UDOT Signal Performance Metrics: Configuration

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Signal Performance Metrics

- Purdue Phase Termination
- Split Monitor
- Purdue Coordination Diagram
- Approach Volume
- Approach Delay
- Arrivals on Red
- Speed
- Turning Movement Counts
- Yellow and Red Actuations
- Purdue Split Failure
- Pedestrian Delay
- Transitions
- Preemption Details
- Transit Signal Priority Details

http://udottraffic.utah.gov/signalperformancemetrics
Configuration Utility – Basic Metrics

Signal

Detectors

[Image of a software interface displaying signal and detector information]
Configuration Utility – Basic Metrics
Configuration Utility – Basic Metrics

Detector Chann: 0

Enabled

Detector ID: 700500

Protected Phase: 2
Permitted Phase: 0

Direction: Northbound

MPH: 0

IP Address: 0

Port: 0
Dist. From Stopbar: 0

Descision Point: 0
Movement Delay: 0
Region: 2
Min Speed Filter: 0

TMC: 
RLM: 

Date Added: Select a date 15
Monitor Date: Select a date 15

Phase Only Added 11/26/2013

Save
Copy
Delete

Comments
Configuration Utility – Purdue Coordination Diagram
Configuration Utility – Purdue Coordination Diagram

**Detector Chann**: 6

**Protected Phase**: 6

**Permitted Phase**: 0

**Distance From Stopba**: 350

**Direction**: Eastbound

**Enabled**: ✓

**PCD**: ✓

**Speed**: ✓

**IP Address**: 0

**Port**: 161

**Decision Point**: 0

**Movement Delay**: 15

**Region**: 2

**Min Speed Filter**: 5

**Date Added**: Select a date

**Monitor Date**: 7/11/2014

**Comments**
Configuration Utility – Turning Movement Counts
### Configuration Utility – Turning Movement Counts

#### Detector ID: 701403

<table>
<thead>
<tr>
<th>Detector Chann</th>
<th>Protected Phase</th>
<th>Permitted Phase</th>
<th>Direction</th>
<th>IP Address</th>
<th>Port</th>
<th>Dist. From Stopbar</th>
<th>MPH</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
<td>0</td>
<td>Westbound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decision Point</th>
<th>Movement Delay</th>
<th>Region</th>
<th>Min Speed Filter</th>
<th>TMC</th>
<th>Lane Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td></td>
<td>L1</td>
</tr>
</tbody>
</table>

- **TMC added 5/19/2014**

- **Save**
- **Copy**
- **Delete**

**Comments**
Configuration Utility – Yellow & Red Actuations
Configuration Utility – Yellow & Red Actuations

Detector Chann: 56
Protected Phase: 7
Permitted Phase: 0
Direction: Eastbound

Threshold

TMC

RLM

Decision Point
Movement Delay
Region
Min Speed Filter

Date Added: 5/3/2015
Monitor Date: 5/3/2015
Configuration Utility – Purdue Split Failure
Configuration Utility – Purdue Split Failure
Database Access

```
SELECT [DetectorID],
       [SignalID],
       [Lane],
       [Phase],
       [Perm_Phase],
       [TMC_Lane_Type],
       [Direction],
       [Det_Channel]
FROM [GraphDetectors_Si_...(datreader (63))]
```

<table>
<thead>
<tr>
<th>DetectorID</th>
<th>SignalID</th>
<th>Lane</th>
<th>Phase</th>
<th>Perm_Phase</th>
<th>TMC_Lane_Type</th>
<th>Direction</th>
<th>Det_Channel</th>
<th>Date_Added</th>
<th>Monitor_Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>641718</td>
<td>6417</td>
<td>5</td>
<td>6</td>
<td></td>
<td>L1</td>
<td>Northbound</td>
<td>18</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
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<tr>
<td>641719</td>
<td>6417</td>
<td>2</td>
<td>0</td>
<td></td>
<td>T1</td>
<td>Northbound</td>
<td>19</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
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<tr>
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<td>6417</td>
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<td>0</td>
<td></td>
<td>T2</td>
<td>Northbound</td>
<td>20</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
<td>641730</td>
<td>6417</td>
<td>1</td>
<td>2</td>
<td></td>
<td>L1</td>
<td>Southbound</td>
<td>30</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
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<td>0</td>
<td></td>
<td>T1</td>
<td>Southbound</td>
<td>31</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
<td>641732</td>
<td>6417</td>
<td>6</td>
<td>0</td>
<td></td>
<td>T2</td>
<td>Southbound</td>
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<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
<td>641742</td>
<td>6417</td>
<td>7</td>
<td>8</td>
<td></td>
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<td>Eastbound</td>
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<tr>
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<td>6417</td>
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<td>0</td>
<td></td>
<td>T1</td>
<td>Eastbound</td>
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<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
<td>641744</td>
<td>6417</td>
<td>4</td>
<td>0</td>
<td></td>
<td>T2</td>
<td>Eastbound</td>
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<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
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<td>4</td>
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<td>2015-11-10 00:00:00.000</td>
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<tr>
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<td>6417</td>
<td>8</td>
<td>0</td>
<td></td>
<td>T1</td>
<td>Westbound</td>
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<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
<td>641765</td>
<td>6417</td>
<td>8</td>
<td>0</td>
<td></td>
<td>T1</td>
<td>Westbound</td>
<td>56</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
</tbody>
</table>

