportation Management Center (TMC). Data collected for items 40 and 42 are also maintained by DeIDOT's O.I.T. section in an Oracle Spatial Database.

Changes made for 2006 HPMS:

I performed all changes that were entered into Oracle Spatial database. Mr. Sanjay Kumar ran queries on the data and entered changes into the spreadsheet that was provided to Mr. Subhash Bhai.

Item 38 – Collection of Real-time traffic data to monitor traffic flow:

None for the state, however, if this pertains explicitly to microwave detection we have none currently. We do use the signal loops in the resort area to pull real time volumes on beach routes.

Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber.

Item 39 – Metered entrance ramps:

None for the state

Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber.

Item 40 – Variable message signs:

Reported 6 signs in 2005, 3 were added in 2006.

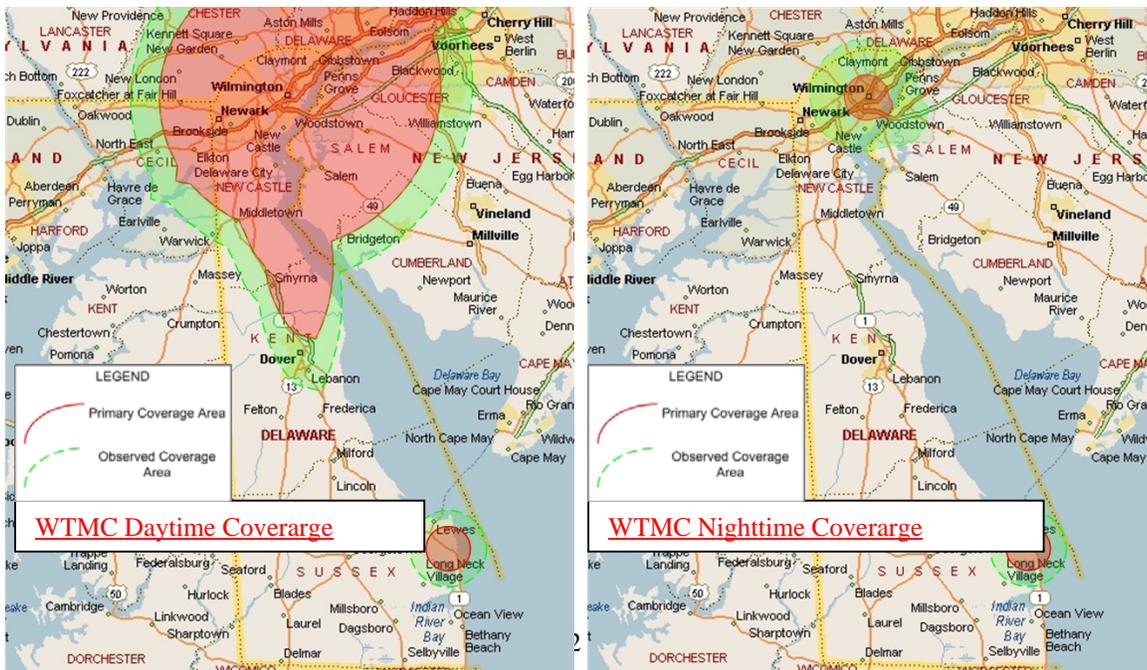
Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber.

Item 41 – Highway Advisory Radio:

Reported in 2005, Route 1 only from NC County to Dover also Route 1 from 5 Points Lewis to north of Bethany. Radio is daytime operation only.

Reported no changes for 2006

Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber. Radio is daytime operation only.



Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber. Data entered into Oracle Spatial database by myself. Mr. Sanjay Kumar also with DeIDOT OIT, queries roadway segments within a half-mile of cameras to generate report.

Item 43 – Incident Detection Tech. Algorithms:

None for the state

Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber.

Item 44 – Covered by free Cell Phone (#77):

Statewide Coverage by 911.

Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber.

Item 45 – Public Service Patrol or Towing:

No fulltime Public Service Patrol or Towing for the state.

We operate a MAP program on I95 during peak hours, holidays and weekends. In addition we offer a STO program along primary beach routes (both north south and east west) during the summer.

Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber.

Item 46 – Hardware needed to provide In-vehicle signing info to equipped vehicles:

None for the state

Data provided to me per email/phone conversation with Chief Traffic Engineer Mr. Donald Weber.

Future improvements for 2007:

We expect to add several cameras, bring additional signal locations under central signal system control and possibly to complete a communications backbone from Dover to Milford (possibly with microwave). We will also be acquiring software that will enable the monitoring of real time traffic conditions at 10 of our permanent count stations.

Future recommendations and suggestion as to how we can improve the procedure for future submissions:

There should be a person in the DeIDOT Traffic section who is familiar with GeoMedia or Arc that would maintain the geospatial databases for this section. I would also recommend that they be trained to use the HPMS Console.

The HPMS Console needs to be automated for all items where we have highway surveillance. For instance if the cameras were automated this would eliminate the involvement of Mr. Kumar.

Below is the contact information for the DeIDOT employee in charge of the Highway Surveillance System. Information is furnished below:

Darin Dell, CADD/GIS Technologist
Delaware Dept. of Transportation – T615

Office of Information Technology
800 Bay Road, P.O. Box 778
Dover, DE 19903
Tel. (302) 760-2632
Fax (302) 760-2632
Email: Darin.Dell@state.de.us

Item 50 Surface/Pavement Type: Visual Pavement Management System Software – Surface type is updated by consultant performing condition ratings for the state-maintained inventory on an annual basis (suburban inventory may skip years), Pavement Management maintains this database and surface changes are submitted to Planning to update the road inventory. Surface type data is also updated when construction projects are completed and form is submitted to Pavement Management, which updates the surface type manually.

Item 53 – Year of Surface Improvement: Visual Pavement Management System Software – Improvement data is updated when construction or maintenance projects are completed and a form is submitted to Pavement Management, which updates the construction history of the road segment affected.

Jennifer Pinkerton, P.E.
Delaware Department of Transportation
Maintenance and Operations, Pavement Management
Dover DE 19901
Tel. (302) 760-2071
Fax (302) 739-5270
Email: Jennifer.Pinkerton@state.de.us

Item 51 – SN or D

For the structural number determination, Materials & Research has an internal database that is used to determine material compositions and pavement thicknesses. From that database, structural numbers are determined.

James Pappas
Chief Materials & Research Engineer
Transportation Solution & Engineering Support
Material & Research Section
Tel. (302) 760-2379
Email: James.Pappas@state.de.us

Pavement Geometric

Items were updated for new sample sections, existing sections with erroneous data, and all improvements in calendar year 2006.

Items 63-68 – Falcon/DMS: Actual Construction Plan (Horizontal Geometry Section)

Item 70 – Terrain Type: Falcon/DMS: Actual Construction Plan Profiles

Items 72-77 – Grades by Class: Falcon/DMS: Actual Construction Plan Profiles

The above information was obtained from DeIDOT's archive plan database. Users should have proficiency of plan reading, station to milepost conversion and archive file search criteria.

