Technical Bulletin

BlueTOAD Technical Bulletin

XML Feeds

This Bulletin describes a set of three BlueTOAD XML feeds. The feeds provide information about BlueTOAD Devices, Pairs, and Routes. The feeds are enhancements of the existing feeds xml/bt_locations, /xml/pairings_raw, and /xml/traveldata. The XML schemas have been changed, and additional information has been added.

The old feeds will still be available, with the same URLs. They have not changed. However, we recommend that customers switch to the new feeds if possible.

The BlueTOAD XML feeds are provided in the form of XML documents which can be retrieved using a REST API. All of the feeds are available at https://bluetoad.trafficcast.com. You must log into the site as a valid user before accessing any of the feeds. Your login credentials to that site are the same as your login credentials to the main BlueTOAD site at https://bluetoad.trafficcast.com.

For details on how to retrieve the feeds, including sample code, see the instructions at https://trafficcast.zendesk.com/hc/en-us/categories/200450557-BlueARGUS-Software. Or from BlueARGUS Choose “Docs” from the main menu, then "BlueARGUS Software" then”XML Feeds”. You can also download detailed XML Schema files (.xsd) for each of the feeds at that location.

Each feed provides information about all the devices, pairs, or routes that are assigned to groups associated with the login used to access the feed. For logins associated with multiple groups, the “/<group>” argument on each feed URL can be used to restrict the information to the devices assigned to a single group.

BlueTOAD Device Information Feed /xml/bt_devices

URL

https://bluetoad.trafficcast.com/xml/bt_devices [/<live_status>] [/<group>]

<live_status> = “live” or “none”

- live => include live data elements <Speed>, < LastMac>, and <LastVolts>
- none => omit live data elements
- If omitted, the default is “none”

<group> = the group ID number of the group you want device data for. This is only useful if you (the user used for login) are a member of more than one group. The default is to include data for all groups that you are a member of, with one <Devices> element for each group.

Examples: https://bluetoad.trafficcast.com/xml/bt_devices

https://bluetoad.trafficcast.com/xml/bt_devices/live https://

https://bluetoad.trafficcast.com/xml/bt_devices/none/1234

TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562
Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

Response

An XML document with the following elements. See below for an example.

Element	Type	Description
<BlueTOAD_DATA>	complexType	Root element
<AsOf>	dateTime	The date and time the report was created, in ISO 8601 format
<Devices>	complexType	The set of <Device> elements for one group
count	attribute	Number of <Device> elements in <Devices>
groupID	attribute	Group ID of the group these devices are part of
groupName	attribute	Name of the group
<Device>	complexType	Information about a single device
<DeviceID>	unsignedInt	The hardware ID of this device
<Name>	string	Device name, as defined on the BlueTOAD website
<Status>	string	Either “Active” or “Inactive”, as defined for the device on the BlueTOAD website
<ValidUntil>	date	The date the device validity expires
<Model>	string	The device model, currently one of “Ethernet/POE”, “GSM/Solar”, “MiniTOAD”, “Ethernet/Rack”, “Ethernet/DC”, “Ethernet/Trailer”, “GSM/AC”, GSM/DC“, “GSM/POE”, or “none”, if the model is not defined. New models may be added.
<Latitude>	decimal	The latitude of the device, in decimal degrees. South latitude is negative.
<Longitude>	decimal	The longitude of the device, in decimal degrees. West longitude is negative.
<City>	string	The city where the device is located
<State>	string	The state, province, or country (for countries without states or provinces) where the device is located. Two-letter abbreviation in the USA and Canada.

TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

<Timezone>	string	Time zone where the device is located. One of the standard time zone names from the tz database, e.g. “US/Central”. See http://en.wikipedia.org/wiki/List_of_tz_database_time_zones.
<MileMarker>	string	An optional, user-defined field intended to be used for the mile marker where the device is located. Defined on the BlueTOAD website.
<SectionMarker>	string	An optional, user-defined field intended to be used for the section marker where the device is located. Defined on the BlueTOAD website.
<XF1>	string	An optional, user-defined text field associated with this device. Defined on the BlueTOAD website.
<LastHB>	dateTime	[optional] The date and time of the last heartbeat received from the device, in local time as defined by <Timezone>.
stale	attribute	“true” or “false”. This is true when <LastHB> is more than 30 min old.
<LastMAC>	dateTime	[optional] The date and time of the last Bluetooth detection (MAC = Media Access Control address) received from the device, in local time as defined by <Timezone>.
stale	attribute	“true” or “false”. This is true when <LastMac> is more than 15 min old.
<LastVolts>	decimal	[optional] The battery voltage reported by the device in the last heartbeat (volts).

