

# Commonwealth of Virginia



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## VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT)

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### VDOT Dashboard (version 3.0)

### Business Rules and User's Information

Updated June 2018

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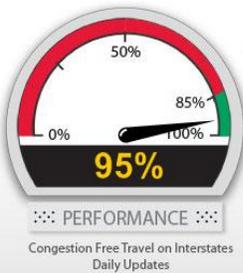
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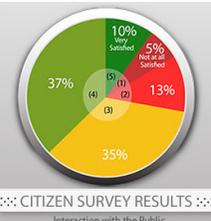
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# DASHBOARD RELEASE 3.0 – BUSINESS RULES AND USER'S INFORMATION

## Explanation of Gauges on the Opening Page of the VDOT Dashboard

The information contained here reflects the most current information available. As data and business rules are modified, this document will be updated to reflect those changes at the time the changes become effective, or as close to that time as possible. The first three gauges refer to measures of performance of the highway system. The remaining four reflect VDOT-specific performance.

<p><b>Performance</b></p>  <p>PERFORMANCE Congestion Free Travel on Interstates Daily Updates</p>	<p>This measure calculates the percentage of traffic that traveled in relatively un-congested conditions. This gauge on the opening page shows the conditions for the average of all Interstates in Virginia, for the most recent day's data (several days or weeks before the current date). On the day portrayed on the gauge, 95% of the traffic on Virginia's Interstate highways traveled in good conditions.</p> <p>Within the Dashboard, if you click on the gauge, you can view several other congestion related performance measures.</p>
<p><b>Safety</b></p>  <p>SAFETY Highway Deaths Since the Beginning of the Year</p>	<p>The Safety gauge displays the number of deaths due to highway crashes for the current year-to-date. The goal of the State of Virginia is to reduce the number of deaths due to crashes.</p> <p>There are other safety measures available by clicking on this gauge in the Dashboard: the number of crashes, the number of injuries, and work zone crashes.</p>
<p><b>Condition</b></p>	<p>This gauge refers to the condition of the pavement on Virginia Interstate and Primary highways. For the time period being measured in this example, 79% of</p>

 <p><b>CONDITION</b> Quality of Road Surface</p>	<p>the lane miles of Interstate and Primary road pavement was in a non-deficient condition. There is also a tab here for seasonal paving activity. Other measures under this gauge are Bridge Condition and Ride Quality</p>
<p><b>Finance</b></p>  <p><b>FINANCE</b> YTD Planned vs. Actual Expenditures (variance)</p>	<p>This gauge compares the actual spending by the Virginia Department of Transportation for the fiscal year to date (as of the most recent month of complete data) to the forecasted spending for the same time period. The number under the gauge shows the difference between planned and actual expenditures, as a percentage. A negative variance means VDOT has spent more than planned, a positive value - as here - means that actual spending is less than planned. The goal is to be within plus or minus 5%. More information on revenues, expenditures, and trends are available under this gauge on the Dashboard.</p>
<p><b>VDOT Management</b></p>  <p><b>VDOT MANAGEMENT</b> Management Performance Areas</p>	<p>This gauge indicates that VDOT has met expectations on 4 of the 5 management performance areas which are summarized in the Virginia Performs web site (for the fiscal year period being reported). Several administrative measures are reported to the Governor's office, are then summarized, and become part of the "Virginia Performs" results for VDOT. Through a link to the Virginia Performs site detailed information about the measures is available.</p>
<p><b>Citizen Surveys</b></p>  <p><b>CITIZEN SURVEY RESULTS</b> Interaction with the Public</p>	<p>The most recent district results of Customer Survey are compiled into an "Overall Satisfaction with VDOT" measure for the whole State, and shown on this gauge. People respond to the survey in categories from one through five, with one being "not at all satisfied" and five being "very satisfied". See what people think about VDOT's management of public funds, response to incidents, and other areas, by clicking on this gauge in Dashboard.</p>
<p><b>Projects</b></p>  <p><b>PROJECTS</b> Development &amp; Delivery</p>	<p>The on-time and on-budget project performance in the design (development phase) and the construction (delivery phase) is available for projects in the Six Year Improvement Program. Performance results are available for all, VDOT, locally administered and Smart Scale projects.</p>

## Highway Performance

There is a "Choose Measure" drop-down list here, to allow the user to switch between the performance areas associated with this Highway System Performance measure. The default or opening view is an overview of the first three measures in the list. The measures are:

- Congestion at Key Interstate Locations
- Travel Speeds on HOV Facilities
- Travel Times on Key Commuter Routes
- Incident Duration
- Hours of Delay

### Congestion at Various Interstate Locations

This measure shows the percent of traffic (vehicle miles traveled) that moved in good, fair, and poor categories, based on the density of traffic.