Leo E. Gracie
Delaware Department of Transportation
Quality Section
Dover DE 19901
Tel. (302) 760-2347
Fax (302) 739-6360
Email: Leo.Gracie@state.de.us

Traffic/Capacity

The Traffic Studies Section was responsible for updating the following items for New Castle, Kent, and Sussex Counties for the 2006 HPMS submission:

- 61 Peak Parking
- 78 Percent Passing Sight Distance
- 80 Speed Limit
- 88 Left Turning Lanes/Bays
- 89 Right Turning Lanes/Bays
- 90 Prevailing Type of Signalization
- 91 Typical Peak Percent Green Time
- 92 Number of At-Grade Intersections – Signals
- 93 Number of At-Grade Intersections – Stop Signs
- 94 Number of At-Grade Intersections – Other or No Controls

The resources we used to update these items included DeIDOT's Digital Video Log, aerial photographs, GeoMedia, DocStar and existing signal and regulatory sign resolutions. With these resources the inventory segments can be viewed (via the aerials, GeoMedia, or Video Log) to check for passing sight distance and number/type of intersections. The existing resolutions from 2006 were also researched using DocStar (a document database of resolutions and agreements) to determine any recent speed limit or parking restriction changes. Other resources available were the TMC Timing Sheets for signal phasing and the experience and knowledge of the Traffic Studies staff from numerous field reviews that are performed regularly.

This year, we did not run into any new problems with our methodology for collecting data. The only issue is the time it takes to identify and locate the segments. This is the main reason we were unable to use the new HPMS console. We separate the HPMS segments according to the counties that we typically work in on a daily basis. With the console, there was no option of identifying segments by county. In addition, there was no quick way of identifying only the new 2006 segments with the new HPMS console.

We look forward to improvements to the HPMS Console, so that eventually we could shift to that as a method of entering the data updates. Because this section significantly relies on the aerials, it would be beneficial to be able to first separate the segments by county and then quickly map each segment on the aerial.

Information provided by:

For New Castle and Kent County:

Kristen Melendez (DelDOT)

Traffic Studies Engineer

Tel. (302) 659-2046

Fax (302) 653-2860

Email: Kristen.Melendez@state.de.us

For Sussex County:

Naa-Atswei Tetteh (DelDOT)

Traffic Studies Engineer

Tel. (302) 659-2051

Fax (302) 653-2860

Email: Naa-Atswei.Tetteh@state.de.us

Year of Future AADT (Forecast Traffic 2030)

Mike DuRoss, a supervisor in DelDOT's Division of Planning, provided forecast traffic. The forecast traffic year for this HPMS submission is 2030, a change from previous year's submissions which used 2025. The 2030 horizon year is consistent with the latest adopted long-range transportation plans for Delaware's two MPO's, the Wilmington Metropolitan Area Planning Council, and the Dover/Kent MPO.

The Division of Planning's "Peninsula Travel Demand Model" produced the 2030 forecast traffic, Version "Clean Model 10.0" prepared by WRA in June, 2006. This is a standard four-step travel demand model in the CUBE Voyager software (Version 4.0.1, April 2006) that covers Delaware's three counties but also includes the nine counties of Maryland's Eastern Shore.

The model described above was used to develop projections for the year 2030 in this year's new HPMS sample sections. It was also used to review projections for all Interstate, freeway and expressway samples as the projections on those sections tend to be very sensitive to the annual updating of traffic counting data. Based on suggestions included in last year's HPMS

submission, this Year 2006 submission included a review of traffic data for all HPMS samples. This comprehensive review used the latest version of DelDOT's travel model which also included updated population and employment data for all Traffic Analysis Zones in New Castle County as well as the nine Maryland counties, and included an updated traffic assignment calibration using DelDOT's "2005 Traffic Summary". As noted above, this comprehensive review also extended the forecast horizon year from the previous projection of 2025 to the 2030 planning horizon year of the WILMAPCO Long-Range plan for New Castle County and the Dover/Kent MPO Long Range plan for Kent County.

Due to the number of samples reviewed for traffic forecast growth factors in this year's submission, the HPMS console was not used because time constraints did not permit the traffic forecasting section to learn the menu systems and other aspects of that particular software. It is noted that use of the HPMS console is a recommendation for next year's HPMS submission, with special attention to traffic forecasting.

It is noted that several sections of Delaware's interstate system (especially those which function as "ramp-to-ramp" sections, such as I-95 to I-295, etc.) appeared to have discrepancies between the 2005 and 2006 reported AADT in terms of apparently large increases or decreases (above a typical expected range). In those instances, and since the travel model was calibrated to the 2005 AADT's, the future year growth factors were derived from the 2005-2030 period and applied with manual adjustments as necessary. It is noted that additional attention will need to be placed on those sections of the interstate system in developing HPMS forecast traffic for next year's submission.

One additional note provided to clarify future forecast traffic is that the update of the land use data and travel modeling process accounted for a recent change in the employment of the City of Seaford, in which the downsizing of its major employer resulted in a sharp decrease in AADT. That drop in AADT resulted in forecast traffic for 2030 on portions of SR 20 that were well below the previous 2025 forecast traffic for that same section, due to the decrease of almost 80% of employment in a single large industrial location on the south side of SR 20 in downtown Seaford.

The contact person in charge of forecasting traffic in DelDOT is:

Michael DuRoss
Transportation Planning Supervisor
302-760-2110
Michael.Duross@state.de.us

Delaware Interstate Travel

The following Interstate routes exist in Delaware.

Interstate Route	Total Miles	Urban Areas Served
95	23.43	Philadelphia
295	5.71	Philadelphia
495	11.47	Philadelphia
Total	40.61	Philadelphia

Since 1995, the traffic on the Interstate has continued to change, while the number of through lanes and miles remains the same. The following table shows the Daily Vehicle Miles of travel on the Interstate routes since 2000.

DVMT on Interstate Routes

Year	DVMT (000)	Change
2000	3,807	-0.92%
2001	3,789	-0.46%
2002	3,766	-0.61%
2003	3,808	1.12%
2004	3,852	1.15%
2005	3793	-1.56%
2006	3,633	-4.21%

The Daily Vehicle Miles of Travel from 2000 to 2006 shows little change on the interstate system until 2006. The HPMS 2006 sample records show that the Interstate 95 section, from Del Route 273 to Del Route 141, amounting to 5 miles of the interstate, is operating at undesirable levels of service. The Volume/Service Flow (V/SF) ratio exceeds 0.80.

As indicated by the DVMT table above and verified by the table below, there was a significant drop in traffic on Delaware’s Interstate Routes in 2006. We see two possible explanations. First, tolls on I-95 at the Maryland line increased in October 2005. This could have caused some diversion of long-distance traffic to parallel routes such as US Routes 1 and 40. Second, Christiana Mall, a major shopping destination located at the interchange of I-95 and Delaware Route 1, lost two of its anchor stores in 2006. Notably, volumes dropped only slightly on the I-95 (JFK Turnpike) but it could be that the drop in long-distance travel, noticeable at the Pennsylvania and New Jersey state lines was made up by increased local traffic to and from Wilmington diverting from local roads to I-95.

Site	Location	2005 AADT	2006 AADT	% Change
8000	I 295 - Delaware Memorial Bridge	76,509	74,025	-3.25%
8001	JFK Turnpike	96,467	96,974	0.53%
8004	I-495 near Boulevard Body Shop	68,557	64,966	-5.24%

HPMS Reassessment 2010 Table 5.2

FHWA and congress plans to evaluate ramp data for future apportionment for formulae.