Query executed successfully.
UDOT Configuration Stats

Detector Count by Metric

<table>
<thead>
<tr>
<th>Metric</th>
<th>Number of Detectors Configured</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCD</td>
<td>1000</td>
</tr>
<tr>
<td>Avg./Signal: 2.0</td>
<td></td>
</tr>
<tr>
<td>TMC</td>
<td>3000</td>
</tr>
<tr>
<td>Avg./Signal: 12.2</td>
<td></td>
</tr>
<tr>
<td>YRA</td>
<td>800</td>
</tr>
<tr>
<td>Avg./Signal: 9.7</td>
<td></td>
</tr>
<tr>
<td>Split Fail</td>
<td>700</td>
</tr>
<tr>
<td>Avg./Signal: 11.3</td>
<td></td>
</tr>
<tr>
<td>Basic Metrics Only</td>
<td>600</td>
</tr>
<tr>
<td>(No Detectors)</td>
<td></td>
</tr>
</tbody>
</table>

Total: 5743 detectors + 1670 signals
Signal Numbering

- **Region 1**
  - UDOT: 5000 – 5499
  - Non-UDOT: 5500 – 5999

- **Region 2**
  - UDOT: 7000 – 7999
  - Salt Lake City: 1000 – 1999
  - Salt Lake County: 4000 – 4999

- **Region 3**
  - UDOT: 6000 – 6499
  - Non-UDOT: 6500 – 6999

- **Region 4**
  - UDOT: 8100 – 8599
  - Non-UDOT: 8600 – 8899

- **Other**
  - Ramp Meters: 8000 – 8099
  - Test controllers: 9000 – 9999

**Utah Statewide Signal Numbering Convention**

- **UDOT Region 1** (Webber, Davis, Cache, Box Elder, Rich, and Morgan Counties)
  - UDOT Signals: 5000 – 5499
  - Non-UDOT Signals: 5500 – 5999
  - Ogden City: 5500 – 5599
  - Layton City: 5600 – 5699
  - Bountiful City: 5700 – 5719
  - Centerville City: 5725 – 5749
  - North Salt Lake: 5750 – 5774
  - Logan: 5800 – 5849
  - Other Jurisdictions not listed: 5775 – 5799, 5850 – 5899

- **UDOT Region 2** (Salt Lake, Tooele, and Summit Counties)
  - UDOT Signals: 7000 – 7999
  - Non-UDOT Signals: 1040 – 4999, 8900 – 8999
  - Salt Lake City: 1000 – 1999
  - Salt Lake County: 4000 – 4999
  - Salt Lake County Signals: 4000 – 4999 (includes all cities in Salt Lake County except SLC)
  - Other Jurisdictions in Tooele or Summit Counties: 8900 – 8999

- **UDOT Region 3** (Utah, Wasatch, Uinta, Duchesne, Juab, and Daggett Counties)
  - UDOT Signals: 6000 – 6499
  - UDOT Signals within Orem City Limits: 6300 – 6399
  - UDOT Signals within Provo City Limits: 6400 – 6499

- **UDOT Region 4** (Washington, Iron, Sevier, Grand, Carbon, Sanpete, Kane, San Juan, Garfield, Beaver, Millard, Piute, Wayne, and Emery Counties)
  - UDOT Signals: 8100 – 8599
  - UDOT Signals in Washington County (St. George): 8100 – 8199
  - UDOT Signals in Iron County (Cedar City): 8200 – 8274
  - UDOT Signals in Grand County (Moab): 8300 – 8349
  - UDOT Signals in Sevier County (Richfield): 8400 – 8449
  - UDOT Signals in Carbon County (Price): 8500 – 8549
  - UDOT Signals in other areas not listed here: 8776 – 8799, 8830 – 8899, 8940 – 8999, 8950 – 8999

- **Non-UDOT Signals**
  - St George City: 8600 – 8699
  - Cedar City: 8700 – 8734
  - Santa Clara City: 8735 – 8749
  - Price City: 8800 – 8824
  - Washington City: 8825 – 8849
  - Other Jurisdictions not listed: 8750 – 8799, 8830 – 8899

- **Others**
  - System Tree Entries (e.g., i2 System, Zones, Sections, etc): 0000 – 0099
  - UDOT Ramp Meters (all Regions): 8000 – 8099 (list is maintained by Freeway Operations)
  - UDOT System Detectors and Test Devices (all Regions): 9000 – 9999

**Master Database**

All signals should be assigned a number, even if they are not connected to the communications network.
Signal number assignments are in the most recent file in this folder on the Traffic Operations Center share drive:
S:\TMD 8184 Traffic Signal Operations\Central Systems\Statewide Signal Numbers

*Last Updated: 11-26-2012 by M. Luke*
Signal Numbering

- Region 1
  - UDOT 5000 – 5499
  - Non-UDOT 5500 – 5999

- Region 2
  - UDOT 7000 – 7999
  - Salt Lake City 1000 – 1999
  - Salt Lake County 4000 – 4999

- Region 3
  - UDOT 6000 – 6499
  - Non-UDOT 6500 – 6999

- Region 4
  - UDOT 8100 – 8599
  - Non-UDOT 8600 – 8899

- Other
  - Ramp Meters 8000 – 8099
  - Test controllers 9000 – 9999