Data comes from electronic continuous count stations, on Interstate highways around the state. The locations of the actual count stations (detectors) for the District, Time Period, and Date Range selected are listed in a table under the "Details" tab.

Levels of Service (LOS) are calculated on the data using *Highway Capacity Manual* procedures. LOS A, B, and C translate to good/green, LOS D&E to moderate/yellow, and LOS F to poor/red.

The opening view is statewide, for the 24 hour time period, for the most recent day's data. There is an intensive data validation process that is followed, so this information is not intended to be in real time and the data will typically be several days old (possibly more following a long holiday weekend, etc.). You may also select a VDOT Transportation District, and/or the AM or PM peak travel period. The morning peak period is from 6:00 to 9:00 A.M.; the evening peak is 3:30 to 6:30 P.M.

Select a date range from the drop-down box. Also, you may choose to include the recent 30 day averages with the current view.

### Travel Speeds on HOV Facilities

This measure shows the percent of peak period traffic volume, which moved at speeds greater than and less than 45 mph, through High Occupancy Vehicle (HOV) facilities. Use the "radio" buttons above the chart to switch views between greater than 45 and less than 45 mph.

The chart in the opening view is the composite for all HOV facilities represented (currently only Northern Virginia), and summarizes the morning and evening HOV restricted periods. This measure is based entirely on weekdays – no weekend days are included.

These are the HOV facilities that will be reported as valid data is available:

- I-395 Northbound (AM)
- I-395 Southbound (PM)
- I-66 Eastbound inside the beltway (AM)
- I-66 Eastbound outside the beltway (AM)
- I-66 Westbound inside the beltway (PM)
- I-66 Westbound outside the beltway (PM)
- I-95 Northbound (AM)
- I-95 Southbound (PM)

The color of the bar chart will change, based on the percent of traffic moving below 45 mph. If more than 10% of the volume of traffic (during the peak period) moved at speeds below 45 mph, the bar will be red; otherwise the bar will be green.

At this time, HOV performance reporting relies on continuous count station data in the Northern Virginia Region. Data is validated using batch screening tests. Average operating speeds are weighted by traffic volume.

The user can choose a date range and an individual HOV facility using the drop-down selectors above the bar chart. There is additional information available on the “Details” and “Trends” tabs.

## Travel time on key interstate commuter routes

This measure starts with a table of key commuter routes in Northern Virginia. Travel times for these selected routes, during peak commuter hours, are displayed along with the free flow travel times. The free flow times are the calculated travel times at the legal speed limits.

Average travel times for AM and PM peak periods are shown for the date range selected (from the drop-down box). Travel times are in minutes.

Speed information is obtained from the archive (ADMS) system and combined with segment length to compute travel time over the segment. The average travel times will be updated daily. Only peak period travel times will be computed. Peak periods will be considered 6-9 am and 3:30-6:30 pm. The information shown is for weekdays only – no weekends.

If an individual route is selected, the Details page will show the travel times for the individual days or months that make up the calculated averages.

Data must pass validation checks (batch screening tests) to be included. If there is no valid data for one or more of the routes, it will not be displayed in the list. This could happen if detectors or wiring were damaged, etc.

If valid data is available, the list of key routes will include:

- I-395 Northbound, from I-495 to the 14<sup>th</sup> St. Bridge
- I-395 Southbound, from the 14<sup>th</sup> St. Bridge to I-495
- I-66 Eastbound, from Rte 234 to Rte 50
- I-66 Eastbound, from Rte 50 to I-495
- I-66 Eastbound, from I-495 to the Theodore Roosevelt Bridge
- I-66 Westbound, from the Theodore Roosevelt Bridge to I-495
- I-66 Westbound, from I-495 to Rte 50
- I-66 Westbound, from Rte 50 to Rte 234

## Incident Duration

This is a measure of how long it takes to clear unplanned events, which affect traffic, from Virginia highways. This is not just a VDOT measure – all responders are included: State Police, Fire and Rescue, VDOT, etc. Only vehicle, tractor-trailer, and hazardous material (HAZMAT) events are included (not congestion or traffic slowdowns).

