**Data Definition for the BLTS\_Merge\_Data\_File\_20180122 Table**

The BLTS\_Merge\_Data\_File\_20180122 table is a merge table of the road centerline data with the fields from the first phase of the bicycle project containing the bicycle use fields, road width and shoulder data from VTrans Mapping, speed limit data, average annual daily traffic from 2015 and 2016, pavement condition, designated downtowns and villages, and functional class data. This merge process was performed leveraging the town-based linear reference fields, TWN\_LR, TWN\_FMM and TWN\_TMM, allowing for event overlay processes to be run and the union of multiple tables with the same reference. This resultant data table can be dynamically segmented on the lrs\_route\_twn data layer, using the TWN\_LR as the route code and TWN\_FMM and TWN\_TMM as the from and to measures.

The fields in the resultant table - BLTS\_Merge\_Data\_File\_201711 come from multiple data tables, from different sources throughout the Agency of Transportation, and may be of various vintages based on data publishing cycles or when the union geo-process was run. Notations are provided on each field and the origin and description of the field.

More detail can be provided by contacting:

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OBJECTID

Unique ID generated by ArcGIS for each record in the table.

TWN\_LR

Town-based linear reference code used to generate the town-based Linear Reference System data layer. The TWN\_LR is related to the ETE\_LR field but also includes the CTCODE. For example, the TWN\_LR value for VT Route 12 in Montpelier is V012-1211 (ETE\_LR = V012, CTCODE = 1211).

TWN\_FMM

Town-based linear reference method – from or begin mile marker of the mapped highway segment.

TWN\_TMM

Town-based linear reference method – to or end mile marker of the mapped highway segment.

Through\_Lanes (Road Width Data Layer – 10/2017)

The number of lanes designated for through-traffic as defined in FHWA’s Highway Performance Monitoring System (HPMS) Field Manual.

<https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/hpms_field_manual_dec2016.pdf>

Median\_Type (Road Width Data Layer – 10/2017)

The type of median, as defined in the HPMS Field Manual.

1 – None

2 – Unprotected

3 – Curbed

4 – Positive Barrier – unspecified

5 – Positive Barrier – flexible

6 – Positive Barrier – semi-rigid

7 – Positive Barrier – rigid

<https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/hpms_field_manual_dec2016.pdf>

Median\_Width (Road Width Data Layer – 10/2017)

Width of median in feet.

Shoulder\_Type (Road Width Data Layer – 10/2017)

Type of shoulder, as defined in the HPMS Field Manual.

1 - None

2 - Surfaced shoulder exists - bituminous concrete (AC)

3 - Surfaced shoulder exists - Portland Cement Concrete surface (PCC)

4 - Stabilized shoulder exists (stabilized gravel or other granular material with or without admixture)

5 - Combination shoulder exists (shoulder width has two or more surface types; e.g., part of the shoulder width is surfaced and a part of the width is earth)

6 - Earth shoulder exists

7 - Barrier curb exists; no shoulder in front of curb

<https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/hpms_field_manual_dec2016.pdf>

Shoulder\_Width\_R (Road Width Data Layer – 10/2017)

Width of the right shoulder of the highway, in feet.

Shoulder\_Width\_L (Road Width Data Layer – 10/2017)

Width of the left shoulder of the highway, in feet.

TOTAL\_LANES (Road Width Data Layer – 10/2017)

Total number of lanes for the highway segment, including through lanes and any turning lanes.

FAID\_S (Road Centerline Data Layer – 6/2017)

Unique ArcID for the road centerline segment within the master road centerline data layer, composed of the FIPS6 and ARCID values.

RTNUMBER\_N (Road Centerline Data Layer – 6/2017)

Similar to RTNUMBER in the road centerline data, but in numeric format. Previously known as RTNO\_N. It is used to have public highway listings display in numeric order instead of text order - for example, a listing based on RTNUMBER would be ordered as 1, 10, 11, 2, 20, 21, while a listing based on RTNUMBER\_N would be ordered as 1, 2, 10, 11, 20, 21. The letter suffix in routes is assigned a decimal value.