Delaware Interstate Ramps

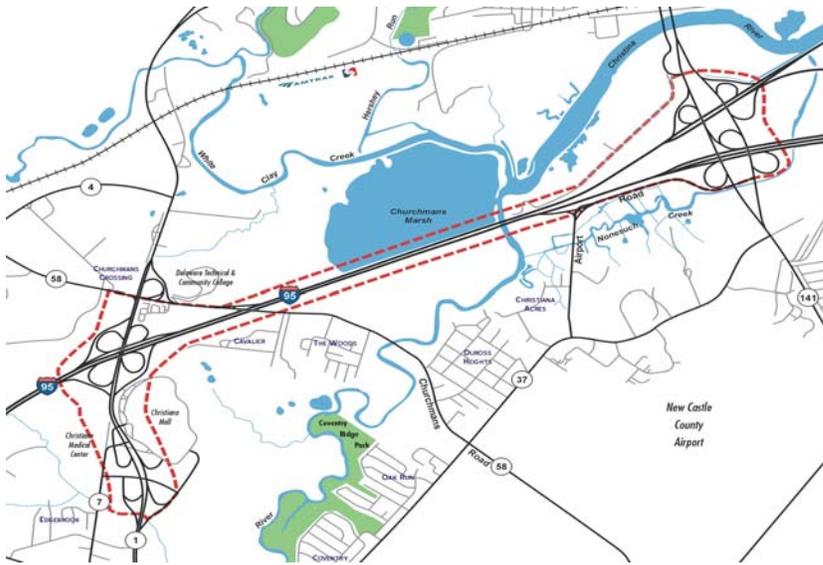
Interstate Route Ramps	Miles	Lane Miles	Urban Areas Served
95	22.41	25.67	Philadelphia
295	8.05	10.76	Philadelphia
495	6.82	6.90	Philadelphia
Total	37.28	43.33	Philadelphia

Delaware has only 40.61 miles of Interstate miles and has only 37.28 miles of Interstate ramp miles. We strongly feel that the inclusion of Interstate ramp miles in future apportionment formulas would be a more appropriate and a fairer way to determine federal funding allocations since Delaware is a key state between the Mid-Atlantic and North-Atlantic corridor. This results in a disproportion amount of traffic through the state, but we do not share proportionately in the funding to maintain this important corridor. As a result, we are forced to continually raise tolls to maintain the integrity of the interstate through our small state.

SR - 1 Interchange/ I-95 Mainline Area

DelDOT is working on options to improve this interchange area via the I-95/SR-1 Interchange project. A major contributor of the congestion is the mixing of local and thru traffic as well as continuing housing developments in the state, south of the interchange. DelDOT had attempted a P3 (Public Private Partnership) venture in this area, but the effort was stopped in the fall of 2005. With insufficient funds to proceed with the P3, this project is delayed until a suitable implementation plan can be developed. Environmental permitting is continuing for this project. The total cost of the Interchange project will be in excess of \$125 million dollars. At this point, work will not begin until after the I-95 5th Lane project is completed (end of 2008). The Department is reviewing options to complete this project via traditional Design Bid Build or possibly Design build. This is a recurring roadway condition and we will continue to report these locations operating at undesirable level of service until these projects are completed. (Source: Darren O'Neill, Project Manager)

A map of the interchange and the area is presented below:



SR – 1 / I – 95 Interchange and Vicinity

Traffic Congestion

When the Volume/Service Flow Ratio (V/SF) ratio exceeds 1.20 at a sample section, the HPMS data process sends an error message in the output. The default in HPMS software is that the V/SF ratio must not exceed 1.20, because the capacity would not allow such a high level of traffic flow. However, V/SF ratios in excess of 1.20 do occur on several highway segments in Delaware.

The best example of this condition is I-95 between the SR 273 and SR 141 interchanges. Based on traffic monitoring, not estimation, the AADT on this section of highway ranged from 123,768 vpd to 182,853 vpd. The observed V/SF ratio of 1.31 is correctly calculated. However, it appears to overstate the situation because traffic does continue to flow through the section where this ratio is observed. There are two possible explanations. The more likely explanation is that some of the counted traffic is not through traffic but is actually entering or exiting traffic. The other explanation, which could account for some of the difference, is that because the area is congested drivers are willing to accept lower headways at higher speeds and therefore the assumed saturation flow rate is too low. However, a roadway section is congested with traffic when the V/SF ratio exceeds 0.80.

The following table shows the mileage by county, where the V/SF ratio continues to exceed 0.80 since 2000.

Miles by County With Volume/Service Flow Ratio (V/SF) exceeding 0.80
(V/SF multiplied by Sample Expansion factor)

Year	County			Total
	New Castle	Kent	Sussex	
2000	35.62	12.20	9.37	56.23
2001	41.89	17.46	36.94	96.29
2002	71.68	16.38	22.70	110.77

2003	80.93	15.26	19.12	113.80
2004	66.38	12.95	30.99	110.32
2005	60.45	13.37	21.79	95.61
2006	83.85	16.99	43.40	144.24

The above table shows that in 2006, there was an increase of V/SF above 0.80 on 48.63 miles of road in the network. According to district and project engineers, there were no highway projects completed in 2006 that could have increased through lane capacity.

In New Castle County there were 83.85 miles, 21 miles were on urban interstates (I-95, I-295 & I-495) in the Philadelphia Urbanized Area. The section of SR 1 (Freeway & Expressway) from Delaware 273 to I-95 was 3.55 miles.

Much of the congestion in New Castle County is directly tied to interstate travel trends. Some of it is due to through traffic on the Interstate system. Other components include local traffic that chooses to use the Interstate system for commuting. Growth in the number of congested miles may be attributable to residential development in southern New Castle and northern Kent County that is associated with employment in Wilmington and Philadelphia.

In Kent County the congestion is mostly through traffic, which merges with the local traffic during the peak hour in Dover urbanized area. U. S. Route 13, which has a long stretch of strip development for about 9 miles, accounts for the traffic problems.

The prime cause of congestion in Sussex County is the heavy seasonal traffic, between the Delaware and Maryland beaches and points in the Philadelphia, Wilmington, Baltimore and Washington, DC areas during summer. This traffic passes through small towns and merges with the local through traffic, causing congestion where it does so.

Nearly half of the Interstate routes in New Castle County, amounting to 21 miles, operated at LOS "D" or worse in 2006.

SR-1 Route

SR-1 is partly a toll route for about 45 miles; more than 20 miles of SR-1 can be traveled without paying toll. There is a public Rest Area alongside a Minor Arterial on close proximity of this toll route outside its access control line. Motorists can freely exit and enter the toll route at this location. Several ramps with sign, "Last Exit Before Toll" continue to feed traffic to Local and Collector roadways in the vicinity. It will take a few more years to achieve stability of traffic flow along this route.

There is a proposal to increase tolls throughout the toll road portion of SR-1, and collect tolls on the bridge across the C & D Canal, which is toll free at this time.

The HPMS sample sections on SR-1 exceed the sample adequacy requirement. We will continue to report the information from those sample sections.

Transit Ridership Trends

Fiscal Year	Transit Ridership	Yearly Change
2000	8,944,828	
2001	9,260,336	3.53%
2002	9,045,281	-2.32%
2003	8,785,314	-2.87%
2004	9,224,929	5.00%
2005	9,602,722	4.10%
2006	10,238,738	6.62%

Source: Delaware Transit Corporation

The above table shows that there was a significant change in the Delaware Transit Ridership during the last three years, 2004, 2005 & 2006. Since 2003 there has been a net increase of 16.54% which exceeds the growth of total population increase.

Higher fuel prices, ever increasing travel times, congestion on the main travel routes in the urbanized areas and the rising cost of parking in central business districts are making transit a more comparable alternative to driving.

However, there is another significant component to the growth shown here. The figures above include paratransit, which serves the elderly and the persons with disabilities. As the general population ages and Delaware, and especially Sussex County, continues to attract retirees from other states, demand for paratransit is growing rapidly.