The opening view shows a pie chart depicting the percentage of incidents that were “Cleared” in the different time categories. There is an option to switch the chart to show the actual number of incidents, rather than the percentage. The percentages shown in the pie chart are averages for whatever selections were made using the data filters, so the results may not match an individual day or month shown on the “Trends” tab. There are data filters above the chart, so the user can see similar results for a specific VDOT District. The user can also choose to see the percentages or number of incidents for the different incident types and severity, using the data filters.

Time is measured from when an event is verified and logged into the *VaTraffic* system at the various Smart Traffic Centers, until responders have cleared (and the information is logged in). Incidents of less than 10 minutes are not included; all other incidents are reported as less than 30 minutes, 30 to 60 minutes, 60 to 90 minutes, and more than 90 minutes. These are log entries, so there may be occasional errors.

There is more information on the “Details” and “Trends” tabs at the bottom of the Incident Duration Dashboard page, below the pie chart.

## Hours of Delay

This is a measure of how many hours of extra travel time are experienced by travelers during the year during peak periods of travel (6 to 9 a.m. and 4 to 7 p.m.).

The Texas Transportation Institute (TTI), part of the Texas A&M University System, has studied congestion trends since 1982 and their study results are published in the Urban Mobility Report. Several performance measures are used to examine the impact of congestion on travel time and on variation in travel time, and Annual Hours of Delay represents the cumulative effect. To determine Hours of Delay, TTI calculates the difference between travel times at free-flow speeds (60 mph on freeways and 35 mph on principal arterials) and actual travel times extrapolated from data collected to represent current roadway experiences.

Results reported for Washington DC (a proxy for Northern Virginia since TTI does not breakout Northern Virginia experience separately), Virginia Beach (including the Hampton Roads metro area) and the Richmond metro area are extracted from the TTI Urban Mobility Report and listed on the VDOT Dashboard. From time-to-time, TTI may update previously reported results which may bring about a related update within the VDOT Dashboard.

For more information on TTI reports and reporting methodology, please see the following resources:

- TTI Urban Mobility website  
<http://mobility.tamu.edu/>
- TTI 2015 Urban Mobility Scorecard and Appendices  
<http://mobility.tamu.edu/ums/report/>
- TTI Methodology Discussion  
<http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/mobility-scorecard-2015-appx-a.pdf>

The Dashboard view shows a grid with recent TTI-reported results including:

- Report Year: The year in which TTI could have first published results for the associated Data Year
- Data Year: The year to which the data pertains, in which the travel was made and the delays experienced by travelers
- Washington DC hours of delay (a proxy for Northern Virginia since TTI does not breakout Northern Virginia experience separately)
- Virginia Beach hours of delay (including the Hampton Roads metro area)
- Richmond metro area hours of delay

This view also provides a line graph tracking results for each region, and includes the years 1982 through 2014. On this chart, the vertical axis represents the number of annual hours of delay, while the horizontal axis represents a calendar year reported by TTI.

## Safety Dashboard

There are four measures in the Safety section of the Dashboard; each is represented by a gauge:

- Number of Crashes in a rolling 12 month period
- Injuries from Crashes (rolling 12 months)
- Deaths from Crashes during the current calendar year, to date
- Work Zone Crashes (rolling 12 months)

The needle on the gauges point to the current value, while the red 'tic' marks show prior results. The range of the gauges will change, based on the selection of a District or locality.

Normally the user can expect a two to three month lag in the data being available. Currently VSP, DMV and VDOT are in the midst of a statewide project that is re-engineering the crash reporting processes statewide which has resulted in data not being available for a longer time frame. As new programs are completed and training is completed we will see our lag time reduced back to the norm.

There are data filters provided, so the user may select a VDOT District, a County or City/Town, a road system (temporarily out of service while the measure is worked on), or a specific focus area. The results of the filter selections are immediately viewed on the gauges.