Examples:

100A = 100.10

100B = 100.20

100C = 100.30

US-ALT5 = 5.9

ALT VT-100 = 100.9

RDFLNAME (Road Centerline Data Layer – 6/2017)

Full road name. VTrans has put an effort forward to correct the TransRoad\_RDS data layer to reflect the "official" road names from E911, but there may have been some roads that either did not match in automated evaluation, or were missed. The E911 data should still be used as the "official" source and the

Trans\_Road\_RDS as a secondary name source.

NOTE: There currently isn't a reliable mechanism for maintenance of this item. Users should generally turn to the EmergencyE911\_RDS data layer when they need "official" road name information. The current equivalent of RDFLNAME in E911RDS is PRIMARYNAME, but because PRIMARYNAME is incompletely populated in this release, VTrans will continue its use of RDFLNAME until the VTrans and E911 road centerline data sets are merged.

FAID\_N (Road Centerline Data Layer – 6/2017)

Unique ArcID for the road centerline segment within the master road centerline data layer, composed of the FIPS6 and ARCID values. This value should be the same as FAID\_S, but a long integer.

total\_tran (Consultant Data)

total\_rec (Consultant Data)

use\_score (Consultant Data)

Bicycle Level of Use category

1 – Low Use / Priority

2 – Moderate Use / Priority

3 – High Use / Priority

UseThirds (Consultant Data)

Bicycle Level of Use category with even mileage distribution of 1/3 of the total mileage for each category

1 – Low Use / Priority

2 – Moderate Use / Priority

3 – High Use / Priority

Use50\_30\_2 (Consultant Data)

Bicycle Level of Use category with even mileage distribution of 50% of category 1, 30% of category 2, and 20% of category 3

1 – Low Use / Priority

2 – Moderate Use / Priority

3 – High Use / Priority

Smoothed (VTrans smoothed data)

Bicycle Level of Use category that has been smoothed by VTrans to eliminate short segments, using the UseThirds field as the base ranking for the smoothing process. This field has defined the 3 main categories of use for the state highway system.

1 – Low Use / Priority

2 – Moderate Use / Priority

3 – High Use / Priority

FID (Consultant Data)

FinLTS\_060 (Consultant Data)

FinLTS\_060\_Smooth (Consultant Data)

AOTCLASS (Road Centerline Data Layer – 6/2017)

This item will hold the official VTrans road class from the VTrans highway maps (see also the description for RPCCLASS). All arcs must be assigned an AOTCLASS code. AOTCLASS generally uses the same codes as the RPCCLASS field, except for codes 8 and 9 - some RPCs use 8 to identify

private roads not generally used by the public and 9 to identify private roads in general use by the public, while VTrans uses 8 to identify private roads not shown on the Town Highway Maps (most private roads) and 9 to identify private roads shown on the Town Highway Maps. These are usually short connectors between public highways or roads such as the Mount Mansfield Toll Road. VTrans follows a statutory process to define and reclassify town highways based on information provided from each town on their annual Mileage Certificate. This certificate is a record of total mileage in each classification of highway. Any changes require proper documentation and following of the statutory process. VTrans will make corrections based on the formal documentation, but cannot alter classification without justification. Act 178 of 2006 formally added class 4 and legal trail mileage to the Mileage Certificates, prompting the need to distinguish between formally approved legal trails. VTrans has added the class of 70 for legal trails that have yet to be approved, and leaving class 7 for those legal trails that have been approved by Selectboards.