Delaware Gasoline Consumption

The following table indicates gasoline consumption and the state revenue collected from gasoline sales in Delaware from 2000 to 2006.

Gasoline Consumption/Revenue

Gallons sold		Revenue collected	
Fiscal Year	Total	Fiscal Year	Total
2006	447,641,622	2006	\$103,394,033
2005	434,107,363	2005	\$99,162,587
2004	425,075,277	2004	\$99,145,271
2003	415,364,330	2003	\$94,365,047
2002	410,727,263	2002	\$95,064,201
2001	382,107,442	2001	\$86,497,377
2000	396,439,626	2000	\$91,426,164

The increase in gasoline consumption is consistent throughout the years. There was an increase in the consumption by 3.1 % in 2006. However, due to a very rapid increase in gasoline price during 2007, the trend seems to be reversed for the first time in Delaware.

Gasoline Consumption/Revenue 2006-2007

Gallons sold		Revenue collected	
Fiscal Year	Total	Fiscal Year	Total
2007	332,481,768	2007	\$70,851,151
2006	336,019,555	2006	\$70,792,449

Source: Michael J. Harrell, DelDOT DMV Motor Fuel Tax Administration

The above table pertains to the 9-month period from July 1, 2006 to March 31, 2007 for the Fiscal year 2007. At this time frame, the gasoline consumption dropped by 1.05 %. (There was no increase in gasoline tax, but the table shows a slight increase in revenue despite reduced consumption because of a lag time period in entering the data.).

Nationwide, however, the gasoline consumption went up by 1 % while the price of gasoline also increased by 15 % over the same period.

(Source: Taylor and Van Doren)

A comparison of current retail price of gasoline in Delaware with its neighboring states is presented below.

Retail Average Gasoline Price

State	Regular	Mid	Premium
Pennsylvania	\$3.08	\$3.25	\$3.39
New Jersey	\$2.96	\$3.17	\$3.29
Delaware	\$3.04	\$3.23	\$3.37
Maryland	\$3.11	\$3.31	\$3.39

Source: www.fuelgagaugereport.com (Prices updated June 2, 2007)

As the table indicates, the current price of gasoline is competitive in this region.

On the Federal-Aid Apportionment

HPMS data constitute one of the tools for Federal-Aid apportionments among all 50 states and D.C. The apportionment is formula-based with certain defaults for many criteria. Delaware is one of the smaller states in terms of population, land area, NHS mileage, vehicle-miles of travel, contribution to

Transportation Trust Fund, and the economy, and because of that it is in the group of states through which Federal-AID Apportionment to Delaware is provided via the “minimum apportionment” process.

Data provided under the Delaware Interstate Travel report, shows that the State’s Interstate lane mileage has remained the same for the past 10 years. Since the year 2000, Delaware’s Vehicle Miles Traveled overall has changed very little. While there are many possible reasons for these trends one in particular is that certain key roads have been operating at an undesirable level of service especially during peak hour conditions. It is important to note that there is no element of congestion in the apportionment formula.

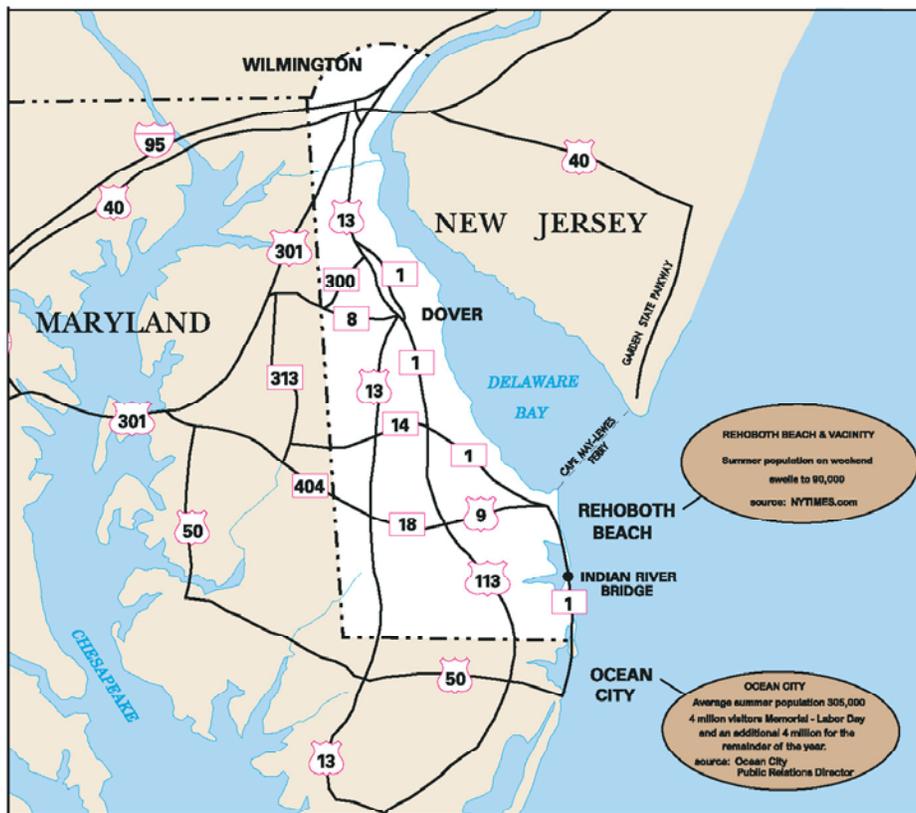
A review of the rationality of the formula would seem to be necessary. Besides, the NHS mileage of Delaware has increased by 16.47 miles to 338.19 miles.

The current interstate and intersection projects, mentioned earlier in this report, have an estimated cost of more than \$300 million dollars. In the past, the delay and shifting of projects to later years often resulted in cost overruns because each year the cost of construction continues to escalate. For a small state with limited resources, these overruns can result in a major financial burden, which limits the State’s ability to undertake essential projects.



Indian River Inlet Bridge

The Indian River Inlet Bridge, now on NHS, will serve the summer traffic between Rehoboth Beach and Ocean City, Maryland. The traffic demand is extremely high as the accompanying figures indicate. Further delay in the construction of the project would be undesirable.



REHOBOTH BEACH & VICINITY
Summer Population on Weekend
Swells to 90,000
Source nytimes.com

Distance: 27.2 miles Approximate Travel Time: 50 minutes

OCEAN CITY Average Summer
Population 305,000
4 million visitors Memorial-Labor Day
and additional 4 million for the remainder of
the year Source: Ocean City Public Relations
Director.

In October 2005 there was a toll increase on the Toll Plaza on I-95, which is located 1.32 miles from the Maryland state line. The toll was increased from \$2 to \$3 per passenger car. As a result, revenues estimates were decreased approximately \$3.6 million for FY 07.

Truck traffic as a percentage of AADT also showed a decline. As a result, some independent truckers used alternate routes to avoid the toll increases.

Delaware is a small state and many drivers traveling through the state on I-95, I-495, and I-295 are able to pass through the entire state without purchasing gas. In this age of internet access and instant media, the public is well aware of the gas prices in surrounding areas. During the spring of 2007 Delaware proposed increases to most of its vehicle-related revenue sources including a possible increase in the state gas tax. However, it appears that the option of increasing state fuel taxes was not feasible for many reasons including a desire to maintain competitive pricing with surrounding states since gas stations in New Jersey, Pennsylvania, and Maryland are, in some cases, not that far away for many Delaware residents.

Delaware Revenue and other tables shown are pointing to the difficult choices that will be confronted for years to come.