A focus areas – or special areas of interest - may be selected. If none is selected, all crashes are included. The focus areas are:

- Intersections (temporarily out of service, while crash reporting is worked on)
- Bike/Pedestrian
- Roadway Departures (temporarily out of service, while crash reporting is worked on)
- Work Zones

There is a Details page provided, when a measure is selected by clicking on the title header for the measure. The details list the description and number of occurrence of the various crash types.

### Number of Crashes

Data Source: VDOT crash reporting database (Roadway Network System - RNS), DMV

Records Selected: Rolling 12 months of recordable crashes due to roadway travel (injury or property damage valued at least \$1,000) for the most recent 12 months for which complete data is available. There may be a two or three month lag in the data.

Business Rules: The number of recordable crashes in the last 12 months is compared to the 12 month average for the last three years.

## Injuries from Crashes

Data Source: VDOT crash reporting database (RNS), DMV

Records Selected: Rolling 12 months of the number of injuries due to recordable crashes (injury or property damage valued at least \$1,000) for the most recent 12 months for which complete data is available. There may be a two or three month lag in the data.

Business Rules: The number of injuries due to recordable crashes in the last 12 months is compared to the 12 month average for the last three years.

## Deaths from Crashes

Data Source: The VDOT Daily Accident Report and the VDOT crash reporting database (RNS), DMV.

Records Selected: Fatalities due to crashes, YTD for the current calendar year.

Business Rules: The number of deaths for the current calendar year to date is compared to the number of deaths for the same time period in the previous year.

## Work Zone Crashes

Data Source: VDOT crash reporting database (RNS), DMV

Records Selected: Rolling 12 months of recordable work zone crashes (injury or property damage valued at least \$1,000) for the most recent 12 months for which complete data is available. There may be a two or three month lag in the data.

Business Rules: The number of recordable work zone crashes in the last 12 months is compared to the 12 month average for the last three years.

## Highway System – Condition

There are three performance measures within this area, and all are related to the condition of some key assets. The areas are:

- Pavement Condition (portrayed by a gauge)
  - Includes a page for seasonal paving activity
- Bridge Condition (a set of traffic lights)
- Ride Quality (gauge)

The data filters above the three measures are for District, Counties/Residencies/Cities, and Road Systems. When a filter setting is changed, the change is immediately reflected on the gauges or lights below. An individual performance area is opened up by clicking on the title header for the specific measure.

### Pavement Condition

*Data Source:* Annual spreadsheets provided by VDOT's Maintenance Division. At the summary statewide level, this measure currently applies to the Interstate and Primary road systems only.

*Business Rules:* The gauge points to the percent of pavement in non-deficient condition, with a tic mark to show last year's results. All pavements on the Interstate and Primary road systems in Virginia are assessed each year and rated in one of the following categories: Excellent, Good, Fair, Poor, or Very Poor. These surveys are done each year from December through May. Segments of pavement classified as Poor and Very Poor are considered deficient, all others are non-deficient.

The default view for this measure (until some other data filter is applied) is for Primary and Interstate lane miles combined, statewide. The lower portion of the screen shows a bar chart with each VDOT District represented. The bars show the percentage of pavement in each District that is in Fair or better condition.

For the first time in 2013, the Secondary road system rating is reported and based on about 20% of the network for which data is collected.

If a District is selected (data filter above the gauges), then the bar chart shows each county in the District, and that county's percentage of non-deficient pavement.

VDOT's goal is to have a minimum of 82% of Primary and Interstate pavement in Excellent, Good, or Fair condition. 82% or better in these conditions is considered 'green' status, from 70% to 82% is yellow, and less than 70% is red status.

For the Secondary pavement, VDOT's goal is to meet interim targets of 61% for FY2014, 62% by FY2015, 63% by FY2016, 64% by FY2017, and 65% by FY2018.

*Pavement Resurfacing*: There is a tab within the Pavement Condition measure which allows the user to see planned and actual pavement resurfacing and repair information.

*Data Sources for resurfacing information*: Pavement Maintenance Schedule System (PMSS), Data Warehouse – Transport CAS and SiteManager.

*Contracts Selected*: All contracts in SiteManager that are linked to PMSS paving schedules (by UPC). This might include Plant Mix, Slurry Seal, Surface Treat, Latex Mix, and so on. If there are contracts that did not get automatically linked, the District Contract Manager may request that those contracts be manually linked, so they get included in that season's paving information.