Example

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BlueTOAD_DATA>
 <AsOf>2013-10-18T14:11:48Z</AsOf>
 <Devices count="2" groupID="1234" groupName="Center City">
  <Device>
   <DeviceID>1250</DeviceID>
   <Name>Barrett Pkwy &amp;amp; Barrett Lakes Blvd (1250)</Name>
   <Status>Active</Status>
   <ValidUntil>2015-09-21</ValidUntil>
   <Model>Ethernet/POE</Model>
   <Latitude>34.00432</Latitude>
   <Longitude>-84.57730</Longitude>
   <City>Kennesaw</City>
```


TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

```
   <State>GA</State>
   <Timezone>US/Eastern</Timezone>
   <MileMarker>122.3A</MileMarker>
   <SectionMarker>M22B</SectionMarker>
   <XF1>This is XF1</XF1>
   <LastHB stale="false">2013-10-18T14:10:48Z</LastHB>
   <LastMAC stale="false">2013-10-18T14:10:17Z</LastMAC>
   <LastVolts>12.22</LastVolts>
  </Device>
  <Device>
   <DeviceID>1252</DeviceID>
   <Name>Barrett Pkwy &amp;amp; I-75 South Bound Exit (1252)</Name>
   <Status>Active</Status>
   <ValidUntil>2015-09-21</ValidUntil>
   <Model>none</Model>
   <Latitude>34.00915</Latitude>
   <Longitude>-84.56897</Longitude>
   <City>Kennesaw</City>
   <State>GA</State>
   <Timezone>US/Eastern</Timezone>
   <MileMarker/>
   <SectionMarker/>
   <XF1>This is XF1</XF1>
   <LastHB stale="false">2013-10-18T14:09:53Z</LastHB>
   <LastMAC stale="false">2013-10-18T14:10:43Z</LastMAC>
   <LastVolts>12.20</LastVolts>
  </Device>
 </Devices>
</BlueTOAD_DATA>
```


BlueTOAD Pair Information Feed /xml/bt_pairs

URL

https://bluetoad.trafficcast.com/xml/bt_pairs [/<live_status>] [/<group>]

<live_status> = “live” or “none”

- none => omit live data elements
- If omitted, the default is “none”
- live => include live data elements <Speed>, < HistSpeed>, <TravelTime>, and <LastMatch>

<group> = the group ID of the group you want pair data for. This is only useful if you (the user used for login) are a member of more than one group. The default is to include data for all groups that you are a member of, with one <Pairs> element for each group.

Examples: https://bluetoad.trafficcast.com/xml/bt_pairs

https://bluetoad.trafficcast.com/xml/bt_pairs/live

https://bluetoad.trafficcast.com/xml/bt_pairs/none/1234

TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

Response

An XML document with the following elements. See below for an example.

Element	Type	Description
<BlueTOAD_DATA>	complexType	Root element
<AsOf>	dateTime	The date and time the report was created, in ISO 8601 format
<Pairs>	complexType	The set of <Pair> elements for one group
count	attribute	Number of <Pair> elements in <Pairs>
units	attribute	The units used for distance and speed, either “mi”, or “km”
groupID	attribute	Group ID number of the group these pairs are part of
groupName	attribute	Name of the group
<Pair>	complexType	Information about a single pair
<PairID>	unsignedInt	The ID number of this pair
<Name>	string	Pair name, as defined on the BlueTOAD website
<FromDevice>	complexType	Information about the first device of the pair
<DeviceID>	unsignedInt	Device ID of the first device
<DeviceName>	String	Name of the first device
<ToDevice>	complexType	Information about the second device of the pair
<DeviceID>	unsignedInt	Device ID of the second device
<DeviceName>	String	Name of the second device
<Distance>	decimal	Travel distance from the first device to the second device, in miles or kilometers, depending on the “units” attribute in <Pairs>
<SpeedLimit>	unsignedInt	The speed limit defined for this pair, in mph or kph, depending on the “units” attribute in <Pairs>
<RoadClass>	string	The road class defined for this pair, e.g. “HCM2000 Freeway FFS65”
<Method>	string	The smoothing method defined for this pair, e.g. “Two-Stage Mean”

TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

<Status>	string	Either “Active” or “Inactive”, as defined for the pair on the BlueTOAD website
<XF1>	string	An optional, user-defined text field associated with this pair. Defined on the BlueTOAD website.
<XF2>	string	Another optional, user-defined text field associated with this pair. Defined on the BlueTOAD website.
<Speed>	unsignedInt	[optional] The most recently measured smoothed speed for this pair, in mph or kph, depending on the “units” attribute in <Pairs>
<HistSpeed>	string	[optional] Average historical speed for this pair, computed as the average of the last 12 weeks, for this day and time, in mph or kph, depending on the “units” attribute in <Pairs>. May be empty.
<TravelTime>	unsignedInt	[optional] The most recently measured smoothed travel time for this pair, in seconds
<LastMatch>	dateTime	[optional] The date and time of the last detected vehicle match for this pair
stale	attribute	“true” or “false”. This is true when <LastMatch> is more than 15 min old at the time the feed is created.

Example

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BlueTOAD_DATA>
 <AsOf>2013-10-18T15:45:08Z</AsOf>
 <Pairs count="2" units="mi" groupID="1234" groupName="Center City">
  <Pair>
   <PairID>2757</PairID>
   <Name>Barrett Pkwy &amp; Barrett Lakes to Barrett</Name>
   <FromDevice>
    <DeviceID>1250</DeviceID>
    <DeviceName>Barrett Pkwy &amp; Barrett Lakes Blvd (1250)</DeviceName>
   </FromDevice>
   <ToDevice>
    <DeviceID>1252</DeviceID>
    <DeviceName>Barrett Pkwy &amp; I-75 South Bound Exit (1252)</DeviceName>
   </ToDevice>
   <Distance>0.600</Distance>
   <Direction>E</Direction>
   <SpeedLimit>45</SpeedLimit>
   <RoadClass>HCM_Freeway_55</RoadClass>
   <Method>Two Stage Mean</Method>
   <Status>Active</Status>
   <XF1>This is XF1</XF1>
```


TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

```
   <XF2>This is XF2</XF2>
   <Speed>28</Speed>
   <HistSpeed/>
   <TravelTime>78</TravelTime>
   <LastMatch stale="false">2013-10-18T15:39:13Z</LastMatch>
  </Pair>
  <Pair>
   <PairID>2758</PairID>
   <Name>Barrett Pkwy &amp; I-75 South Bound &amp; Barrett Lakes </Name>
   <FromDevice>
    <DeviceID>1252</DeviceID>
    <DeviceName>Barrett Pkwy &amp; I-75 South Bound Exit (1252)</DeviceName>
   </FromDevice>
   <ToDevice>
    <DeviceID>1250</DeviceID>
    <DeviceName>Barrett Pkwy &amp; Barrett Lakes Blvd (1250)</DeviceName>
   </ToDevice>
   <Distance>0.600</Distance>
   <Direction>W</Direction>
   <SpeedLimit>45</SpeedLimit>
   <RoadClass/>
   <Method>Two Stage Mean</Method>
   <Status>Active</Status>
   <XF1>This is XF1</XF1>
   <XF2>This is XF2</XF2>
   <Speed>31</Speed>
   <HistSpeed/>
   <TravelTime>69</TravelTime>
   <LastMatch stale="false">2013-10-18T15:38:57Z</LastMatch>
  </Pair>
 </Pairs>
</BlueTOAD_DATA>
```


BlueTOAD Route Information Feed /xml/bt_routes

URL

https://bluetoad.trafficcast.com/xml/bt_routes [/<live_status>] [/<group>]

<live_status> = “live” or “none”

- none => omit live data elements
- If omitted, the default is “none”
- live => include live data elements <Speed>, < HistSpeed>, <TravelTime>, and <LastMatch>

<group> = the group ID of the group you want route data for. This is only useful if you (the user used for login) are a member of more than one group. The default is to include data for all groups that you are a member of, with one <Routes> element for each group.

Examples: https://bluetoad.trafficcast.comxml/bt_routes

https://bluetoad.trafficcast.com/xml/bt_routes/live

https://bluetoad.trafficcast.com/xml/bt_routes/none/1234

TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

BlueTOAD™

Technical Bulletin

Response

An XML document with the following elements. See below for an example.

Element	Type	Description
<BlueTOAD_DATA>	complexType	Root element
<AsOf>	dateTime	The date and time the report was created, in ISO 8601 format
<Routes>	complexType	The set of <Pair> elements for one group
count	attribute	Number of <Pair> elements in <Routes>
units	attribute	The units used for distance and speed, either “mi”, or “km”
groupID	attribute	Group ID number of the group these pairs are part of
groupName	attribute	Name of the group
<Route>	complexType	Information about a single route
<RouteID>	unsignedInt	The ID number of this route
<Name>	string	Route name, as defined on the BlueTOAD website
<Length>	decimal	Travel distance from the first device to the last device, in miles or kilometers, depending on the “units” attribute in <Routes>
<RoadClass>	string	The road class defined for this route, e.g. “HCM2000 Freeway FFS65”
<Status>	string	Either “Active” or “Inactive”, as defined for the pair on the BlueTOAD website
<XF1>	string	An optional, user-defined text field associated with this route. Defined on the BlueTOAD website.
<XF2>	string	Another optional, user-defined text field associated with this route. Defined on the BlueTOAD website.
<Pairs	complexType	The set of <Pair> elements for this route
count	attribute	The number of pairs in the route
<Pair>	complexType	Information about one pair, repeated *count* times
<PairID>	unsignedInt	The ID number of this pair
<PairName>	string	Pair name, as defined on the BlueTOAD website

TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

<PairStatus>	string	Either “Active” or “Inactive”, as defined for the pair on the BlueTOAD website
<Speed>	unsignedInt	[optional] The most recently measured smoothed speed for this pair, in mph or kph, depending on the “units” attribute in <Pairs>
<HistSpeed>	string	[optional] Average historical speed for this route, computed as the average of the last 12 weeks, for this day and time, in mph or kph, depending on the “units” attribute in <Routes>. May be empty.
<TravelTime>	unsignedInt	[optional] The most recently measured smoothed travel time for this route, in seconds
<LastMatch>	dateTime	[optional] The date and time of the last detected vehicle match for this route
stale	attribute	“true” or “false”. This is true when <LastMatch> is more than 15 min old.

Example

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BlueTOAD_DATA>
 <AsOf>2013-10-18T21:12:04Z</AsOf>
 <Routes count="2" units="mi" groupID="1234" groupName="Center City">
  <Route>
   <RouteID>2840</RouteID>
   <Name>Cobb Pkwy - Jim Owens Rd to Barrett Pkwy SB</Name>
   <Length>4.200</Length>
   <RoadClass/>
   <Status>Active</Status>
   <XF1>This is XF1</XF1>
   <XF2>This is XF2</XF2>
   <Pairs count="4">
    <Pair>
     <PairID>2792</PairID>
     <PairName>Cobb Pkwy &amp;amp; Old 41 to Cobb Pkwy &amp;amp; Barrett Pkwy - SB</PairName>
     <PairStatus>Active</PairStatus>
    </Pair>
    <Pair>
     <PairID>2817</PairID>
     <PairName>Cobb Pkwy &amp;amp; Duncan/McCollum Pkwy Old 41 - SB</PairName>
     <PairStatus>Active</PairStatus>
    </Pair>
    <Pair>
     <PairID>2819</PairID>
     <PairName>Cobb Pkwy &amp;amp; Pine Mountain Duncan/McCollum Pkwy - SB</PairName>
     <PairStatus>Active</PairStatus>
    </Pair>
    <Pair>
```


TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com

```
    <PairID>2821</PairID>
    <PairName>Cobb Pkwy &amp;amp; Jim Owens Rd to Pine Mountain - SB</PairName>
    <PairStatus>Active</PairStatus>
   </Pair>
  </Pairs><Speed>23</Speed>
  <Speed>33</Speed>
  <HistSpeed>30</HistSpeed>
  <TravelTime>1307</TravelTime>
  <LastMatch stale="false">2013-10-18T21:16:53Z</LastMatch>
 </Route>
 <Route>
  <RouteID>3109</RouteID>
  <Name>Cobb Pkwy &amp;amp; Mar Hill Rd (u1269) to Jim Owens Rd (u1270)</Name>
  <Length>2.500</Length>
  <RoadClass/>
  <Status>Active</Status>
  <XF1>This is XF1</XF1>
  <XF2>This is XF2</XF2>
  <Pairs count="2">
   <Pair>
    <PairID>2823</PairID>
    <PairName>Cobb Pkwy &amp;amp; Acworth Due West </PairName>
    <PairStatus>Active</PairStatus>
   </Pair>
   <Pair>
    <PairID>2825</PairID>
    <PairName>Cobb Pkwy &amp;amp; Mars Hill Rd to Cobb Pkwy </PairName>
    <PairStatus>Active</PairStatus>
   </Pair>
  </Pairs>
  <Speed>33</Speed>
  <HistSpeed>34</HistSpeed>
  <TravelTime>949</TravelTime>
  <LastMatch stale="false">2013-10-22T15:10:35Z</LastMatch>
 </Routes>
</BlueTOAD_DATA>
```


If you have any questions or comments please contact:

BlueTOAD Technical Support

bluetoad-help@trafficcast.com

608.713.9299

TrafficCast International, Inc. 1800 Deming Way, Suite 100 Middleton, WI 53562 Telephone: 608.713.9300 - www.trafficcast.com - bluetoad-help@trafficcast.com