UDOT Signal Performance Metrics: Configuration

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**Signal Performance Metrics**

**Metric Type**

- 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

**Purdue Coordination Diagram**

```
<table>
<thead>
<tr>
<th>Metric Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purdue Coordination Diagram</td>
</tr>
<tr>
<td>Approaches Volume</td>
</tr>
<tr>
<td>Approach Delay</td>
</tr>
<tr>
<td>Arrivals on Red</td>
</tr>
<tr>
<td>Speed</td>
</tr>
<tr>
<td>Turning Movement Counts</td>
</tr>
<tr>
<td>Yellow and Red Actuations</td>
</tr>
<tr>
<td>Purdue Split Failure</td>
</tr>
<tr>
<td>Pedestrian Delay</td>
</tr>
<tr>
<td>Transitions</td>
</tr>
<tr>
<td>Preemption Details</td>
</tr>
<tr>
<td>Transit Signal Priority Details</td>
</tr>
</tbody>
</table>
```
Configuration Utility – Basic Metrics

Signal

Detectors
Configuration Utility – Basic Metrics
Configuration Utility – Basic Metrics

Detector Chann: 0

Enabled

IP Address: 0
Port: 0
Dist. From Stopbar: 0

MPH: 0

PCD
Speed
Overlap
Split Fail

TMC
RLM

Lane Type

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

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
Configuration Utility – Turning Movement Counts
Configuration Utility – Turning Movement Counts
Configuration Utility – Yellow & Red Actuations
Configuration Utility – Yellow & Red Actuations
Configuration Utility – Purdue Split Failure

Detector ID: 735502

- Detector Channel: 2
- Protected Phase: 5
- Permitted Phase: 2
- Direction: Northbound
- Split Fail: Enabled
- Lane Type: L1

IP Address: 0.0.0.0
Port: 0
Dist. From Stopbar: 0
MPH: 0
Descision Point: 0
Movement Delay: 0
Region: 2
Min Speed Filter: 0
Date Added: 11/24/2015
Monitor Date: 11/24/2015

Save | Copy | Delete
### Database Access

This image shows a SQL query executed in Microsoft SQL Server Management Studio. The query retrieves data from a database table, `GraphDetectors_Si..(datareader (63))`, and displays the results in two panes: **Results** and **Messages**.

**Results Pane**:

```sql
SELECT [DetectorID],
       [SignalID],
       [Lane],
       [Phase],
       [Perm_Phase],
       [TMC_Lane_Type],
       [Direction],
       [Det_Channel]
FROM GraphDetectors_Si..(datareader (63))
```

**Table**

<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>
</tr>
<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>
</tr>
<tr>
<td>641720</td>
<td>6417</td>
<td>2</td>
<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>6417</td>
<td>6</td>
<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>
<td>32</td>
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<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>
<td>L1</td>
<td>Eastbound</td>
<td>42</td>
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<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
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<td>6417</td>
<td>4</td>
<td>0</td>
<td></td>
<td>T1</td>
<td>Eastbound</td>
<td>43</td>
<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>
<td>44</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
<td>641754</td>
<td>6417</td>
<td>3</td>
<td>4</td>
<td></td>
<td>L1</td>
<td>Westbound</td>
<td>54</td>
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<td>2015-11-10 00:00:00.000</td>
</tr>
<tr>
<td>641755</td>
<td>6417</td>
<td>8</td>
<td>0</td>
<td></td>
<td>T1</td>
<td>Westbound</td>
<td>55</td>
<td>2015-11-10 00:00:00.000</td>
<td>2015-11-10 00:00:00.000</td>
</tr>
</tbody>
</table>

*Note: Query executed successfully.*

*(10.0 SP4) datareader (63) MOE 00:00:00 12 rows*
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>2500</td>
</tr>
<tr>
<td>Avg./Signal: 12.2</td>
<td></td>
</tr>
<tr>
<td>YRA</td>
<td>700</td>
</tr>
<tr>
<td>Avg./Signal: 9.7</td>
<td></td>
</tr>
<tr>
<td>Split Fail</td>
<td>500</td>
</tr>
<tr>
<td>Avg./Signal: 11.3</td>
<td></td>
</tr>
<tr>
<td>Basic Metrics Only</td>
<td>(No Detectors)</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
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