*Planned Lane Miles* – For each road segment in PMSS with associated Schedule ID and UPC, lane miles are computed as linear distance multiplied by the number of lanes. If the number of lanes is not specified, a 12 foot lane width is assumed. Paving schedules are developed in PMSS, and contracts for the current calendar year are subsequently developed from the paving schedules. Planned lane miles are those lane miles that are part of a paving schedule for the current calendar year and that were marked to “include” in PMSS (indicated with a numeral 1, rather than a numeral 0), or were included using the SiteManager utility tool. The estimated planned lane miles for contracts added using the utility in SiteManager – rather than from PMSS, are entered by District personnel into SiteManager. Descriptive information on planned lane miles, such as District, county, routes, and project description, are also from PMSS – but might be missing or incomplete for contracts included using the SiteManager utility.

*Planned Contracts* – Planned contracts for the current paving season are those contracts in SiteManager that were matched to a Schedule ID and UPC from PMSS. So for plan year 20XX in PMSS, the ‘included’ schedules have an associated UPC (speed type). The lane miles for the road segments for those contracts make up the planned lane miles (under contract) on Dashboard, for year 20XX. Some hybrid maintenance/construction contracts may have dates that would appear to put them in some other paving year (season), but the year they were planned and ‘included’ in PMSS is the determining factor. Added to the planned lane miles are those estimated and entered directly into SiteManager for those few contracts that did not link automatically (or others that the District wishes to be shown in the plan for that season).

*Completed Lane Miles* – Completed lane mile information is entered by District Contract Managers / Administrators in SiteManager, approximately at the time of the semi-final estimate (so, on Dashboard generally within 30 days of acceptance of the work from the contractor).

*Completed Contracts* – Paving contracts are considered complete when acceptance dates are entered into SiteManager.

There is a Financial Disclaimer which applies to paving contracts: The dollar costs shown in these measures represent most of the cost (and many times all) of completing the project. However, there may

be incidental costs, such as fuel adjustments, incentive payments, material allowances, and final payments, which are not included. Also, the extent of any potential claims may not be known at the time a project is completed, and are not included.

## Bridge Condition

Data source: Bridge Management System (BRMs)

Data queried: This includes all open highway structures for which VDOT has custodial responsibility. The list includes structures for which other entities, such as local governments, retain maintenance and repair/replacement responsibility and for which safety inspections are required by the federal government (bridges in the National Bridge Inventory). There are a few structures in Virginia that are not included – bridges on federal property, parkways, etc. Also, most bridges that cross over a roadway but do not carry automotive traffic (railroads, for example) are not included. Bridges that are closed to traffic or not yet completed are not included. Culverts or combinations of culverts with less than 36 square feet of opening are not included.

Business rules: This is a bridge condition rating based on the most recent inspection for bridges and culverts in Virginia. Bridge inspections cover the following: superstructure, substructure, deck and culvert. A general condition rating (GCR) is assigned to each based on a scale from 0-9, with nine being the best condition and 0 the worst. The overall condition status of each bridge is based on the lowest rating received by the superstructure, substructure and deck (for bridges), and the culvert for culverts. Bridges and culverts are assigned one of three designation: 'Structurally Deficient', 'One or more General Condition Rating (GCR) equal to 5 but not Structurally Deficient', or 'Non-Deficient'. These designations reflect maintenance needs, and a red status does not mean a bridge is unsafe.

- Green = Non-Deficient, GCR rating of 6-9
- Yellow = One or more GCR equal to 5 but not Structurally Deficient
- Red = Structurally Deficient, GCR rating of 0-4

During each regularly scheduled safety inspection the condition of different parts of a bridge or culvert are rated on a scale of 0 to 9, with a 9 being "excellent" and a 0 being "failed". A highway bridge or large culvert is classified as structurally deficient if the deck, superstructure, substructure or culvert receives a "poor" or worse condition rating (0 to 4 on the NBI rating scale). A bridge can also be classified as structurally deficient if its load-carrying capacity is significantly below current design standards or if a waterway frequently overtops the bridge during floods. The fact that a structure is rated 'structurally deficient' does not imply that it is likely to collapse or that it is unsafe. It means that it must be monitored, inspected, and maintained.

As an example, if a bridge received a rating of 8 for the superstructure, 6 for the substructure, and 5 for the deck, the bridge condition status would be yellow, based on the rating of 5 for the deck.