Field values:

1 = Town Highway Class 1 –undivided

2 = Town Highway Class 2 – undivided

3 = Town Highway Class 3 – undivided

4 = Town Highway Class 4 – undivided

5 = State Forest Highway

6 = National Forest Highway

7 = Legal trail

8 = Private road – no-show

9 = Private road

10 = Driveway (put in driveway)

11 = Town Highway Class 1 – northbound

12 = Town Highway Class 1 – southbound

13 = Town Highway Class 1 – eastbound

14 = Town Highway Class 1 – westbound

15 = Town Highway Class 1 – on/off-ramp

16 = Town Highway Class 1 – emergency U-turn

17 = Town Highway Class 1 – rest area

19 = Town Highway Class 1 – other

20 = County Highway – undivided

21 = Town Highway Class 2 – northbound

22 = Town Highway Class 2 – southbound

23 = Town Highway Class 2 – eastbound

24 = Town Highway Class 2 – westbound

25 =Town Highway Class 2 – on/off -ramp

26 = Town Highway Class 2 – emergency U-turn

27 = Town Highway Class 2 – rest area

29 = Town Highway Class 2 – other

30 = State Highway – undivided

31 = State Highway – northbound

32 = State Highway – southbound

33 = State Highway – eastbound

34 = State Highway – westbound

35 = State Highway – on/off- ramp

36 = State Highway – emergency U-turn

37 = State Highway – rest area

39 = State Highway – other

40 = US Highway – undivided

41 = US Highway – northbound

42 = US Highway – southbound

43 = US Highway – eastbound

44 = US Highway – westbound

45 = US Highway – on/off- ramp

46 = US Highway – emergency U-turn

47 = US Highway – rest area

49 = US Highway – other

50 = Interstate Highway – undivided (not currently used)

51 = Interstate Highway – northbound

52 = Interstate Highway – southbound

53 = Interstate Highway – eastbound

54 = Interstate Highway – westbound

55 = Interstate Highway – on/off -ramp

56 = Interstate Highway – emergency U-turn

57 = Interstate Highway – rest area

59 = Interstate Highway – other

60 = US Government Highway

65 = Ferry

70 = Unconfirmed legal trail

71 = Unidentified corridor

80 = Proposed Highway – unknown class

81 = Proposed Town Highway Class 1

82 = Proposed Town Highway Class 2

83 = Proposed Town Highway Class 3

84 = Proposed State Highway

85 = Proposed US Highway

86 = Proposed Interstate Highway

87 = Proposed Interstate Highway – ramp

88 = Proposed non-Interstate Highway – ramp

89 = Proposed private road

91 = New – class unknown

92 = Military – no public access

93 = Public – class unknown

95 = Class under review

96 = Discontinued road

97 = Discontinued –now private

98 = Not a road

99 = Unknown

<http://vtransmaps.vermont.gov/Maps/Publications/VTrans_Road_Centerline_User_Guide.pdf>

FACILITY\_TYPE (Road Centerline Data Layer – 6/2017)

Facility\_Type has been added to allow for better summary of mileage for the Federal Highway Administration's Highway Performance Monitoring System (HPMS). This field represents the operational characteristics of a highway segment, based on the definitions in the HPMS Field Manual. A copy of this manual can be found on -line at the following link:

<http://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/HPMS_2014.pdf>

see also

<http://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/chapter4b.cfm>

1 = One-Way Roadway – Roadway that operates with traffic moving in a single direction during non-peak period hours.

2 = Two -Way Roadway – Roadway that operates with traffic moving in both directions during non-peak period hours.

4 = Ramp – Non-mainline junction or connector facility contained within a grade-

separated interchange.

5 = Non-Mainline – All non-mainline facilities excluding ramps.

6 = Non-Inventory Direction – Individual road/roads of a multi-road facility that is/are not used for determining the primary length for the facility.

7 = Planned/Unbuilt – Planned roadway that has yet to be constructed.

RTNAME (Road Centerline Data Layer – 6/2017)

The RTNAME town highway number/name corresponds to the official number on the VTrans highway maps with an added prefix (ex: "I-89", "VT-12A", "TH-3", "US-4", etc.). State and federal numbers will be unique for that highway for the entire state, while town -numbered highways will only be unique for that town.