Transportation Trust Fund (TTF) Revenues

Transportation Challenges and Additional Revenue Needs

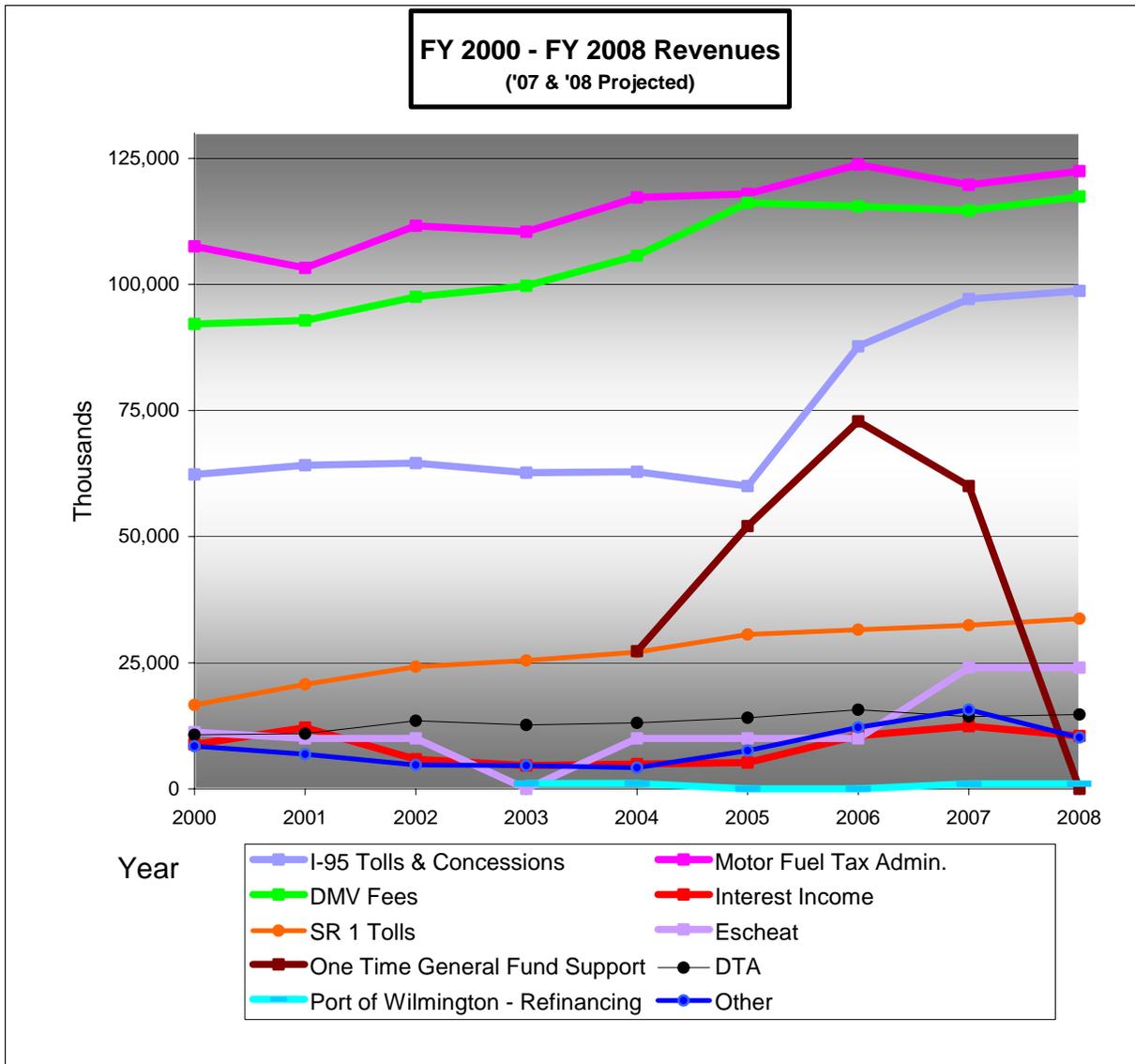
The Delaware Department of Transportation (DelDOT) is facing several transportation challenges including: increasing demand on the transportation system due to population growth, increasing transportation construction costs, decreasing resources available for capital projects (minimal increases since 1995), and the need to complete several major projects.

The Governor has developed a multi-dimensional strategy to help address the funding shortfall. Her strategy focuses on the core business of DelDOT, which includes preserving assets, improving safety, and 24/7 service for incident response, signal repair, and major weather events. Additional key proponents include the maximization of federal funds, a refined project delivery plan including updated project cost estimates, alignment of cost with construction industry's ability to produce, and a realistic 6-year capital transportation program.

DelDOT's FY08-FY13 Capital Transportation Program requires an additional \$1.5 billion in new revenues. Governor Minner has proposed a revenue package to address the shortfall. The proposed revenue package consists of a motor fuel tax increase of \$0.05/gallon, a 50% increase in vehicle registration fees, a 1.25% document fees increase in FY08 and an additional .50% increase in FY09. The proposal also includes the FY08 elimination of the 10PM to 6AM Commercial E-Z Pass discount on I-95 and the elimination of all E-Z Pass discounts on SR-1. SR-1 toll increases are also proposed in FY09 which will increase the Biddles and Dover Plaza tolls by \$1, the Boyds/Denney toll by \$0.50 and the Smyrna toll by \$0.25.

Transportation Trust Fund Revenues									
(\$ in 000s)									
State Fiscal Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
								projected	projected
Pledged Revenues									
I-95 Tolls & Concessions	62,307	64,133	64,584	62,637	62,861	60,021	87,696	97,100	98,700
Motor Fuel Tax Admin.	107,532	103,239	111,586	110,403	117,225	117,917	123,714	119,700	122,400
DMV Fees	92,134	92,822	97,501	99,678	105,663	116,180	115,415	114,600	117,400
Interest Income	8,823	12,123	5,879	4,592	4,923	5,207	10,523	12,400	10,500
Total Pledged Revenues	270,796	272,317	279,550	277,310	290,672	299,325	337,348	343,800	349,000
Non-Pledged Revenues									
SR 1 Tolls	16,650	20,709	24,223	25,443	27,101	30,563	31,524	32,400	33,700
Other Transportation Revenue	8,478	6,883	4,712	4,612	4,191	7,597	12,196	15,700	10,200
Total Non-Pledged Revenues	25,128	27,592	28,935	30,054	31,292	38,160	43,720	48,100	43,900
Other Sources									
Escheat	11,245	10,000	10,000	0	10,000	10,000	10,000	24,000	24,000
General Fund Support	0	0	0	0	27,300	52,100	72,869	60,000	0
Port of Wilmington - Refinancing	0	0		1,065	1,059	0	0	1,000	1,000
DE Transit (Farebox, FTA, & Other)	10,732	10,961	13,511	12,640	13,064	14,100	15,676	14,332	14,705
Total All Sources	317,901	320,870	331,996	321,069	373,387	413,685	479,613	491,232	432,605

FY2007 and FY2008 DEFAC Forecast, May 21, 2007



Source: Brian G. Motyl
 Delaware Department of Transportation
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 Trust Fund Administrator
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It appears there is a certain degree of inequity in the apportionment formula, which is used to determine apportionments on a state-by-state basis. Thus there is a need to review the apportionment formula, and reconcile the discrepancy.