The goal is to have no more than 8% of Virginia bridges and culverts to be rated as structurally deficient (so the combination of yellow and green lights should be 92% or greater).

Bridges are required to be inspected at least every two years, culverts every four years. There is an allowance of 90 days (for VDOT maintained structures) or 180 days (for structures maintained by others – local governments for example) to get the information entered into the various data systems.

There are several graphs and trend charts available in this section. One of them refers to the bridge "Health Index". The Health Index is a structural condition measure that is calculated in BRMs. The value can range from 0%-100%, and reflects the condition distribution for the different elements of a structure. A health index of 100% indicates that all of the structural elements are in the best possible condition state. A health index of 0% indicates that all of the structural elements are in the worst possible condition state.

## Ride Quality

**Data Source:** Annual spreadsheets provided by VDOT's Maintenance Division. This measure currently applies to the Interstate and Primary road systems only.

**Business Rules:** The gauge points to the percent of pavement (lane miles) with average ride quality in the Excellent, Good, or Fair categories (smooth ride). All road segments on the Interstate and Primary road systems in Virginia are tested each year and rated in one of the following categories: Excellent, Good, Fair, Poor, or Very Poor. These tests are done each year from December through May. Segments of pavement classified as Poor and Very Poor are considered deficient (rough ride), all others are non-deficient (smooth ride).

The default view for this measure (until some other data filter is applied) is for Primary and Interstate lane miles combined, statewide. The lower portion of the screen shows a bar chart with each VDOT District represented. The bars show the percentage of pavement in each District that is in the Fair or better categories – one bar for Interstate, one for Primary. If a District is selected (data filter above the gauges), then the bar chart shows each county in the District, and that counties percentage of smooth ride. VDOT's goal is to have a minimum of 85% of the primary and interstate pavement network provide "fair" or better ride quality (Excellent, Good, or Fair classifications). This Ride Quality measure, and the associated testing, is based on the International Roughness Index. An index of less than 140 qualifies as a smooth ride. See the table below to convert the IRI value to smooth or rough ride:

<b>Roughness Category</b>	<b>IRI Range (inches/mile)</b>
Excellent	< 60
Good	60 ~ 100
Fair	100 ~140
Poor	140 ~ 200
Very Poor	> 200

## Finance

### Forecast vs. Actual Revenues

Data Source: Monthly Executive Financial Report

- Displays VDOT's planned and actual revenue, for the fiscal year to date. The default view is for the most recent month of verified data – other months may be selected from the drop-down list.
- Also displays the variance between the plan and actual revenue.
- Includes funding from federal, state, and local sources.
- Details about other financing sources (and uses of funds) are shown in a separate table below the chart.

### Forecast vs. Actual Expenses

Data Source: Monthly Executive Financial Report

- Displays VDOT's planned and actual spending, for the fiscal year to date. The default view is for the most recent month of verified data – other months may be selected from the drop-down list.
- The variance between planned and actual spending is also displayed.
- In an additional table, VDOT's total expenditures are broken down into these major categories: Maintenance, Construction, Administration, Debt Service, and Other.

## Purchase Power

Data Source: U.S. Department of Labor, Bureau of Labor Statistics; Virginia Department of Motor Vehicles; the Weldon Cooper Center.

To see the actual graph for this measure, click on the title block "Purchase Power" above the bar chart. This will cause a line graph to be displayed. The measures are shown from 1986 through 2007. The line graph shows:

- The change in buying power of the dollar. This is based on the Consumer Price Index for All Urban Consumers.
- The change in population in Virginia.
- The change in the number of licensed drivers in Virginia.
- The change in the number of registered vehicles in Virginia.
- The change in the number of vehicle miles driven on Virginia Interstate, Primary, and Secondary road systems. This statistic does not include miles driven on the Urban road system.

# VDOT Management

## Agency Administrative Performance

VDOT is required to report on the effectiveness of agency management to the Governor's office. This report is made semi-annually, and covers thirteen individual measures in five critical categories. The categories are:

- Emergency Preparedness
- Financial Management
- Government Procurement
- Human Resources
- Information Technology

Each of the thirteen individual measures is rated as Meets Expectations (displayed as green), Progressing towards expectations (yellow), Below Expectations (red), or Results Unavailable (grey). The measures are then summarized into the five categories by the Governor's Office, and reported on the *Virginia Performs* website. A link is provided on this Dashboard page to the Administrative Measures portion of *Virginia Performs*.