<http://vtransmaps.vermont.gov/Maps/Publications/VTrans_Road_Centerline_User_Guide.pdf>

URBAN\_CODE (Road Centerline Data Layer – 6/2017)

Census urban code used to designate the federal aid urban areas (FAU), codes 11755 and 99998 are FAU, whereas 99999 is rural and not considered urban.

11755 = Five -digit code to uniquely identify the Census 2010 Urbanized Area (population greater than or equal to 50,000) of Burlington, VT, adjusted for transportation planning purposes by VTrans in conjunction with regional planning partners.

99998 = Small Urban area to identify the Census Urban Clusters with a population greater than or equal to 5,000 and less than 50,000, adjusted for transportation planning purposes by VTrans in conjunction with regional planning partners.

99999 = Rural areas; all areas outside the adjusted Urbanized Area and Small Urban Area boundaries, for transportation planning purposes.

INCLUDE\_ARC (VTrans designated for this specific project)

“Yes” or “No” code on whether to include the arc in the bicycle level of stress study or not.

AADT (VTrans Traffic Operations Section AADT Data - 2015)

Average Annual Daily Traffic (AADT) based on data collected and processed by the VTrans Traffic Operations staff.

Year (VTrans Traffic Operations Section AADT Data - 2015)

Year of the AADT data, in this case this was the 2015 AADT data that was used in the initial data processing.

CERT\_NO (VTrans Traffic Operations Section Speed Data – 6/2017)

Speed Zone Certificate Number from the Certified Speed Zone data from VTrans Traffic Operations.

SPEED\_LIMIT (VTrans Traffic Operations Section Speed Data – 6/2017)

Speed limit data based on a union of the Certified Speed Zones maintained by the VTrans Traffic Operations staff, and a default speed limit data layer, providing a complete speed limit layer for the network. This process cookie cuts the official Certified Speed Zones into the default data, providing the up to date speed zones, with the base default speed limits for the remainder of the network.

RECURRENT\_SPEED\_ZONE (VTrans Traffic Operations Speed Data – 6/2017)

FUNCL (VTrans Mapping - Functional Class Table – 10/2017)

Functional class code, based on FHWA descriptions.

0 = Not part of Functional Classification System

1 = Interstate

2 = Principal Arterial – other freeways and expressways

3 = Principal Arterial – other

4 = Minor Arterial

5 = Major Collector

6 = Minor Collector

7 = Local

<http://vtransmaps.vermont.gov/Maps/Publications/VTrans_Road_Centerline_User_Guide.pdf>

FunctionalClassDescription (VTrans Mapping - Functional Class Table – 10/2017)

Function class description that is linked to the functional class code, based on FWHA descriptions.

LIMITED\_ACCESS\_TYPE (VTrans Mapping - Limited Access Table – 10/2017)

Limited Access Type, as defined through the VTrans Right of Way and VTrans Utility & Permitting Sections.

“” – No limited access designation

Partial Control of Access – Preference given to through traffic movement. In addition to interchanges, there may be some crossings at-grade with public roads, but, direct private driveway connections have been minimized through the use of frontage roads or other local access restrictions. Control of curb cuts is not access control.

Full Control of Access - Preference given to through traffic movements by providing interchanges with selected public roads, and by prohibiting crossing at-grade and direct driveway connections (i.e., limited access to the facility)

CONDITION\_CATEGORY (VTrans AMP Pavement Condition Data – 6/2017)

Pavement Condition Category - This data is a combination of 3 sources of information that are collected on different schedules. The entire National Highway System (NHS) is driven by an automated surface condition collection vehicle annually. The Vermont State highway network is driven every other year using the same methods as above. After individual paving projects are completed the Agency collects ride and rut data to ensure the work meets project specifications. Stewards: Asset Management & Performance, Data Owner: Asset Management & Performance

<http://geodata.vermont.gov/datasets/VTrans::vt-pavement-condition-tenth-mile>

NHS (VTrans AMP Pavement Condition Data – 6/2017)

National Highway System designation, as defined by FHWA.