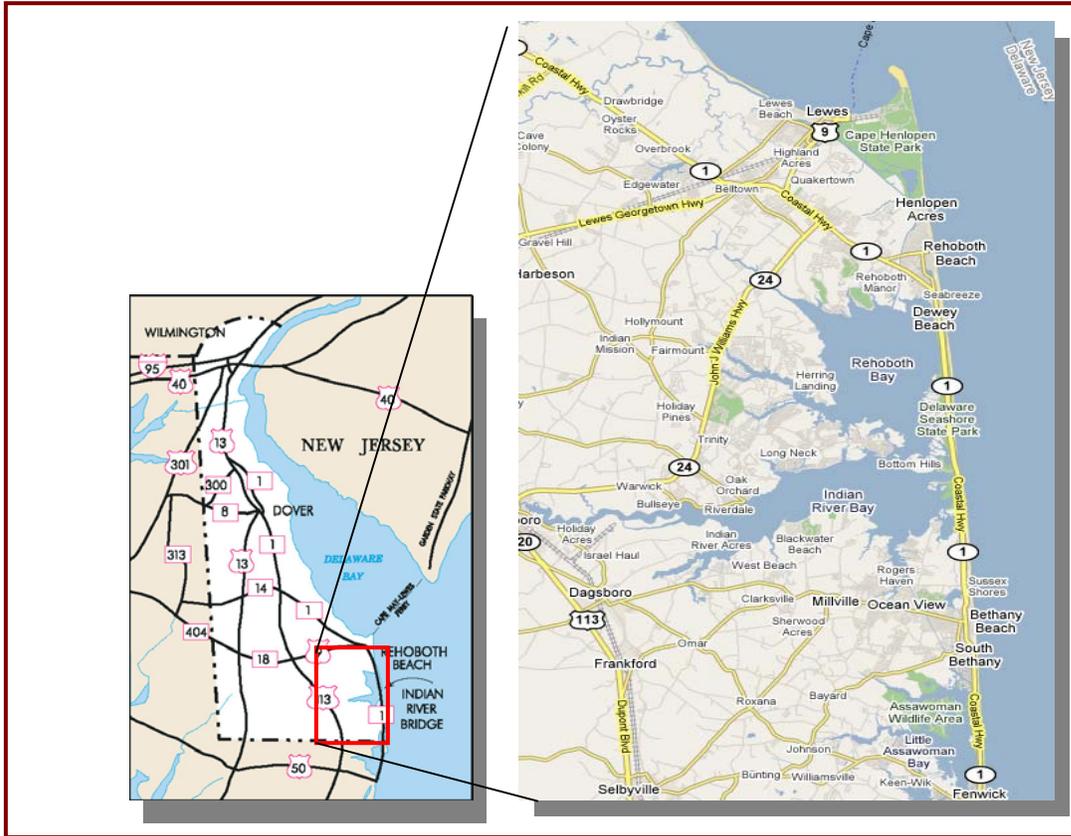
Delaware Scenic Coastal Highways & Global Warming

There are approximately 117 miles of coastline on the east side of Delaware. Except for a small stretch in the middle, the coastline is served by interconnected roads and two major highways: SR-9 on the north and SR-1 on the south running as an Arterial Highway into Ocean City in Maryland.

State Route 9 is a 52-mile road that runs from the historic City of New Castle to south of Dover Air Force Base mostly along the western shore of the Delaware River and Bay. It passes over the C & D Canal and through communities such as Delaware City and Leipsic. There are lush green farm fields that stretch for miles along this route. Moreover, the corridor of SR-9 contains the largest area of preserved coastal marshland, nearly 50,000 acres, on the east coast. Surrounded by natural beauty, Delaware Route 9 was recently named "Coastal Heritage and Scenic Byway" by the State of Delaware.

With its Reedy Point Bridge over the C & D Canal, State Route 9 also serves as a north-south connector in addition to SR-896, US 13, and SR-1 in the state. This route relieves traffic congestion from its parallel routes. This route also has the potential to serve vehicular traffic by boat to and from New Jersey across the Delaware River. With the National Park along the C & D Canal in the planning, the future development of SR-9 is apparent.

State Route 1 on the south serves the coastline alongside the Atlantic Ocean in Delaware. The ocean view coastline is about 25 miles from historic Lewes to Fenwick Island through Rehoboth, Dewey Beach, and Bethany Beach. This stretch of coastline is lined with captivating sand beaches that attract sun worshippers from all over the region. Three state parks are located here within 12 miles of the beachfront. The resorts, comprising Lewes, Rehoboth Beach, Bethany Beach, and Fenwick Island are devoid of high-rise buildings as each retains a small-town charm.



In “Global Warming Effects on Delaware Wildlife”, the National Wildlife Federation has reported that the sea level near Lewes has risen about one foot in the last 100 years. The Federation also predicts that there would be 23 inches additional rise in sea level near Lewes by 2100 (globalwarming@nwf.org). The Philadelphia District of the US Army Corps of Engineers (USACE) has recently completed two beach nourishment projects here to protect the desirable beach width. The USACE also has a three-year beach nourishment program for the protection of these ocean beaches from tidal storm.

Apart from cyclic beach protection projects, the Delaware coastline is vulnerable to nor’easter. There is a severe loss to tourism, local business, homeowners, wildlife, wetlands, and significant damage to SR-1 whenever this calamity strikes the Delaware coastline. DelDOT expends considerable resources to repair the damages to SR-1 by nor’easter. Unfortunately, there is no provision in the Federal-aid Apportionment formula to provide for damages to Arterial Highways by nor’easter. However, the replacement of the Indian River Inlet Bridge, as a Federal-aid Highway Project, is in progress.

There is severe traffic congestion in the SR-1 Corridor near the coastline, particularly during the summer months. DelDOT provides Resort Transit Service with extra buses from Memorial Day to mid-September to alleviate traffic congestion in this area. There are also Park & Ride Free plus Bikes on Buses provisions by DelDOT to mitigate traffic problems. Nonetheless, certain signalized intersections lack capacity in this corridor.

Congestion Management in Delaware

Traffic congestion in Delaware is managed principally by the Delaware Department of Transportation (DelDOT), which is responsible for 89 percent of the lane-miles in the state. Also, there are two MPOs in the state: WILMAPCO and Dover / Kent County MPO. These two MPOs maintain federally mandated congestion management systems (CMS) in collaboration with DelDOT.

1. Congestion Management in DelDOT

DelDOT's direct role in congestion management can be divided into three parts: DelDOT capital projects, DelDOT operational programs, and developer-funded capital projects identified through the traffic impact study (TIS) process.

Current DelDOT capital projects are funded primarily through the Division of Transportation Solutions (DOTS) and the Delaware Transit Corporation (DTC). Included in these projects are the following items that received federal funding in Fiscal Year 2007, as discussed below:

Turnpike improvements along I-95 and SR-1 (DOTS): At this time, there is severe traffic congestion north of the SR-1/I-95 interchange. \$96.75 million would be set aside for operation and capacity improvements along the I-95-SR-1 interchange, adding a fifth lane to I-95 and enhancements to the Newark Toll Plaza.

Highway monitoring (DOTS): The traffic congestion around the factory outlets in Sussex County is a serious problem. Over the past 15 years, there has been a tremendous growth in strip businesses and commercial development in the vicinity of the beach on both sides of Delaware Route 1. During the summer and periods around major holidays this road operates at an undesirable level of service. Also, at the beaches, feeding parking meters every two hours and driving back and forth in search of empty parking spaces creates extra traffic and congestion.

\$3.6 million would go toward implementing a statewide Integrated Transportation Management System, known as DelTrac, along 250 miles of Delaware roadways. This will allow DelDOT to identify incidents and congestion in real time, react by making appropriate changes to the system (such as traffic signals or transit schedules) and disseminate real-time information to travelers.