## Citizen Survey Results

This measure displays the results of periodic customer satisfaction surveys of the residents of Virginia. These are done by an independent consulting research company, The Southeast Institute of Research.

- Extensive surveys are done on a statistically representative sample of residents of each VDOT Construction and Maintenance District. The results of the questions are summarized into several main categories, for simplicity of reporting. The categories may change slightly from time to time, but generally include measures like:
  - Overall satisfaction with VDOT
  - Responsiveness to the needs and preferences of citizens
  - The value of information provided by VDOT
  - Maintenance of roads and highways
  - Management of funds
  - Overall quality of the ride

Each of the categories (or measures) in the survey are rated on a scale from one to five. One is 'Not at all Satisfied', and five is 'Very Satisfied'.

The results for each measure can be viewed as a pie chart, with the percent of each category of response shown. The two most positive categories of response (four and five) are combined together and color coded green, the more negative (bottom two) categories are combined and shown as red, and response 'three' is shown as yellow.

The user may select an individual District, to see the survey results specific for that District, or view 'Statewide'. The Statewide results are a composite, calculated by weighting each District according to population.

Each individual measure for the survey (chosen from the Date Range drop-down list) may be viewed. The measure is also selected from a drop-down list.

Next to the pie chart for the selected measure, there is an arrow. The arrow may be pointed up, down, or side to side. If there has been statistically significant change in a measure from one survey to the latest, it will be indicated by the arrow. Changes must be at the 95% confidence level or more, to be shown. If the results have improved, the arrow will point up, if there has been a decline, the arrow will point down. If there has not been a statistically significant change, or there was not an equivalent measure for comparison, the arrow will point side to side.

# Projects

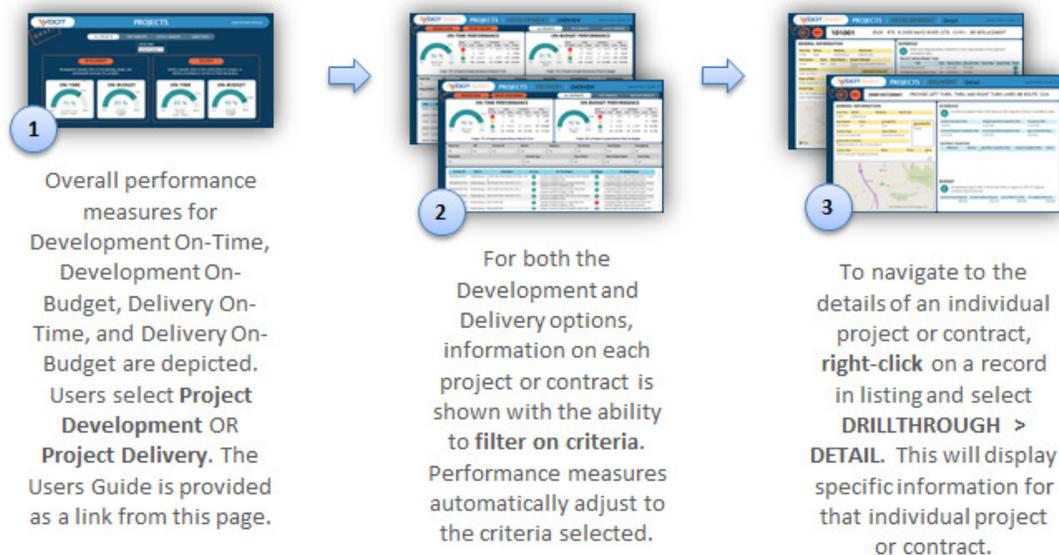
## Introduction

Currently in its third iteration, the VDOT Dashboard provides a single, integrated reporting platform for key performance indicators from across the agency. The fourth version of the Dashboard is under development and will be providing an enhanced user experience and more refined data analysis of key transportation performance measures. The updated version of the Dashboard will be launched one dial at a time beginning with Projects. The **Projects Dial** contains the following four performance measures: Development On-Time, Development On-Budget, Delivery On-Time, and Delivery On-Budget. For questions or further information, please contact [dashboard@vdot.virginia.gov](mailto:dashboard@vdot.virginia.gov)