0 or -1 = Not on NHS

1 = NHS –Interstate

2 = ISTEA High-Priority Corridor

3 = Non-Interstate STRAHNET

4 = STRAHNET Connector

5 = ISTEA High-Priority Corridor/Non-Interstate STRAHNET

6 = ISTEA High-Priority/STRAHNET Connector

7 = NHS –Principal Arterial

8 = NHS –Intermodal Connector

10 = NHS MAP-21 Principal Connector

ST\_CLASS (VTrans AMP Pavement Condition Data – 6/2017)

DESCRIPT (DHCD Downtown and Village Shapefiles)

Village or Designated Downtown Description or Name

TOWNNAME (DHCD Downtown and Village Shapefiles)

Town name in which a village or designated downtown exists.

DISTRICT (DHCD Downtown and Village Shapefiles)

DIS\_NAME (DHCD Downtown and Village Shapefiles)

Village or Designated Downtown Description or Name

Length\_Miles (Calculated in the table)

Length of the highway segment in miles, calculated by the equation - (TWN\_TMM – TWN\_FMM)

AADT\_BIN (VTrans calculated)

Categories of highways segments binned based on AADT ranges.

ShoulderWidthBin (VTrans calculated)

Categories of highways segments binned based on shoulder width ranges.

AADT2016 (VTrans Traffic Operations Section AADT Data - 2016)

2016 Average Annual Daily Traffic (AADT) based on data collected and processed by the VTrans Traffic Operations staff.

BLTS\_URBAN (VTrans Assigned from URBAN\_CODE and DESCRIPT)

The BLTS\_URBAN field represents whether a segment is urban or not for the BLTS assessment. This leverages the URBAN\_CODE and DESCRIPT field with contain Federal Urban Area codes and Designated Downtown and Village descriptions. If the URBAN\_CODE was not 99999 or DESCRIPT <> “”, the BLTS\_URBAN was coded as “YES”. All other segments are considered as rural and coded as “NO”.

YES – the segment is within a Federal Urban Area, Designated Downtown, or Village and is considered urban for the BLTS assessment

NO – this segment is outside of an urban area and is considered rural for the BLTS assessment

ATRStation (VTrans Traffic Operations Section Classification Count Data - 2016)

Automated Traffic Counter (ATR) number that corresponds to the classification count.

Truck\_Percent (VTrans Traffic Operations Section Classification Count Data - 2016)

Total percent of trucks for the highway segment defined by the ATR station. This value is the total percentage of medium and heavy trucks. To make this a percentage in a numeric field in Arc, the value from the original spreadsheet was multiplied by 100.

Percent\_MED (VTrans Traffic Operations Section Classification Count Data - 2016)

Total percent of medium trucks for the highway segment defined by the ATR station. To make this a percentage in a numeric field in Arc, the value from the original spreadsheet was multiplied by 100.

Percent\_HEAVY (VTrans Traffic Operations Section Classification Count Data - 2016)

Total percent of heavy trucks for the highway segment defined by the ATR station. To make this a percentage in a numeric field in Arc, the value from the original spreadsheet was multiplied by 100.

Truck\_AADT\_Estimate (VTrans Calculated from AADT 2016 and Truck Percent)

Esimated AADT for trucks on a segment was calculated by multiplying the AADT2016 and the Truck\_Percent. This is just an estimate due to different years of the AADT collection for the classification counts.

AADT\_YEAR\_TRUCK (VTrans Traffic Operations Section Classification Count Data)

Year of collection at the ATR station for classification counts, providing some insight into the validity of the estimated number of trucks on a segment.

ALTA\_LTS (Field calculated by Alta Planning + Design)

The ALTA\_LTS field represents the final BLTS segment score, based on the tables included in the methods memo dated December 4, 2017. The values directly correspond with the LTS score (1 = LTS 1, 2 = LTS 2, etc.). LTS 1 and 2 are considered low stress facilities, while LTS 4 is considered high stress.