DelDOT operational programs are managed by the Traffic Section in DOTS and consist of the DelTrac system, partial implementation of which is discussed above. While the project discussed above is focused on 250 critical miles of roadway, DelDOT's Traffic Section, operating out of its Transportation Management Center in Smyrna, provides 24-hour management of traffic congestion on all of Delaware's 11,000 lane-miles.

Developer-funded capital projects tend to be small improvements such as turning lanes at intersections but can be larger, especially where the efforts of two or more developers can be coordinated. The need for these projects is typically identified through TIS and they are typically required as conditions for plan approval. DelDOT's Development Coordination Section, in the Division of Planning, works with local governments to require TIS and the improvements. In calendar year 2006,

DelDOT reviewed 52 TIS, 9 in New Castle County, 19 in Kent County and 24 in Sussex County. Most of these resulted in at least some off-site improvements being required of the developers whose projects were addressed in those studies.

TIS are also used as the primary source of information for the CMS maintained by Delaware's two MPOs, the Wilmington Metropolitan Planning Council (WILMAPCO) and the Dover Kent MPO. These systems are used by the MPOs to identify and address congestion more comprehensively. WILMAPCO staff with DelDOT and local government participation manages the WILMAPCO CMS. Because the Dover Kent MPO has a smaller staff, primarily DelDOT staff manages their CMS.

TIS reviews are performed by:

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County Coordinator
DelDOT Development Coordination
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Thomas.Brockenbrough@state.de.us

2. WILMAPCO Congestion Management System (CMS)

The WILMAPCO Congestion Management System (CMS) Summary is a 4-step process designed to meet the federal requirement set by ISTEA and SAFETEA-LU.

The FHWA defines a CMS as "a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing mobility." These regulations go on to state the following required elements of a CMS. The WILMAPCO CMS has been developed and has been produced annually since 2001, with the exception of 2006. The 4-step process is shown below:

Step #1: Review of Congestion Performance Measures:

The following performance measures are used to identify congested corridors:

- 1- Roadway Segment Volume to Capacity Ratio
- 2- Intersection Level of Service
- 3- Vehicle Travel Time (Percent Under Posted Speed)
- 4- Transit Volume to Capacity Ratio

Step #2: Corridor Identification

Using the four performance measures, the final step in the process is to delineate specific congested corridors. Members of the CMS Subcommittee identified these corridors with criteria that analyzed congestion density (number or frequency of adjacent congested segments and/or intersections) and predominant travel patterns.

Step 3: Strategy Evaluation

Potential strategies to reduce congestion have been assembled in a “toolbox” designed to provide the appropriate solutions for each corridor. Within each of these strategies, specific mitigation measures are outlined and described in detail. This package of solutions to congestion includes measures involving *all* modes of transportation as well as encouraging more efficient patterns of land use and development.

WILMAPCO CMS “TOOLBOX” STRATEGIES:	
Strategy #1:	Eliminate person trips or reduce VMT during peak hours
Strategy #2:	Shift Trips from Automobile to Other Modes
Strategy #3:	Shift Trips from SOV to HOV Auto/ Van
Strategy #4:	Improve Roadway Operations
Strategy #5:	Add Capacity

Step#4: System Monitoring

The fourth and final step in the development of the CMS, the task of monitoring the system, tracks the effectiveness of the CMS recommendations over time and allows us to see where new problems might arise. This section displays a series of data analyses of demographic, traffic and planning initiatives designed to help decision makers get a sense of the changing conditions of our region and their impact on our network.

For more information regarding the CMS or to download the latest version, visit

<http://www.wilmapco.org/cms>

Source: Daniel Blevins
Principal Planner
WILMAPCO
Phone: (302) 737-6205 Ext 21
Email: dblevins@wilmapco.org

3. Dover/Kent County MPO Congestion Management

CMS is not a requirement for MPOs under 200,000; therefore the Dover/Kent County MPO does not manage its own CMS. The D/KC MPO relies on the data and analysis from DelDOT’s CMS to identify congested intersections and segments. The MPO recently narrowed its definition of a congested intersection from having at least one approach operating at LOS F to an overall LOS F. This change resulted in a drastic reduction in the number of intersections identified as congested. The MPO views this change as better indicating current levels of congestion.

To date, CMS is not a factor in the MPO’s priority process. However, the MPO’s FY 2008 Unified Planning Work Program (UPWP) includes working with DelDOT to identify performance measures that can be incorporated into the priority process. Congestion Management is anticipated to be one of those performance measures.

Chief, Highway Systems Performance Division

June 21, 2007

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Source: Juanita. S. Wieczoreck

Executive Director

Dover/Kent County MPO

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Salisbury/Wicomico Metropolitan Planning Organization (including Delmar, DE)

Recently, urbanized areas of Salisbury, Maryland reached the 50,000-population threshold that requires establishment of an MPO. This new Salisbury/Wicomico MPO includes Delmar. It is expected that other areas of Sussex County will meet the 50,000-population threshold after the next census.

Source: Gary R. Pusey

Long Range/Transportation Planner

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Salisbury, MD 21803

gpusey@wicomicocounty.org

Delaware MPOs

Delaware is a small state with only 3 MPOs. DelDOT coordinates with these agencies on congestion management, related funding needs, and other transportation issues.

The contact person in charge of coordinating with MPO's and congestion mitigation in DelDOT is:

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Planner, DelDOT

DelDOT Statewide & Regional Planning

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HPMS Recommendations for Congestion Management

SR-1, around the factory outlets in Sussex County, may benefit by an underground corridor to connect the shops on either side of the route. There could be grade-separated walkway crossings, over or below ground, for pedestrian customers or customers in small buses to take them through. In addition, attractions like a food court and arcade for children in this corridor or at its entrance could attract and redirect traffic through it. It would help reduce congestion by redirecting some of the travelers that are making U-turns on SR-1 to go from a strip mall on one side to one on the other side. There is a need to review the demand based on time of the day and demand change due to seasonality.

Electronic billboards are installed at major parking centers to advise availability of parking to the motorists. More such electronic billboards are likely to help reduce congestion.

Shopping centers and casinos can provide more bus service to visitors from other states.

A public-private partnership may be needed to provide more ferry service across the Delaware River to and from New Jersey to relieve traffic congestion on the Delaware Memorial Bridge and I-95.

Other Information:

- This information is a part of the 2006 HPMS submission.
- The entire data, as being submitted, was collected, compiled, and presented in the U.S. Customary Units. DelDOT has no plan to convert to metric system in the foreseeable future.

There is no HPMS field crew in Delaware, and therefore, some data are made available just before the due date of reporting the HPMS data.

Delaware also encounters problems in "Sample Management". We feel small sections within the Volume Group Universe, which have section length under 0.20 miles the software, should ignore them. We have put efforts to collect data for a lot of small sections just to avoid the errors. It is doubtful if such extra efforts are worthwhile.

Small sections in the Central Business District, and around the Beach Area also generate unusually high number of intersections (> 25 per mile).

We have not provided our own analysis to override the HPMS software capacity. The HPMS universe requirements are only for through lanes. In reality, some HPMS sections function as both thoroughfare and local access roads as well.

NAAQS Non-attainment Areas

The following is a list of NAAQS non-attainment areas in the State. The list also shows urbanized areas within each NAAQS non-attainment area.

All three counties are declared as NAAQS non-attainment areas.