## Schedule

- **July 2018** – **Dashboard Projects Dial** public launch will represent the information contained within the Commonwealth's Transportation Board (CTB) Six Year Improvement Program (SYIP). The existing Dashboard (version 3) Projects Dial will be replaced by the new Dashboard (version 4) Projects Dial. The other Dashboard dials (Environmental, Construction Quality Improvement, Finance, Condition, Safety, Performance, VDOT Management, and Citizen Survey Results) will remain available until they are updated.
- **Fall 2018 and beyond** – Subsequent dials will begin to be updated, replacing existing Dashboard dials, and made available to the public.

## Navigation



## Business Rules

The new Dashboard Projects Dial implements performance metrics that are based on the **Smart Scale Dashboard** business rules. The status of each project and contract is determined by schedule and budget calculations based on core milestone activities that are common to each project. A detailed explanation of the performance measures and the corresponding business rule logic can be found in the **Dashboard Project Dial Users Guide**. A quick reference for the On-Time and On-Schedule business rules for Project Development and Project Delivery is below.

**Project Development On-Time**

Measures the performance of meeting project activities from the time of CTB approval until the Delivery phase begins upon contract award. The initial project kickoff activities (Local Agreement, Start Development, and Determine Requirements) are scheduled and baselined upon CTB funding approval. The remaining scheduled activities become baselined after the project's full scope is finalized and approved for design. Activities missing critical information will be red. Target: 70%

Activity	Activity Code	Early Finish		Baseline Finish Date	Late Finish	
Local Agreement	10	≤ 30 days early	≤ 30 days early			> 0 days late
Start Development (Authorize PE)	12					
Determine Requirements (Scope Project)	22					
Engage Public (Approve Willingness, Adopt Location/Design)	47, 49					
Start Purchasing Right-of-Way (Authorize R/W & UT Funds)	52					
Utility Relocation	67U	> 60 days early	≤ 60 days early			> 0 days late
Complete Purchasing Right-of-Way (Acquire Right-of-Way)	69					
Obtain Permits	70					
Solicit Bids (Advertise Project)	80					
Start Delivery (Award Contract)	84	> 30 days early	≤ 30 days early		> 0 days late	

**Project Delivery On-Time**

Measures the performance of completing project milestones from contract award through contract completion. Schedules become baselined at the time of the contract award, when the contractor has committed to a specific schedule for completion of the project. If critical information is missing, such as schedule baselines, budget, or estimate, the status is 'red'. If an estimate is not updated within one year, the status is 'yellow'. Target: 77%

Milestones	Early Finish		Baseline End Date	Late Finish	
Project Specific Interim Milestones	> 14 days	≤ 14 days			> 0 days
Complete Delivery	> 0 days				> 0 days

**Project Development On-Budget**

Compares the CTB approved budget to the current total project estimate. Project budgets are fixed when the project funding is approved by the CTB. Estimates over one year old will be yellow. Target: 74%

Approved Budget	Current Estimate		
< \$5 million	≤ 0	> 0 to < 20%	≥ 20%
\$5 million to \$10 million	≤ 0	> 0 to > \$1M	≥ \$1M
> \$10 million	≤ 0	> 0 to < 10% or < \$5M*	≥ 10% or ≥ \$5M*
* Whichever is less			

**Project Delivery On-Budget**

Compares the contract award amount, current contract amount and the cost-to-date. Total project budgets are fixed upon contract award. Target: 85%

Projects have not been executed; no status		
Active	Neither the current contract amount, nor the cost of work to date, exceed the award amount by more than 3%	Either the current contract amount, or the cost of work to date, exceeds the contract award amount by +10% for construction contracts, or +25% for maintenance contracts
	Un-audited final cost is within 110% of award amount for construction contracts, or within 125% for maintenance contracts	Un-audited final cost is not known; Either the cost of work to date, or the current contract amount, +10% of the construction contract award amount, or +125% of maintenance contract award amount
Completed	Un-audited final cost is within 110% of award amount for construction contracts, or within 125% for maintenance contracts	Un-audited final cost is not known; Either the cost of work to date, or the current contract amount, +10% of the construction contract award amount, or +125% of maintenance contract award amount