Acyclica – Congestion Management

By Sarah King
Regional Sales Manager
Control Technologies
Overview

1. Goals
2. Data Collection
3. Measuring Congestion
4. Travel Time
5. Intersection Delay
6. Origin/Destination
7. Timing Plan Analysis & Detector Data
8. Asset & Sensor Management
9. The Big Picture (city of Seattle routes?)
10. Users & Applications
11. Questions
Your Goal:
Mitigate Congestion

Our Goal:
Measure Congestion

- Many ways to solve traffic problems:
  - Better detection -- FLIR ;)
  - Better controllers
  - Better timing

- How do YOU measure congestion?
- We have the ability to show you where and when the problems are happening so you can provide the solution.
Acyclica Unit
Using both Wifi & Bluetooth to collect data increases data capture rates by 100x over using Bluetooth alone.

NTCIP Compliant using center to center protocol for communications

Compass sensors anonymously scan and collect MAC addresses (Media Access Control), matching them from point to point, providing highly stable, accurate, and reliable travel times, along with the ability analyze traffic flows at an unprecedented level of detail.
Wifi Vs. Bluetooth
Measuring Congestion: Travel Time & Delay
Measuring Congestion

1st Strength  Last

1st Strength  Last

Max

Min

Strength
Travel Time
• Monitor intersection delay
• Report delay by approach or by movement at each intersection approach
### Origin-Destination

- **Standard matrix to view**
- **Match count**
- **Percentage match**
- **Travel-Time**

<table>
<thead>
<tr>
<th>Origin</th>
<th>Destination</th>
<th>Match count</th>
<th>Percentage match</th>
<th>Travel-Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>162027</td>
<td>265927</td>
<td>0</td>
<td>24.3%</td>
<td>0.00</td>
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<tr>
<td>265927</td>
<td>265928</td>
<td>5926</td>
<td>816</td>
<td>89.21</td>
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<tr>
<td>265928</td>
<td>265789</td>
<td>355.02</td>
<td>877.13</td>
<td>686.47</td>
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<td>265789</td>
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<td>500.00</td>
<td>0.00</td>
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<tr>
<td>265791</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
<td>673.16</td>
</tr>
</tbody>
</table>

*Note: The table and image content is not fully visible or legible due to the quality of the document.*
• Point and Click interface
• Easily visualize traffic flows
• View source or destination based results
• Quickly view travel-times for any route by time of day plan and by day of week
• Choose comparison for any length of time: 1 week to multiple months
• Understand which day & time has congestion
• Efficiently plan signal retiming based on actual need
• View traffic data from roadway sensors including: loops, video, thermal, radar, microwave

• Combine with delay to calculate emissions
  • Report vehicle-delay hours: economic impact of delay
• Monitor detector volume distribution by time of day
• Understand when users are on the roadway by volume
• Help agencies optimize congestion based on actual demand
• Visualize speed / volume & occupancy data
• Combine delay and travel-time with other types of detector information
• Centralize data collection and analysis
Detector

Volume
Detector Volume by Timed Intervals
Detector Volume by Timed Intervals
• Understand the correlation between related traffic metrics to predict future traffic conditions

• Provide realistic travel-time estimations based on overall network performance
Asset Management

• Track all equipment at the cabinet
  • Serial number
  • Firmware
  • Custom Fields
  • Purchase / Install dates
• E-mail reminders for warranty expiration
• Easily add new asset types
Adding Custom Assets
Service Records

- Track service records and maintenance logs
- Log user and time for each event for each asset
- Centralize information:
  - Improve customer experience & engagement
  - Monitor equipment service records
- Provide to third parties

Assets
[Add New Asset]

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Access Point</th>
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<tbody>
<tr>
<td>Manufacturer</td>
<td>Sensys</td>
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<tr>
<td>Model</td>
<td>APCC</td>
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<tr>
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<td>Sensys-APCC</td>
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<tr>
<td>Serial</td>
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<td>Firmware Version</td>
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<tr>
<td>Date Purchased</td>
<td>April 8, 2014</td>
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<tr>
<td>Installation Date</td>
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<td>Warranty Expiration</td>
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Service Records (-)

<table>
<thead>
<tr>
<th>User</th>
<th>Date</th>
<th>Description</th>
<th>Notes</th>
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<td>Fri Jan 16 1970 21:08:04 GMT-0700 (MST)</td>
<td>firmware upgrade</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:djb@acyclica.com">djb@acyclica.com</a></td>
<td></td>
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</tr>
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</table>
Current Applications

- Congestion mapping
- Route planning
- Intersection high speed approach
- HOV / congestion based tolling
- Travel times
- Intersection delay analysis
- Level of service indications
- 24x7 turning movement analysis
Current Applications

- Work zone congestion enforcement
- Variable message signs
- Corridor speed & travel-time analysis
- Ramp metering activations
- Incident Detection
- Origin - Destination Analysis
Current Applications

- Public transit utilization
- Public transit origin – destination
- Game Day traffic analysis
- Round-a-bout entry-departure analysis
- Time-based route planning
- Emergency responder routing
Questions?

Sarah King
Regional Sales Manager
Control Technologies, Inc.
sarah@cttraffic.com | 512-592-0981

Daniel Benhammou
President & Chief Engineer
Acyclica
djb@acyclica.com | 303-859-4216