<u>County</u>	<u>Urbanized Area</u>
1. Kent County (Nonattainment)	Dover
2. New Castle County (Nonattainment)	Philadelphia
3. Sussex County (Nonattainment)	Salisbury

List of Standard Sample Panel Groupings:

- Not applicable in Delaware

The statistical information was derived from various computer files, such as the 2006 HPMS Universe/Sample database, the Delaware Road Inventory, and the traffic data files.

TRUTH- IN- DATA

During 2006, there were 72 ATR stations, 5 toll sites for collecting traffic data, and 520 sites using portable recorders in the highway network. However, there were serious problems with more than 16% of the ATR stations statewide. We determined that a site has failed if the site failed to collect data for less than 200 days per year. We decided to use the 200-day threshold because we lack the staff resources and equipment needed to respond to a failure in a more timely fashion.

Much of the ATR down time was caused by lengthy construction, seasonal window of opportunity for installation of sensors/loops, and delays in repair/materials funding from FWHA. Those sites that met the 200-day threshold are shown below.

Some of the sensor failures are indicated below:

Site	2006 Days Lost	Problem	Cause of Problem
8015	224	Site Destroyed	Car Accident
8018	274	Sensor Failure	Construction
8022	252	Sensor Failure	Environment/Bad Location
8033	192	Sensor Failure	Construction
8039	195	Power Problems	Solar Station Hardware
8040	170	Sensor Failure	Environment/Bad Location
8072	200	Sensor Failure	Construction
8075	229	Sensor Failure	Environment
8079	224	Sensor Failure	Construction
8084	206	Sensor Failure	Construction
8085	176	Sensor Failure	Environment/Storm Damage
8092	199	Power Problems	Solar Station Hardware
8096	190	Sensor Failure	Construction

Although it appears that our sensor failure rate was higher than last year, many of the ATRs failures from last year were replaced with better equipment, so they do not reappear on the above list. Those sites that have failed during 2006, failed for different reasons.

DelDOT has taken steps to remedy these problems; an additional full-time ATR field technician has been hired, bringing the total maintenance crew up to two people. We will continue to recommend that an outside vendor be brought in to maintain equipment so that the failure rate can be significantly reduced. We've also implemented a maintenance database to record events. A new system called Open Roads Consulting/Open TSS is also being purchased that will provide real-time status of ATR sites.

Site preventive maintenance is being conducted and old loops/sensors are also being replaced. DelDOT will continue to evaluate new traffic counting technology.

Delaware and Immigration

Delaware has four nick-names, First State, The Diamond State, Blue Hen State, and Small Wonder.

The Delaware State Bird is the Blue Hen. Delaware ranked 7th among the states in the pounds of broilers produced in 2006 with 1,803,000,000 pounds. Delaware produced 269,100,000 broilers in 2006 and Delaware ranked 9th among the states in the number of broilers produced. In 2006, Delaware broiler production was valued at \$739,230,000. According to the 2002 U.S. Census of Agriculture, Sussex County, Delaware ranked first among America's counties in broiler chicken production. (Source: Delmarva Poultry Industry, Inc.)

Many of the new immigrant workers in Delaware's poultry industry are Hispanic low wage earners who do not have the right to vote in this country. When we regularly order the "Dollar Menu Meal" at most of the fast food restaurants, the consumer seldom thinks about the low wage workers who make this an economic meal for our nation.

The new change in the immigration laws will not only affect Delaware's economy, it will also require a greater financial commitment to provide educational, health and other social benefits in the future. As a nation, are we ready to say goodbye to the Dollar Menu Meal?

HPMS Reassessment 2010+ and DelDOT

With the increased need for accurate HPMS data, there may be some difficulties for compliance by DelDOT. Small states like Delaware lack adequate resources for data collection, analysis, and compilation. The existing manpower of the Planning unit of DelDOT is inadequate to inspect 643 intersections on an annual basis in Delaware. While the need for more data in the Reassessment 2010+ is justified, the resources should be increased to fulfill the demand.

The Reassessment 2010+ is also justified, if it can identify additional resources for improvement of decrepit and deficient highway infrastructure. Along with some other states, the highway infrastructure is crumbling in Delaware due to a lack of funds for improvement. There is no new public road built in Delaware since the completion of SR-1 toll road.

According to www.taxfoundation.org, the local, state and Federal gas taxes amount to a total of 45.9 cents per gallon of gasoline on an average. These taxes have remained unchanged for more than a decade although the price of gasoline has more than doubled during the same time period.

However, the existing allocation factors, including population and traffic, are no longer sufficient for an equitable Federal-aid Apportionment formula.

HPMS Statistical Data

The HPMS data supports many types of analyses that are used by a wide range of administrative staff and are reviewed by elected officials. Besides Federal Submission HPMS data is widely used by various Delaware's State, Counties, Municipalities and other local agencies. Miles, DVMT and other similar data are used by DENREC and MPO's for various analyses. Some of the data is available at the following DelDOT Web Site. In Delaware, HPMS data is available through DelDOT, which is the only official source of information.

The HPMS provides statistical tables, which can provide useful information for agency staff conducting transportation-related analyses. It is also used to provide data to the general public, data for financial and planning decision-making, and for quick reference mapping. In addition to HPMS data, the following link also provides information on other DelDOT projects.

(<http://deldot-stage/static/projects.shtml>)

Presently, we are working on a "Delaware Highway Statistics Booklet" which will contain the most requested historical data for the years 2001-2005 and will be updated annually. For those who need to perform micro analysis, the HPMS database is available by corresponding with the HPMS coordinator.

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Personal Remarks

1. Mr. Paul Lang, FHWA Field Engineer in Dover retired last year. Mr. Kwame Arhin, Planning Program Manager, FHWA, currently stationed in Baltimore, has taken over Mr. Lang's responsibilities. The FHWA Field Engineer is needed in Dover to provide information and perform FHWA reviews of the HPMS data analysis in close association with DelDOT.

2. The IRI data were not collected for 2005 and 2006. Therefore, Table HM-47 (Miles by Measured Pavement Roughness) in Highway Statistics may contain some erroneous data for Delaware.

3. Traffic count scheduling is a part of DelDOT Planning. However, traffic counts and traffic data analysis are now contracted to a private consultant. There are certain roadway segments without seasonal counts for many years. Growth factors are applied to report the current AADT.

4. Sometimes, traffic counts made by consultants do not conform to the Traffic Summary Book. Routine review by the Department personnel is necessary.

5. There is no provision to repair malfunctioning of permanent counter stations in a timely manner.

6. The increase in traffic volumes on certain streets following site development in the vicinity is usually unavailable at the time of HPMS reporting.

7. A significant portion of I-95 will be under construction in 2007. With the fluctuation of traffic volumes during construction, the traffic data for 2006, adjusted for growth factor, may be reported for 2007.

Unlike other states, DelDOT lacks an office of Bureau of Statistics and field crew to conduct HPMS sample inspections survey. The data are collected from various sections of DelDOT. Suggestions provided by these individuals are included in this report. It is truly a team effort by the HPMS hard hats. The success of this HPMS report is a direct result of the efforts by these individuals. I wish to express my sincere appreciation for their cooperation and contribution to HPMS.

My special thanks are due to Mr. Thomas Roff, Mr. Robert Rozycki, and Mr. Paul Svercl, at FHWA, Washington Headquarters for their patience and constant guidance to complete this onerous task.

Sincerely,

S. Bhai
Senior Transportation Planner

sb

Enclosure(s)

cc: Hassan Raza, Division Administrator, FHWA
Ralph Reeb, Director of Planning, DelDOT
Tyrone Crittenden, Program Manager, DelDOT